University of Gloucestershire

The Influence of Blockchain on the Intermediation of Accommodation Services in the German Tourism Industry

Doctoral Thesis

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Abstract

The German accommodation sector, encompassing hotels and B&Bs, is highly dependent on online travel agencies (OTAs) and booking platforms, resulting in a concentrated market. These intermediaries charge substantial fees to provide trust-enhancing mechanisms between guests and providers as well as information-aggregation systems that help guests navigate diverse offerings. Blockchain, as a decentralised booking system, offers a potential alternative. However, despite increasing academic interest in blockchain's disruptive potential, existing innovation adoption frameworks rarely address two interconnected research problems: (1) the sector's pronounced historical interrelationship with emerging technologies that created the dependency on centralised intermediaries, and (2) the blockchain-specific disintermediation capacity in a sector dominated by centralised intermediaries. This gap is compounded by the absence of service providers' perspectives, particularly those of decision-makers with authority to adopt such systems.

This study asks how this dynamic can be conceptualised within a theoretical extension to address sector-specific challenges. It argues that the generic Technology–Organisation–Environment (TOE) framework (Tornatzky & Fleischer, 1991) can be extended with two additional contexts: first, the sector-specific pronounced historical interrelationship with emerging centralised intermediary technologies, a nuance that the generic 'Environment' context cannot fully capture. Secondly, blockchain's inherent disintermediation capacity, which may create disruptive dynamics that go beyond the traditional 'Technology' context and is conceptually grounded in Disruptive Innovation theory (Christensen, 1997).

The study introduces the TOEDI (Technology, Organisation, External, Disintermediation, Interrelationship) framework, developed within a social constructivist paradigm. Semi-structured interviews with decision-makers were thematically analysed, and findings were refined through a Delphi consensus technique with statistical measures. The results suggest a disconnect between the academic discussion of blockchain's potential influence and the limited awareness among decision-makers. However, once introduced to the concept, practitioners recognised potential benefits, such as lower fees, reduced OTA dependence, and stronger guest relationships. At the same time, sector-specific obstacles, including software integration challenges and scepticism towards blockchain, emerged. TOEDI contributes both theoretically, as a sector-specific extension of TOE, and practically, as an extended analytical lens for assessing blockchain adoption in intermediary-dominated contexts.

Declaration

I declare that the work in this thesis was carried out in accordance with the regulations of the University of Gloucestershire and is original except where indicated by specific reference in the text. No part of the thesis has been submitted as part of any other academic award. The thesis has not been presented to any other education institution in the United Kingdom or overseas.

Any views expressed in the thesis are those of the author and in no way represent those of the University.

Guillermo Ribes Vicente 27th May 2024

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Dedication

To my father, José,

Almost seven decades ago, you pursued the age-old dream of countless migrants for a better life. Coming from a fascist, autocratic, economically weak, and isolated Spain, you took a chance and left. Like so many in the 1950s, you were seeking a better future in Germany. You had no degrees or formal education, just dreams, resilience, and an unparalleled sense of determination.

You envisioned a horizon of hope and opportunity, not just for yourself, but potentially for founding a family. I was born in this bicultural environment, and you unknowingly sowed in me a seed of love for global cultures. My migrant background gave me a cosmopolitan spirit, leading me to embrace and find beauty in the many cultures I have encountered working worldwide.

It was not a coincidence that my academic journey took me to Great Britain, a nation so enriched by its diverse population. Along this path, I was fortunate to be mentored by two supervisors, Dr. Hong and Prof. Ozuem, who, like us, have backgrounds in migration. Both, like you, have their unique stories of migration, carving their paths in a new land. I am sure this brings a wealth of knowledge and a perspective that enriched my doctoral journey.

This PhD, while a personal achievement, is dedicated to you, to our migrant history, and to every migrant that has ever stepped into the unknown in search of knowledge, opportunity, and a better tomorrow. With this, I celebrate the diverse mosaic of cultures this world offers, which I have always cherished.

With a heart full of gratitude and love,

Guillermo Ribes Vicente

Table of Contents

Tables and Figures 9
List of Abbreviations 10
1 Introduction 12
1.1 Academic Gap 14
1.2 Research Problems 19
1.3 Research Aim and Objective 22
1.4 Research Question 23
1.5 Research Rationale 24
1.6 Thesis Overview 27
2 Critical Literature Review 31
2.1 Introduction 31
2.2 Conceptual Clarification 33
2.2.1 Intermediation 33
2.2.2 Intermediation in the Accommodation Sector 35
2.2.3 Disintermediation 37
2.2.4 Disruption 39
2.3 Historical Context of the Topic 42
2.3.1 Digital Transformation in the Accommodation Sector 43
2.3.2 Blockchains Generational Development and AI Integration 64
2.3.3 Status-Quo Real-Life Adoption of Blockchain in Tourism 69
2.4 Critical Review Innovation Adoption Frameworks 75
2.4.1 Introduction 75
2.4.2 Blockchain in Tourism Research 76
2.4.3 Innovation Adoption Streams 93
2.4.4 Discussion on TOE Framework 100
2.4.5 Contextual Extension TOE to TOEDI 102
2.5 Summary Critical Literature Review 112
3 Research Design 117
3.1 Research Paradigm 118
3.2 Exploratory Feasibility Pilot Study 126

3.3 Methodological Approach 128
3.3.1 Quantitative and Qualitative Methods 128
3.3.2 Rationale Thematic Analysis 133
3.3.3 Rationale Delphi Consensus Technique 135
3.4 Research Population 139
3.4.1 Sample Strategy and Techniques 139
3.4.2 Sample Criteria 142
3.4.3 Sample Size 145
3.4.4 Sample Dataset and Extraction 145
3.4.5 Final Sample 150
3.5 Data Collection and Analysis 152
3.5.1 Introduction 152
3.5.2 Semi-structured Interviews with Decision-makers 152
3.5.3 Interview Guideline 154
3.5.4 Interview Settings 160
3.5.5 Steps Thematic Analysis 162
3.5.6 Delphi Consensus Technique Calculation 165
3.5.7 Summary 168
3.6 Research Quality 169
3.6.1 Validity and Reliability 169
3.6.2 Trustworthiness 170
3.6.3 Role of the Researcher and Potential for Bias in Delphi 171
3.6.4 Researcher's Reflexibility 172
3.7 Research Ethics 173
3.8 Summary 174
4 Findings 177
4.1 Introduction 177
4.2 Theme Interrelationship Context 179
4.2.1 Influence of ICT | I.1 179
4.2.2 Adoption Capabilities | I.2 182
4.2.3 Future Influence of ICT | I.3 184
4.2.4 Influential Emerging Technologies | I.4 186
4.2.4 Thematic Network Diagram: Interrelationship Context 191

4.3 Theme Organisational Context 192
4.3.1 Intangibility and Human Interaction | O.1 192
4.3.2 Structure and Adoption | O.2 194
4.3.3 Capabilities and Readiness | O.3 196
4.3.4 Strategy and Finance | O.4 199
4.3.5 Thematic Network Diagram Organisational Context 202
4.4 Theme Disintermediation Context 203
4.4.1 General Knowledge | D.1 204
4.4.2 Intermediation Tourism | D.2 206
4.4.3 Disintermediation and Disruption | D.3 208
4.4.4 Scepticism and Practicality | D.4 211
4.4.5. Thematic Network Diagram – Disintermediation Context 213
4.5 Theme – Technological Context 215
4.5.1 Perceived Technological Challenges | T.1 215
4.5.2 Perceived Technological Benefits | T.2 218
4.5.3 Data Access and Security | T.3 222
4.5.4 Thematic Network Diagram – Technological Context 224
4.6 Theme – External Context 226
4.6.1 Market Dominance of Intermediaries | E.1 226
4.6.2 Relationship and Dependency | E.2 228
4.6.3 Guest Dynamics | E.3 230
4.6.4 Societal Dynamics | E.4 233
4.6.5 Thematic Network Diagram External Context 237
4.7 Second Delphi Consensus Round 238
4.7.1 Consensus Development 238
4.7.2 Consensus Rate Calculation 241
4.7.3 Comparison Consensus Calculation 247
4.8 Summary Findings 248
5 Discussion TOEDI Framework 251
5.1 Introduction 251
5.2 Contextual Extensions 253
5.3 Contextual Discussion Contexts and Forces 255

5.3.1 Interrelationship Contextual Force 255
5.3.2 Organisational Contextual Force 260
5.3.3 Disintermediation Contextual Force 265
5.3.4 Technological Contextual Force 271
5.3.5 External Contextual Force 276
5.4 Summary 283
6 Conclusion and Recommendations 287
6.1 Introduction 287
6.2 Conclusion 287
6.3 Contribution to Knowledge 293
6.3.1 Extended Analytical Lens 294
6.3.2 Disintermediation and Practitioner Knowledge 296
6.3.3 Revaluation Blockchain's Disruptive Influence 297
6.3.4 Qualitative Approach to Blockchain Adoption 299
6.3.5 Contribution to Professional Practice 301
6.4 Limitations 304
6.5 Direction for Future Research 307
6.6 Relevance to Personal Development 308
References 309
List of Appendices 333

Tables and Figures

Table 1 Influential Shifts by Emerging ICT and Catalysts (Ribes Vicente, 2023)...60
Table 2 Blockchain-Based Platforms (Ribes Vicente, 2023).....70
Table 3 Epistemological Perspectives (Ribes Vicente, 2023; adapted from Lincoln and Denzin (2000).....123
Table 4 Data Set UBMS (Ribes Vicente, 2023).....146
Table 5 Identification Decision-Makers (Ribes Vicente, 2023).....148
Table 6 Final Sample Decision-Makers (Ribes Vicente, 2023).....150
Table 7 Taxonomy Sub-themes (Ribes Vicente, 2023) 178
Table 8 Consensus Statements First Delphi Round (Ribes Vicente, 2023).....238
Table 9 Consensus Agreement Rate Percentage (Ribes Vicente, 2023) 241
Table 10 Consensus Calculation Standard Deviation (Ribes Vicente, 2023) 243
Table 11 Consensus Calculation IQR (Ribes Vicente, 2023) 245
Table 12 Comparison Calculation Consensus Rates (Ribes Vicente, 2023) 247
Table 13 TOEDI – Contextual Factors (Ribes Vicente, 2023) 252

Figure 1 Publications Keywords Blockchain and Tourism (SCOPUS, 2023).....78
Figure 2 TOE Framework (Tornatzky & Fleischer, 1991).....99
Figure 3 Thematic Network Interrelationship Context (Ribes Vicente, 2023) 191
Figure 4 Thematic Network Organisational Context (Ribes Vicente, 2023).....202
Figure 5 Thematic Network Disintermediation Context (Ribes Vicente, 2023) 214
Figure 6 Thematic Network Technological Context (Ribes Vicente, 2023).....225
Figure 7 Thematic Network External Context (Ribes Vicente, 2023).....237
Figure 8 TOEDI Framework Contexts (Ribes Vicente, 2023).....285
Figure 9 Detailed TOEDI Framework (Ribes Vicente, 2023) 293

List of Abbreviations

AI	Artificial Intelligence
ANT	Actor-Network Theory
B&B	Bed and Breakfast
B.A.	Bachelor of Arts
BCMM	Blockchain Capability Maturity Model
BGB	Bürgerliches Gesetzbuch (German Civil Code)
BLOBIM	Blockchain-Based Integrated Model
CEO	Chief Executive Officer
CMM	Capability Maturity Model
COVID	Coronavirus disease
CRS	Central Reservation System
DEHOGA	Deutscher Hotel- und Gaststättenverband
DLT	Distributed Ledger Technology
DMO	Destination Management Organisation
DOI	Diffusion of Innovation
DSGVO	Datenschutz-Grundverordnung (German Data Protection Regulation)
GDP	Gross Domestic Product
GDS	Global Distribution Systems
GDPR	General Data Protection Regulation
GPT	Generative Pretrained Transformer
GTAI	Germany Trade & Invest
HRS	Hotel Reservation Service
IAD	Institutional Analysis and Development
IBA	Internationale Berufsakademie
ICT	Information & Communication Technologies
IS	Information Systems
ISM	Interpretive Structural Modelling
IT	Information Technology
IQR	Interquartile Range
LLM	Large Language Models
MIT	Massachusetts Institute of Technology
NFT	Non-Fungible Token
NGO	Nongovernmental Organisation
OTA	Online Travel Agency

P2P	Peer-to-peer
PMS	Property Management System
PPC	Pay-per-Click
RBV	Resource-Based View
RQ	Research Question
SD	Standard Deviation
SEA	Search Engine Advertising
SEO	Search Engine Optimisation
SME	Small and Medium-sized Enterprises
SWOT	Strengths, Weaknesses, Opportunities, and Threats
TAM	Technology Acceptance Model
TOE	Technology, Organisation, and External Environment
TOEDI	Technology, Organisation, External, Disintermediation, and Interrelationship
TPB	Theory of Planned Behaviour
TRA	Theory of Reasoned Action
UBMS	Unternehmens Bewerber Management System
UGC	User-Generated Content
UNWTO	United Nations World Tourism Organization
UTAUT	Unified Theory of Acceptance and Use of Technology
UX	User Experience
VFT	Value-Focused Thinking
WTTC	World Travel & Tourism Council
WWW	World Wide Web

1 Introduction

Blockchain technology is primarily associated with the Bitcoin payment system and linked to a whitepaper by the pseudonymous Nakamoto, which described a concept to bypass central banks in the financial industry and create a decentralised cryptocurrency (Nakamoto, 2008).

While commonly associated with cryptocurrencies, the foundational technology of blockchain in literature is discussed as holding disruptive potential for the accommodation sector that is not immediately apparent.

The foundational technology has sparked academic interest in examining the influence of blockchain on the intermediation of accommodation services in the tourism industry. The term intermediation generally describes the facilitation of transactions between parties (Daxhammer & Freistedt, 2019).

For this research in the accommodation sector, *intermediation* or *intermediaries* refers specifically to (online) travel agents and tour operators that connect service providers, such as hotels, with guests (Pearce & Schott, 2005). Traditionally, accommodation service intermediation involved guests booking services, such as hotel rooms, on Online Travel Agency (OTA) platforms.

In the history of intermediation in the accommodation sector, digital transformation by emerging information and communication technologies (ICT) has had a significant influence since the 1960s, with the first global application of information technology: the Central Reservation Systems (CRS) and Global Distribution Systems (GDS) (Pease & Rowe, 2005). These centralised reservation systems facilitate real-time bookings from intermediaries, such as travel agents, and, at the same time, shift power away from service providers (Thakran & Verma, 2013).

In the mid-1990s, the emergence and mass adoption of the World Wide Web (WWW) led to significant paradigm shifts in the intermediation processes of the tourism industry (Buhalis et al., 2019). Online Travel Agencies (OTAs), such as Expedia (a division of Microsoft), emerged and quickly replaced and disrupted traditional brick-and-mortar travel agencies (Thakran & Verma, 2013).

These OTAs rely on GDS, which enhances market visibility, enabling them to offer competitive pricing and real-time availability, a feature that has become crucial for OTAs in the dynamic online intermediation market (Dadic et al., 2021). OTAs, as intermediaries, offer service providers access to vast guest bases (Carroll & Siguaw, 2003). However, since 2008, Airbnb has expanded the traditional accommodation intermediation sector, enabling individuals to offer accommodation services such as Bed & Breakfast (B&B) in their own homes (Guttentag, 2013).

This study responds to the call of a growing number of researchers since 2017 who have argued that the emergence of blockchain in the tourism industry will transform business models, disrupt existing value chains, and exert a strong influence (Gelter, 2017).

Researchers suggest that the adoption of decentralised blockchain-based booking systems could fundamentally alter the power dynamics in the intermediation of travel services (Filimonau & Naumova, 2020; Önder & Gunter, 2020).

The academic community has made numerous calls to research the influence of this technology on the intermediation of accommodation services as a decentralised booking system (Demirel et al., 2021; Kizildag et al., 2020; Rashideh, 2020).

This study examines the influence of blockchain's decentralised approach and its inherent capacity to disintermediate traditional intermediaries, such as OTAs, which depend on centralised systems like GDS. The first real-life application has already emerged, for example, Winding Tree (2023).

The relevance of this study in addressing these research calls is underscored by Winding Tree's (2023) estimation that the intermediation market generates one trillion US dollars in commission fees paid to intermediaries by service providers in the accommodation sector. These commissions, ranging from 15% to 30%, significantly impact service providers' profit margins (Carroll & Siguaw, 2003).

Furthermore, Germany is selected as the research location, as it hosts one of the largest tourism industries globally, according to Germany Trade & Invest (GTAI,

2021). The German standard DIN ISO 18513:2021-12 lists a diverse range of tourism accommodation services, including hotels, such as all-suite hotels, aparthotels, and *garni*, as well as private bed and breakfasts. It also encompasses camping sites, guesthouses, hostels, motels, private accommodations, couch-sharing options, and serviced apartments (DEHOGA, 2022).

This study focuses specifically on different sizes of hotels and B&Bs, as this allows for a more in-depth exploration of the potential influence of blockchain, including the varying levels of dependency on centralised booking platforms like OTAs and the commissions they charge.

Through a university network where the researcher is employed, access is granted to one of the most extensive networks of accommodation service providers in Germany, encompassing a range from small private organisations to international hotel chains. This diverse landscape of service providers provides an ideal setting for capturing a wide range of perspectives.

1.1 Academic Gap

As outlined before, the global accommodation sector operates within a centralised structure historically dominated by powerful intermediaries, building Global Distribution Systems (GDSs) used by Online Travel Agencies (OTAs). The emergence of decentralised blockchain technology presents a potential paradigm shift, sparking discussions about its capacity to reshape industries (Treiblmaier, 2021a). Also, the number of published studies in the field of blockchain in tourism research has almost doubled every year up until 2021 (SCOPUS, 2023).

However, this field of research is still nascent and remains understudied (Ampountolas & Chiffer, 2021; Filimonau & Naumova, 2020). Multiple technological applications have not been addressed, and only a limited number of meaningful frameworks exist (Treiblmaier, 2021b), which this study addresses.

While some researchers have proposed conceptual frameworks for blockchain in tourism, these often do not adequately address the unique intermediation structures of the accommodation sector, thus leaving a critical gap in understanding.

A paper by Tyan et al. (2021) employed a grounded theory approach to develop a conceptual framework that offers a holistic view of the influence of blockchain on the tourism industry, including the accommodation sector. However, their framework gives insufficient weight to the role of intermediaries, a central actor in the accommodation ecosystem. Filimonau and Naumova (2020) partially conceptualised a framework for the accommodation sector. However, the framework does not address the core of the intermediation of services, such as booking a hotel or B&B. The framework discusses other processes, such as food supplies. Sharma (2021) conducted a qualitative technology assessment of the opinions of blockchain experts. However, their methodology overlooked potential disintermediation and disruption.

A systematic effort to understand the adoption of blockchain technology across the whole tourism value chain was presented by Balasubramanian et al. (2022). However, their proposed framework centres on the adoption of blockchain to effectively address challenges such as the credibility of information and fraudulent practices, and they lack any perspective on emerging blockchain-based booking systems for the accommodation sector.

Since 2021, research into these areas has started to focus on the real-life application of blockchain. Engin Demirel et al. (2022) propose a booking system with a unique smart contract between customers and hotels without the need for intermediaries. The first real-world applications (Winding Tree, 2023) are gaining interest.

The idea of an emerging decentralised blockchain-based booking system must also be seen in light of the fact that the Coronavirus Disease (COVID-19) crisis has accelerated the adoption of digital technologies over the last few years (McKinsey & Company, 2020).

The literature lacks a conceptual framework for blockchain adoption in the accommodation sector, particularly one that analyses its potential as a decentralised booking system.

Outside of tourism research, numerous other industrial sectors have examined the adoption of blockchain. A variety of conceptual frameworks and theoretical models have been used to gain a deeper understanding of the influence and impact of emerging blockchain technology. However, according to Arthur (2010), linear and stage innovation models fail to acknowledge that the success or failure of a technology is determined not only by its inherent characteristics but also by the interactions within the networks of actors involved.

However, few tourism researchers have studied blockchain with one of the established innovation adoption frameworks or models (Ozdemir et al., 2019). According to Parekh et al. (2021), only a limited number of studies have been published on blockchain and its influence on intermediation. Additionally, there is a lack of investigations into practical blockchain applications in the tourism industry (Ozdemir et al., 2019).

Although the number of publications has grown exponentially (SCOPUS, 2023), the scholarly acknowledgement of the subject in prominent academic publications is comparatively limited concerning the widespread fascination surrounding blockchain technology in general (Treiblmaier, 2021a). The extent of the research remains an area that has received limited attention (Filimonau & Naumova, 2020).

The lack of practitioner perspective further compounds the academic gap. Önder and Treiblmaier (2018) stated that practitioners would be increasingly forced to adopt blockchain technology. However, the tourism industry, by its nature, is described as being slow to adopt innovation, according to Işik et al. (2019), and is vulnerable to technological advances (Buhalis, 2008). Filimonau & Naumova (2010) identified key obstacles to adopting innovation in the accommodation sector, and Sharma et al. (2021) identified barriers, drivers, and cause-and-effect relationships concerning the adoption of blockchain. Although the emergence of

information technologies has been very influential in the intermediation of accommodation services, it is remarkable that the perspective of experts and practitioners in the tourism industry has been almost absent in blockchain research (Rejeb et al., 2020). The predominantly objectivist perspective prevalent in the existing literature lacks innovation adoption frameworks and empirical data built on qualitative expert interviews with practitioners to support such fundamental shifts, such as reshaping tourism intermediation (Gelter, 2017; Filimonau & Naumova, 2020; Önder & Gunter, 2020). As there is no overarching conceptual framework to examine how blockchain potentially influences the intermediation of accommodation services in practice, this study bridges this gap and researches a potential disconnect between academic discourse and perception in the accommodation sector.

There is a clear need for evidence-based research that incorporates the perceptions and lived experiences of practitioners in the accommodation sector.

Furthermore, research on emerging technologies needs an epistemological stance that accommodates the inherent non-linearity of technologies that can develop a disruptive influence (Krotov, 2019).

Therefore, this study employs a social constructivist research paradigm, utilising qualitative semi-structured expert interviews to bridge the gap. Expert interviews are crucial for understanding complex decision-making processes, especially when other data sources are scarce (von Soest, 2023). Furthermore, expert interviews aim to understand the perspectives and interpretations that shape practices within their respective fields (Döringer, 2021).

Within the scope of this study, experts are defined as decision-makers who have the authority, influence, or power to decide on the adoption of decentralised blockchain-based booking systems.

This study, as it centres on the service providers' perspective, asserts that decision-makers need to ensure the competitiveness of their organisations and build

adoption capabilities to deal with potentially disruptive influences in the intermediation processes. The ex-ante assessment of the potential influence of blockchain is of vital importance for strategic decisions in the accommodation sector.

While the perspectives of guests and intermediaries are undoubtedly significant, this research omits them for two reasons to bridge the academic gap.

Firstly, understanding the perceptions of accommodation service providers, who possess expertise in intermediation, is critical to the adoption of the technology itself. This study defers the examination of guest perspectives to future research.

Secondly, intermediaries such as OTAs, which depend on centralised systems like GDS, may be affected by the emergence of blockchain-based technologies. As their business models are potentially challenged, there is a risk that their evaluations of decentralised blockchain-based booking systems lack complete objectivity from a methodological standpoint.

The social constructivist approach of this study examines the perceptions of decision-makers, including hotel owners, destination managers, and consultants, who significantly influence the decision to adopt decentralised blockchain-based booking systems in the accommodation sector. These experts bring valuable expertise through their direct interaction with intermediaries and their lived experience.

In summary, the literature reveals a clear academic gap: there is no sector-specific adoption framework for blockchain in the accommodation sector. Existing innovation adoption models fail to account for two critical dynamics: the sector's historical path dependency on centralised intermediaries and blockchain's inherent capacity to disrupt these centralised structures.

The next subchapter will examine these dynamics in detail, as they will be addressed as specific research problems in the aims and objectives of this study.

1.2 Research Problems

After identifying the academic gap and revealing the lack of suitable innovation adoption frameworks from a practitioner's perspective, this section details two connected specific research problems this study will address.

1. Interrelationship

Existing innovation models fail to account for the unique historical path dependency of the accommodation sector on centralised intermediary technologies, creating a blind spot as a specific research problem in examining the adoption of decentralised alternatives.

The new framework must acknowledge the historically pronounced interrelationship between emerging ICT and its influence on intermediation in the accommodation sector, as outlined in the background of this study. This interrelationship has been observed since the early days of ICT (Werthner & Klein, 1999, p. 5).

The specific research problem must be addressed in two ways. First, to explore the technological drivers and catalysts that have been influential on intermediation and how a broader theoretical framework can explain them. This study offers a novel and nuanced picture of the potential factors that make the accommodation sector vulnerable to emerging ICT, specifically blockchain, and examines its influence on intermediation.

A newly conceptualised innovation adoption framework needs to address the fact that the accommodation sector, as a service industry, is situated in an information asymmetry market and the concept of transaction costs. This positioning fosters catalysts such as information aggregation and trust-enhancing mechanisms. These functions overcome the challenges and barriers associated with direct exchange, enabling quick and efficient engagement.

This helps explain why the accommodation sector relies heavily on intermediation. Intermediaries, like booking platforms, perform various key functions, includ-

ing information aggregation and reviews, to facilitate a smoother transaction process by reducing information search costs for tourists and mitigating the risks associated with travel planning and booking (Pearce & Schott, 2005).

Building on this research problem, which has been previously unaddressed in the context of blockchain, this study argues that intermediation in the accommodation sector and emerging ICT have a uniquely strong interrelationship compared to other industries where blockchain is already adopted, like finance and supply chain. This failure creates a significant blind spot, with existing innovation adoption frameworks incapable of explaining why a sector so repeatedly transformed by technology remains unprepared for a decentralised alternative.

Therefore, a new conceptual framework needs to be extended to the context of the pronounced interrelationship of ICT and intermediation.

The second specific research problem is directly connected to this extension.

2. Disintermediation and Disruption

The second specific research problem builds on the previous research problem that the accommodation sector, by its immateriality in an asymmetric information market, has become heavily dependent on intermediaries (Pearce & Schott, 2005). This study argues that blockchain's disruptive potential arises not only from the same technological drivers that created the pronounced interrelationship, but also from how its inherently decentralised technological architecture.

Blockchain's inherent technological ability to facilitate direct peer-to-peer interactions reduces the need for intermediaries (Nakamoto, 2008). This technology has the inherent capabilities to facilitate direct transactions between guests and to book accommodation services directly from providers. Therefore, blockchain applications have the potential to form the basis of a decentralised new booking system, disrupting traditional intermediaries.

Accommodation service providers can be highly motivated to adopt this technology. It must be considered that traditional intermediaries' fees reduce their turnover by 15% to 30% (Carroll & Siguaw, 2003).

Studies increasingly consider blockchain's influence, specifically as a decentralised booking system, on the intermediation processes as an appropriate technology to remove intermediaries like OTAs or hotel booking platforms from the market (Rashideh, 2020). As the tourism industry arguably has more intermediaries than any sector, the significance of blockchain is set to grow (Rose, 2016). Researchers have suggested that the potential elimination of intermediaries will fundamentally change business relationships and operations over the long term (Filimonau & Naumova, 2020; Treiblmaier & Önder, 2019). Indeed, eliminating such providers has the potential to revolutionise the tourism industry in a significant paradigm shift (Kizildag et al., 2020).

Increasingly, researchers agree that blockchain-based booking systems are expected to have a substantial impact on the tourism industry. A perceived benefit is that the transactions are realised without any intermediate agents, thus eliminating any additional transaction costs (Leung & Dickinger, 2017). The emergence of decentralised booking systems has significant implications for businesses, as they can facilitate greater disintermediation (Ozdemir et al., 2019) and are suitable for eliminating intermediaries (Aghaei et al., 2021). It is expected that start-ups adopting blockchain will replace the centralised intermediation systems of OTAs and challenge their monopoly (Calvaresi et al., 2019; Gelter, 2017). Ampountolas and Chiffer (2021) suggest that OTAs, to maintain their market position, should be aware of this potentially influential shift.

This study argues that traditional innovation adoption models require extension to address blockchain adoption, which has the potential to generate disruptive forces within Germany's centralised, oligopolistic intermediation market. The proposed framework integrates Disruptive Innovation theory (Christensen et al., 2018) while accounting for the sector's historical interrelationship with centralised ICT.

Accordingly, the following research aims and objectives are to develop and validate a sector-specific innovation adoption framework that addresses the two connected specific research problems: the historical interrelationship with centralised

ICT used by intermediaries, which has created a deep-rooted dependency of service providers on intermediaries, making the sector uniquely vulnerable to the disintermediation potential of a decentralised technology like blockchain. This creates a specific, complex tension that no existing innovation adoption model has addressed before. The aligned research aim and objective will be outlined in the next section.

1.3 Research Aim and Objective

The study aims to bridge the identified gap and address the two connected specific research problems to understand empirically how a decentralised blockchain-based booking system influences the intermediation of services in the accommodation sector. However, standard innovation adoption models are too generic to capture the accommodation sector's pronounced interrelationship with centralised intermediary technologies. Furthermore, given blockchain's inherently decentralised design and potential to disrupt a sector reliant on intermediaries, any new conceptualised framework must explicitly adapt to both, unique historical context and the technology's disintermediation dynamics.

Therefore, the aim to bridge the academic gap will be addressed by developing a new conceptual framework based on suitable frameworks and models for innovation adoption. The perceptions of decision-makers within the accommodation sector of the German tourism industry will enrich this theoretical foundation.

This specific research objective supports the overall aim:

To adapt and extend existing innovation adoption frameworks to develop a conceptual framework that examines the influence of blockchain on the intermediation of accommodation services in Germany, incorporating decision-makers' perceptions.

1.4 Research Question

To achieve a thorough understanding of the influence of blockchain on intermediation in the accommodation sector, this study has established a specific research aim and objective in the last section. Consequently, these are addressed by the following central research question:

Research Question (RQ):

How can existing innovation adoption frameworks be adapted to conceptualise the influence of blockchain on the intermediation of accommodation services in Germany, integrating the perspectives of decision-makers?

This central question is addressed by two sub-questions, which guide the subsequent development of this study. The first question drives the theoretical investigation, while the second drives the empirical inquiry.

Sub-Question 1: Which innovation adoption framework provides a suitable and adaptable foundation for analysing the influence of blockchain on the intermediary market in the German accommodation sector?

This sub-question is critical because, as it guides the literature review, a suitable framework must be identified to bridge the academic gap – one that can be adapted to address the unique research problems posed at the beginning of the study. This includes, firstly, the accommodation sector's pronounced historical interrelationship with emerging ICT and its heavy reliance on dominant intermediaries. Secondly, it addresses the specific research problem of examining a decentralised technology that is widely discussed in literature for its potential to disrupt these dominant intermediaries, despite having few real-world applications.

Sub-Question 2:

Which factors, constructed from the perceptions of decision-makers, influence the emergence of blockchain in the German accommodation intermediary market?

Answering this second sub-question forms the empirical part of the study. It gathers patterns of perception in the practitioner to be integrated as factors in a framework that has been absent in previous research, addressing the academic gap. This study focuses on their perceptions, as they have the authority to decide or influence the adoption of such systems, combined with their lived experience of what such systems need to embrace.

The results from these two sub-questions provide the answer to the overarching research question, culminating in the development of the study's primary contribution to bridge the gap: an extended and adapted innovation framework about the influence of blockchain on the intermediation of accommodation services in Germany.

The current study is the first to conceptualise an innovation adoption framework about the influence of blockchain on the intermediation of accommodation services in the German tourism industry, based on a social constructivist approach with decision-makers from different service providers.

The rationale for this significant and novel approach is justified further in the next section.

1.5 Research Rationale

As described earlier, this study aims to bridge the academic gap by conceptualising an innovation adoption framework. This framework is specifically designed to address two specific research problems. First is the pronounced interrelationship between emerging ICT and the intermediation of services. The second concerns blockchain's inherent technological disintermediation capacity that can provoke disruption.

The research rationale of this study argues that contributing a new conceptual framework is not only important for accommodation, but also for the tourism industry in general and other sectors where blockchain is emerging. Since 2016, studies have discussed the influence on the distribution and inter-

mediation of services (Gelter, 2017; London School of Economics, 2016). Blockchain's technological influence has been growing over the last five years and has been declared one of the top ten strategic technologies for 2020. It was expected to become fully scalable by 2023 (Panetta, 2020).

In the context of blockchain, the tourism industry is one of the most promising sectors for growth (Caddeo et al., 2021; Cheriyan & Tamilarasi, 2021). Moreover, Willie (2019) suggests that blockchain will expectedly become a core component in all sectors of the tourism industry by 2025.

Numerous studies indicate that blockchain has the potential to influence the tourism industry significantly, transform business models, and substantially influence the intermediation of travel and tourism-related services (Demirel et al., 2021; Filimonau & Naumova, 2020; Kizildag et al., 2020; Rashideh, 2020; Buhalis et al., 2019).

Furthermore, this study examines the disruptive effects of blockchain within large-scale economic and societal systems. Tourism is a key sector for economic development and job creation worldwide. It ranks as one of the most significant industries worldwide, generating $1.457 billion in revenue in 2018 alone, according to the United Nations World Tourism Organization (UNWTO, 2020). Before the pandemic, travel and tourism accounted for 10.4% of global Gross Domestic Product (GDP), with a value of US$9.2 trillion, and 10.6% of all jobs in 2019, surpassing US$8.8 trillion in 2018, according to the World Travel & Tourism Council (WTTC, 2021).

The substantial potential of disruption from a decentralised blockchain booking system can be contextualised by industry estimates. For example, Winding Tree (2023) suggests that intermediaries in the accommodation sector generate as much as 1,000,000,000,000 (one trillion) US dollars in commission fees, indicating a significant financial incentive for service providers to explore alternatives.

The research location in Germany is a significant contribution, given that the German industry is one of the largest tourism industries in the world, with spending of €188 billion in 2019 (GTAI, 2021). Considering the size of the German industry,

the potential influence of emerging ICT, such as blockchain, on intermediation can also be proportionally high. This is illustrated by the fact that, with the rise of OTAs, the number of traditional travel agencies in Germany decreased by nearly 30% in just one decade, from 14,235 in 2002 to 9,986 in 2012 (Deutscher Reiseveranstalter Verband, 2012). The German tourism accommodation sector is very diverse, according to the *Deutscher Hotel- und Gaststättenverband* (German Hotel and Restaurant Association) (DEHOGA, 2022). This diversity directly supports the research objective of this study: to generate a sector-specific, adapted or extended conceptual framework for innovation adoption from the perspective of practitioners. By integrating these diverse perspectives, the proposed framework is expected to be more robust and better aligned with the specific complexity of the accommodation sector, rather than applying generic assumptions. This also allows for a more critical reflection on the dependency of accommodation service providers on centralised intermediaries like OTAs or booking platforms.

Through the collaborating institute *Internationale Berufsakademie* (iba) – University of Cooperative Education, where the researcher is employed, this study gains access to a high-level network of decision-makers, enabling, for the first time, research into the adoption of blockchain with individuals who would decide whether or not to adopt such systems in their respective organisations, or influence their adoption within tourism organisations or cooperatives.

This study aims to collect diverse perceptions from both large and small organisations, gathering a holistic understanding of lived experiences and their views on the influence of blockchain technology on the intermediation of accommodation services. These perceptions, in an adapted innovation adoption framework, contribute to bridging the academic gap and addressing specific research problems. They contribute to theory and are also considered for their managerial implications.

Perceptions of adopting such decentralised booking systems among practitioners in the accommodation sector remain unexplored. This lack of research is noteworthy because blockchain-based booking systems could have the potential to significantly reshape or influence the interactions between guests, intermediaries,

and service providers such as hotels or private B&Bs. The intermediary market is currently characterised by oligopolistic dominance, dominated by a few key players, further emphasising the need for research in this area.

Blockchain's emergence across a range of sectors, such as finance and supply chain, has created a need for extensive research to anticipate the potential impacts mentioned above that might be felt in the tourism industry (Önder & Treiblmaier, 2018). A limited number of studies on blockchain and its influence on tourism service intermediation have been published (Parekh, 2021). However, its potential substantial influence and disruptive impact on the tourism industry have not yet been explored (Ampountolas & Chiffer, 2021) and remain understudied (Filimonau & Naumova, 2020). Therefore, future research should focus on anticipating critical issues instead of highlighting the advantages of adopting blockchain in tourism (Valeri & Baggio, 2021). Filimonau & Naumova (2020) suggest that a critical analysis of determinants must be undertaken before a wider rollout of blockchain in the tourism industry occurs.

The extant body of literature underscores a lack of a tourism industry-specific conceptual framework centred on the potential influence of blockchain on the intermediation of services in the accommodation sector. Although a few efforts have been made to integrate and extend traditional innovation adoption theories, they fail to adequately address the historically pronounced interrelationship between emerging technologies and service intermediation in the tourism sector.

1.6 Thesis Overview

The introduction in Chapter One outlines the study's background and context. It set out a baseline for the research, identified the academic gap, and addressed two specific research problems. The chapter then outlined a unique overall research aim, with aligned objective, research question and two sub-research questions designed to bridge the gap and address the research problems, integrating the perceptions of decision-makers in the German accommodation sector. The study's rationale, significance, and contribution were then outlined. Chapter One concludes with an overview that further outlines the trajectory.

In the further trajectory of this study, the critical literature in the second chapter, the first section, provides conceptual clarifications and terminology related to intermediation and its associated phenomena, such as disintermediation and disruption.

The ensuing section discusses the key characteristics of the tourism industry as a service industry, including its intangibility and its general socio-economic impact. It then focuses on the accommodation sector, the role of service providers, and their relationship to intermediaries, like booking portals.

Chapter Two further provides the historical context of the topic, addressing the first research problem, the pronounced interrelationship between emerging ICT and the intermediation of accommodation services. This interrelationship will be outlined chronologically, with an overview of the eras of digital transformation and their respective influences. The study will then identify catalysts of these transformative influences and discuss their role in the potential influence of blockchain in a decentralised, blockchain-based booking system. The application of these catalysts will also integrate the historical development of blockchain from the initial white paper of Nakamoto (2008) up to the current status quo of real-life of decentralised blockchain-based booking systems worldwide.

Subsequently, the study provides an overview of theories and conceptual frameworks based on the extant literature relating to the adoption of technological innovation that can be applied to a decentralised blockchain-based booking system. The different theoretical approaches and frameworks will be categorised in a matrix according to their academic streams of technological adaptation.

Based on this, the literature review chapter argues for conceptualising an industry-specific conceptual innovation adoption framework that extends the Technology-Organisation-Environment (TOE) framework (Tornatzky & Fleischer, 1991). The critical literature review concludes by presenting a draft framework that addresses the potential emergence of a decentralised blockchain-based booking system. This part aims to answer Sub-Question 1: Which innovation adoption

framework provides a suitable foundation for analysing the influence of blockchain on a sector-specific intermediary market, such as the German accommodation industry?

Building on the draft conceptual foundation of the critical literature review, Chapter Three aims to answer Sub-Question 2: Which factors, constructed from the perceptions of decision-makers, influence the emergence of blockchain in the German accommodation intermediary market?

Chapter Three will discuss and justify the research design, opposing different research paradigms, approaches, and methodologies to bridge the identified gap. The chapter will argue that a social constructivist research paradigm with a qualitative approach can be considered a valuable methodology for developing an understanding of decision-makers' perceptions, which can be integrated as factors in the draft primary framework from the critical literature review. Building on the chosen research paradigm, the following subchapter discusses the rationale for selecting the qualitative methodological approach, employing thematic analysis (Braun & Clarke, 2006) combined with the Delphi consensus technique.

Furthermore, the chapter justifies the sample selection, sample size, and data collection methods deployed, and presents the interview design and setting, including the questionnaire guidelines for the semi-structured interviews. Subsequently, the data analysis, including the six steps and calculation methods for the Delphi consensus technique, is outlined and justified.

Chapter Three culminates in a discussion about research quality and the role of researchers, including their reflexivity and ethical considerations.

Chapter Four presents the findings of the thematic analysis of the responses from the first Delphi round, based on interviews with decision-makers who have expertise in the accommodation sector within the German tourism industry. The semi-structured interviews followed a guideline structured on the context of the organisational, technological, and external environment, adopting the TOE framework. Questions about the disintermediation context of blockchain and the context of the pronounced interrelationship of ICT with the tourism industry extend to it.

This research explores decision-makers' perceptions of adopting decentralised blockchain-based booking systems within their organisations or partner companies and the potential influence such adoption could develop.

The interview transcripts will be reviewed through thematic analysis, and major themes will be generated. Within the major themes, consensus statements will be generated through the Delphi process in the first round. These statements are further validated in Delphi rounds until a consensus is reached. The consensus statement constructs the factors addressing Sub-Research Question 2.

Chapter Five discusses in detail the contextual factors in the five contexts identified through the Delphi consensus technique among decision-makers.

Chapter Six presents a brief conclusion outlining how the study contributes to existing theories about innovation adoption frameworks and blockchain research, extending the primary TOE framework. This is followed by a detailed discussion about the addressed research objective and the overall aim to bridge the academic gap. The concluding chapter will outline its contribution to professional practice for practitioners from the accommodation sector, ICT developers and start-ups, and the intermediation market with booking platforms and OTAs.

Chapter Six will conclude with a reflection on the limitations of its findings and directions for future research.

2 Critical Literature Review

2.1 Introduction

The previous introductory chapter began by outlining the academic gap, specifically, the lack of a conceptual framework that integrates innovation adoption theories with a social constructivist perspective to explore blockchain's influence on the intermediation of accommodation services in the German tourism industry. Alongside this gap, two specific research problems were outlined: the historically pronounced interrelationship between ICT and intermediation, and the inherent blockchain-specific context of disintermediation.

Against this background, the introduction articulated a precise aim, objective, and research question for the study: to develop a new conceptual framework that adapts and extends existing innovation adoption models to the context of decentralised blockchain-based booking systems for the intermediation of accommodation services.

By conceptualising this framework based on the lived perceptions of decision-makers within the German accommodation sector, the study aims to address the academic gap and make a unique contribution to the tourism and blockchain literature.

To address the overall aim and research objective of the study, which is to conceptualise an innovation adoption framework, the critical literature review is structured into three subchapters.

The first subchapter provides conceptual clarifications relevant to the study's scope. It introduces key theoretical approaches and conceptual frameworks that underpin the research on intermediation and disintermediation. It will review these for the accommodation sector, as part of the service industries, and it will further review the role of intermediaries, such as Online Travel Agencies (OTAs) like *Booking.com* and *Expedia*, in the accommodation sector.

Building on this conceptual clarification and theoretical background, the second subchapter of the literature review critically reviews the role of these intermediaries, particularly in the historical context of digital transformation. Recurring patterns in addressing transactional costs and information asymmetry through emerging technologies are identified, which address the specific research question concerning the pronounced interrelationship between emerging ICT and the intermediation of accommodation services.

Furthermore, the second subchapter reviews how intermediaries, such as booking portals, leveraged emerging ICTs to address the previously outlined characteristics of information asymmetry in the accommodation sector and reduce transaction costs. Building on this, the literature review identifies catalysts for the intermediation in the accommodation sector and emerging ICTs that exhibit a uniquely pronounced interrelationship compared to other industries and sectors, underscoring the need for an accommodation-sector-specific framework to address this interrelationship.

For this historically pronounced interrelationship, the drivers and patterns that have acted as catalysts are applied to the generational development of blockchain, from the original white paper by Nakamoto (2008) to the latest advancements integrating Artificial Intelligence (AI). The combined insights from the historical context of digital transformation in the intermediation of accommodation services and the technological drivers of blockchain form the foundation for the central part of the critical literature review in the third subchapter and aim to answer Sub-Question 1: Which innovation adoption framework provides a suitable and adaptable foundation for analysing the influence of blockchain on the intermediary market in the German accommodation sector?

Therefore, this study critically examines the current body of research in the field of innovation adoption frameworks, with a central aim and objective of adapting and extending an innovation adoption framework or investigating the influence of blockchain on the intermediation of accommodation services, integrating decision-makers' perceptions.

The identified innovation adoption framework will be discussed, with a critical review of the literature that justifies its suitability for extension and adaptation.

The critical literature review concludes with a summary, followed by the introduction of the research design for the empirical part of the study.

2.2 Conceptual Clarification

This subchapter introduces and clarifies key terminology and theoretical underpinnings central to this study, focusing on the concepts of *intermediation* and *disintermediation*, their connection to Disruptive Innovation, and the central role of intermediation in the accommodation sector.

2.2.1 Intermediation

The theoretical foundation for understanding intermediation is rooted in the economic foundational theory of asymmetric information markets, attributed to Akerlof (1970). It highlights how the consumer's uncertainty about the quality of a product can become a barrier in the transaction. In an asymmetric market, one party possesses significantly more information than the other, resulting in a fundamental deficit of trust.

The information imbalance about the quality of a product or service means that, for example, guests in the accommodation sector are often unable to distinguish between high-quality and low-quality accommodation.

Akerlof (1970) refers to this problem as the difficulty of distinguishing between "peaches and lemons." As a result of this imbalance, buyers, in this case, guests, are only willing to pay a price that reflects the average quality of accommodation. This unwillingness to pay more discourages sellers, e.g. hotels, from offering high-quality services, ultimately leading to a market dominated by inferior services, which is a direct consequence of a lack of trust. Furthermore, the information imbalance also creates a higher effort for buyers in the market. Williamson (2008) suggests, in his theory of transaction costs, that the costs associated with

the exchange of goods and services, such as search and information costs, bargaining and negotiation costs, and enforcement and compliance costs, can be significant and can limit the efficiency and effectiveness of markets.

Trust-enhancing Mechanism and Information Aggregation

Kindleberger (1974) argued that intermediaries play a central role in reducing transaction costs and facilitating exchange in asymmetric markets, providing trust and relevant information. In such contexts, intermediation plays a crucial role as it can overcome asymmetric information by serving as a designated monitor, building a reputation that individual actors cannot (Diamond, 1984).

However, since these theories were developed in a pre-Internet economic landscape, they need to be re-examined through the lens of decentralised technologies like blockchain. This is essential to address the research aim of this study, which is to adapt and extend existing frameworks to better reflect the realities of today's intermediation booking platform-driven accommodation sector.

The theory of transaction costs and asymmetric information markets remains relevant (Allen & Santomero, 1997). With the advent of e-commerce, Whinston et al. (1997) described the crucial role of online intermediaries as trust enhancers, which served to lower transaction costs. Cooper et al. (1998) suggest that the principal role of intermediaries is to bring buyers and sellers together, either to create markets where they previously did not exist or to expand existing markets while making them work more efficiently.

In contemporary literature, the core economic principles of the pre-Internet era still apply: Intermediaries are typically defined as a person or group that serves as a mediator, or 'third party', to facilitate a transaction between at least two parties (Daxhammer & Freistedt, 2019). They serve as the 'middlemen' between suppliers and customers, as distributors, brokers, and wholesalers. They arrange market access for suppliers, provide a routine for business transactions, and create economically efficient exchanges (King et al., 2010). Intermediaries can be seen as specialists, and their efficiency reduces transaction costs (Wigand, 2020), a view consistent with traditional economic theory. Based on a broader

definition, intermediation arises when it interjects a function into a network (Shunk et al., 2007).

In summary, intermediaries today play a crucial role in markets with asymmetric information, building on foundational economic principles. Firstly, they reduce transaction costs by helping consumers navigate the vast amount of information online through aggregation. Secondly, by providing trust-enhancing mechanisms, they counteract the information imbalance, offering, for example, guarantees, reviews, and third-party certifications.

This raises the relevant question, which directly supports the study's aim and objective: How is intermediation in the accommodation sector, which reduces transaction costs through information aggregation and navigates asymmetries with trust-enhancing mechanisms, influenced when a technology like blockchain emerges, which, according to Nakamoto's (2008) white paper, is inherently constructed to bypass and disrupt intermediaries?

Furthermore, how can these traditional principles be meaningfully integrated into an extended and adapted innovation adoption framework for such decentralised technologies in the centralised, platform-driven accommodation sector?

The following section provides a detailed examination of intermediation in the accommodation sector.

2.2.2 Intermediation in the Accommodation Sector

Building on the foundational economic principles about intermediation discussed in the previous section, namely, asymmetric information addressed through trust-enhancing mechanisms, and transaction cost theory addressed through information aggregation, the prominent role of intermediaries in the accommodation sector is explored in depth.

Intermediaries of the travel industry have traditionally been outbound and inbound travel agencies and tour operators (Buhalis & Egger, 2008).They have been the key links between service providers, such as hotels, and their guests, performing a range of functions, including information aggregation, facilitating a

smoother transaction process by reducing information search costs for tourists, and mitigating the risks associated with travel planning and booking (Pearce & Schott, 2005).

However, the Internet restructured the entire touristic value chain, forcing the existing intermediaries to take up the new medium and to develop corresponding business models (Buhalis & Egger, 2008). Accommodation service providers, such as hotels, utilise intermediaries like online travel agencies (OTAs) to tap into vast customer bases and marketing resources, thereby increasing visibility and efficiency. However, disadvantages include substantial commission fees ranging from 15% to 30%. This can significantly impact the hotel's profit margins, particularly for smaller, independent establishments with limited financial resources (Carroll & Siguaw, 2003). According to Winding Tree (2023), 1,000,000,000,000 (one trillion) US dollars in commission fees are paid by the accommodation sector in the US to intermediaries to match service providers with guests.

These commission fees imply that hotels have a motivation for disintermediation and to promote direct booking channels. Buhalis and Law (2008) highlighted the shift towards disintermediation a decade ago when the rise of direct sales channels diminished the traditional role of intermediaries. This development has forced intermediaries to rethink their role and offer more personalised and value-added services in order to remain relevant (Pearce & Schott, 2005).

The reliance on intermediaries is connected to the loss of direct control over the customer experience and challenges in maintaining rate parity. These factors can impact profit margins and brand value, requiring hotels to carefully evaluate the costs and benefits for a balanced approach to distribution (Carroll & Siguaw, 2003).

Besides traditional accommodation service intermediation, which involves guests booking hotel rooms on OTA platforms such as *Expedia*, the emergence of *Airbnb* has expanded the intermediation landscape since 2008 by enabling individuals to offer accommodations in their own homes, introducing a new segment of service providers (Guttentag, 2013).

However, this raises the question of whether the same economic principles apply to peer-to-peer models enabled by ICT. This central question will be explored in the historical context in Chapter 2.3, which outlines how the emergence of ICT and substantial shifts in intermediation are interrelated, and how these dynamics can be applied to peer-to-peer technologies such as blockchain.

After the conceptual clarification of intermediation, especially in the accommodation sector, the following section clarifies the concept of disintermediation, as it addresses the second specific research problem concerning the inherent disintermediation architecture of blockchain, as proposed initially by Nakamoto (2008), and explores the concept of disintermediation, followed by the related concept of disruption.

2.2.3 Disintermediation

The term *disintermediation* was initially coined in the 1970s to categorise the direct investment of funds rather than traditional investment through intermediary financial institutions or banks to achieve higher returns (Mills & Camek, 2004; Shunk et al., 2007). Disintermediation arises when actors wish to “cut out” the intermediary (Shunk et al., 2007). It involves bypassing intermediaries, engaging in direct exchange (Maharg, 2016).

Since the mid-1990s, the term has been applied to e-commerce, where traditional (physical) intermediaries are removed to ensure decreased costs for buyers and sellers (Mills & Camek, 2004). Buhalis and Costa (2005) defined disintermediation as a process of eliminating intermediaries within the distribution channel. This process, he argued, is propelled by ICT, which enables tourists to access and transact directly with suppliers and destinations.

The interrelation of ICT, especially the internet, with disintermediation has had a broad academic discussion. Tapscott (1996) anticipated the transformative effect of the internet on business and society in the early days of the WWW. He discussed how ICT can change how businesses operate, encouraging decentralisation, innovation, and collaboration. Similarly, Chircu and Kauffman (2000) con-

ceptualised the emergence of the internet as a competitive space between traditional and new internet intermediaries. Earlier still, Malone et al. (1987) argued that advances in ICT would exert fundamental changes in market structures by lowering transaction costs and leading to disintermediation, thereby removing the need for traditional intermediaries. However, this assumption was later problematised: O'Keefe et al. (2002) observed that traditional intermediaries were forced to adapt and re-emerged in electronic marketplaces while creating new markets for online intermediaries, suggesting a more complex evolution than early models described.

This discussion is critical for the present study and directly relates to the specific research problem concerning blockchain's inherent disintermediation architecture. Although the early World Wide Web was expected to enable the potential for disintermediation, the outcomes were mixed and context-dependent. In contrast, blockchain is structurally designed to enable disintermediation by allowing decentralised, peer-to-peer transactions without the need for a central intermediary.

This raises the question of whether findings from earlier ICT research can be applied to blockchain's impact on intermediation processes in the accommodation sector. Such a decentralised technology has not been examined in this specific context by the decision-makers in the German accommodation sector before. Therefore, Chapter 2.3 will revisit the historical context and key technological shifts from the development of ICT, critically contrasting them with the technological architecture of blockchain, which is likely to trigger different dynamics than those observed during the emergence of the WWW.

This discussion highlights the aim of this study: to develop an adapted and extended innovation adoption framework that examines the influence of blockchain on the intermediation of accommodation services. In addition to the concept of disintermediation, this study introduces a growing stream of research suggesting that the extent of disintermediation enabled by blockchain has the potential to exert a disruptive, strong influence (Gelter, 2017), to fundamentally impact the intermediation of travel and tourism-related services (Filimonau & Naumova,

2020; Önder & Gunter, 2020). Therefore, the following section critically reviews the concept of disruption to clarify its relevance for understanding the broader implications of whether blockchain-based booking systems can be categorised as Disruptive Innovation adopting Christensen (1997) in the context of accommodation service intermediation.

2.2.4 Disruption

Building on the discussion in the section about disintermediation, it is important to examine whether the decentralised nature of blockchain technology goes beyond merely bypassing intermediaries and introduces a more fundamental transformation of existing market structures. Maharg (2016) describes disintermediation as the process of bypassing intermediaries, which can be a driver of disrupting the intermediation process. However, disruption is a distinct concept, and it is an overused and misused term in today's business jargon according to Ignatius (2015). As such, this study, when referring to disruption, adopts Christensen's (1997) theory of Disruptive Innovation, along with its revisions and the directions for future research provided by Christensen et al. (2018). This lens offers conceptual clarity and guidance for identifying the long-term impact of emerging technologies as disruptive innovations. It can be applied within an extended innovation adoption framework, which reflects the central aim of this study.

Christensen (1997) was one of the first authors to describe the effect of disruption in his book *The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail*. Therein, he describes traditional business models and the reasons for their potential failures. In his analysis, these can be related to an overemphasis on current needs and a failure to adopt new technologies. The fear is that if businesses change their business models, existing customers will be lost, and the success of an innovative approach is less likely.

While Christensen had a significant impact on innovation adoption research, his publication attracted academic criticism. Danneels (2004) criticised the lack of conceptual clarity and the inconsistent use of the term *disruption*, which overlaps with related concepts such as radical or breakthrough innovation. Furthermore, Tellis (2005) pointed out that the theory is primarily based on retrospective and

anecdotal case studies, which limit its empirical rigour and generalisability. Markides (2005) argues that Christensen's Theory places too much emphasis on technological innovation while underestimating the complexity of market dynamics, including the role of business models and complementary assets.

In a later work, Christensen et al. (2018) responded to the critics, developing a more precise framework for the five characteristics of disruptive innovation that are relevant for analysing the long-term impact of emerging technologies. However, although they were partially implied in Christensen (1997), they were not explicitly described. These include: (1) initial performance, where the new technology typically underperforms on conventional metrics; (2) novel product features that appeal to niche users rather than mainstream markets; (3) market entry in underserved or peripheral segments; (4) performance development over time, enabling the innovation to meet mainstream standards; and finally, (5) the displacement of incumbents, where the innovation replaces established market players and reshapes industry structures.

Christensen et al. (2015) later acknowledged that the concept of disruption had become overused and misapplied in both academic and business contexts, weakening its analytical usefulness. Furthermore, in their *Directions for Future Research*, Christensen et al. (2018) positioned disruption as a multi-dimensional process involving not only technology but also markets and business models. They emphasised the importance of understanding the responses of incumbents, rather than focusing solely on new entrants. Additionally, they called for empirical testing and sector-specific adaptations of the theory. This study responds to that call by empirically examining the perceptions of decision-makers in the German accommodation industry, thereby contributing a sector-specific application of the theory of Disruptive Innovation.

Over time, Christensen's concept of disruptive innovation has undergone a significant evolution, becoming more refined and multidimensional. This development makes it suitable for adaptation in this study, as it allows for a nuanced analysis of the potential of blockchain-based systems to influence and transform intermediation structures in the accommodation sector.

In addition, Christensen's theory also helps to understand earlier technological shifts, primarily how ICT has already influenced the process of intermediation in the accommodation sector. Therefore, the next section will review the historical context of intermediation in the accommodation industry, building on the conceptual clarification of the subchapter: first, whether traditional theories about reducing transaction costs through information aggregation and trust-building mechanisms apply; and second, whether the disintermediating nature of blockchain has the potential to lead to the development of a disruptive innovation.

2.3 Historical Context of the Topic

After the previous chapter clarified concepts and terms such as intermediation, the role of intermediaries in the accommodation sector, and the connected concepts of disintermediation and disruption, this chapter lays the groundwork for the critical literature aligned to the research objective to adapt or expand an innovation adoption framework suitable for the influence of blockchain on the intermediation of accommodation services in Chapter 2.4.

This chapter builds on the theoretical underpinnings and the conceptual clarification in Section 2.2 regarding the role of intermediaries in asymmetric markets and their two main catalysts. On the one hand, intermediaries reduce transaction costs, including those associated with enforcing contracts and mitigating the risks of non-performance (Williamson, 2008; Wigand, 2020). On the other hand, they assist consumers in navigating vast volumes of information through information aggregation, thereby reducing the time and effort required for information searches (Allen & Santomero, 1997; Diamond, 1984).

By examining past technological shifts in the digital transformation of accommodation service intermediation, this study gains insight into the two main catalysts that remain relevant today, particularly in the context of applying them to blockchain. These insights will be applied to the generational development of blockchain to determine whether technological patterns from the history of digital transformation in accommodation intermediation are also present in the generational evolution of blockchain.

The combined insights from the history of digital transformation and the generational development of blockchain address the core research problem stated at the beginning of the study. By examining the historical context, this chapter lays the groundwork for the critical literature review, enabling the identification of existing frameworks that can be adapted and applied.

The chapter will conclude with an overview of the current status of real-life applications of decentralised blockchain-based booking systems that have begun to emerge.

2.3.1 Digital Transformation in the Accommodation Sector

The last section has outlined that intermediaries play a central role in facilitating transactions between accommodation service providers and guests.

Digital transformation has fundamentally reshaped the dynamics of industries worldwide, including the accommodation sector. This chapter explores the history of digital transformation and its influence on the intermediation of accommodation services. It aims to address the first research problem by identifying the interrelationship between emerging ICT and their influence on intermediation processes.

By tracing the evolutionary shifts in intermediation caused by digital transformation in a sector where intermediaries are central, this chapter provides a foundational understanding of how ICT developments have shaped intermediation in the accommodation industry. By examining past technological shifts, this study gains insights that remain relevant in the adoption of blockchain. This historical perspective, therefore, lays the groundwork for addressing the research question of adapting and extending existing frameworks into a new conceptual framework that examines the influence of blockchain on the intermediation of accommodation services.

Information and communication technologies (ICT) and services in the accommodation sector are both intangible and immaterial. Both undergo permanent changes and grow economically at an above-average rate, and an interrelationship between the two has been observed since the early days of ICT (Werthner & Klein, 1999, p. 5).

The immateriality of services in the accommodation sector creates asymmetric information uncertainty for tourists regarding the quality of products and the systems surrounding them. As such, when searching for a hotel or B&B, tourists seek

information that decreases uncertainty. This decrease enhances the quality of the trip and is a significant part of the purchase decision (Fodness & Murray, 1997). Tourists rely on comprehensive, accurate, and timely information to make informed decisions about their travel, given the intangible nature of tourism services (Poon, 1993). Therefore, information flows have been described as the glue in the distribution of tourism (Wiig, 2003). It is even argued that the core business of distribution in the tourism industry is the transfer of information (Kanellou, 2000). Therefore, emerging ICT has changed how information flows and revolutionised the intermediation of the tourism industry (Buhalis & Costa, 2005). However, the growing amount of information made possible by the advent of ICT can complicate the decision-making process, as consumers lack the resources to examine all the data or compare all the options (Bellman et al., 2006). Intermediaries reduce transaction costs through information aggregation (Williamson, 2008; Wigand, 2020), sharing up-to-date information across multiple sources and websites to provide current availability and prices for travel components (European Commission, 2021).

As described in the conceptual clarification in 2.2.1, transactions between peers rely on trust-enhancing mechanisms (Allen & Santomero, 1997; Diamond, 1984). Guests need appropriate certification or trust-enhancing mechanisms in the information flow. They are essential to enhance sales, as they can lower the transaction costs associated with asymmetric information between the tourist and the service provider (Varelas et al., 2019). As Smith et al. (2005) point out, in an information-intensive situation, consumers actively seek the opinions of others as a means of managing their perceived risk, specifically in the accommodation sector regarding the quality of the booked hotel room or B&B.

Intermediation processes in the tourism industry have undergone substantial and disruptive shifts due to the emergence of ICT. To gain a deeper understanding of this phenomenon, this chapter will outline these influential shifts in the historical context and focus specifically on how this technological shift connects to the two main catalysts: trust-enhancing mechanisms and the lowering of transaction

costs through information aggregation, as previously outlined as theoretical underpinnings that describe the role of intermediaries in asymmetric markets.

Research on emerging ICTs, such as blockchain and its influence on the accommodation sector, must adopt this pronounced interrelationship and theoretical underpinning. This is underscored by the fact that emerging ICT has had a substantial influence on one of the world's largest economies.

Tourism is a crucial sector for economic development and job creation worldwide, according to the World Travel & Tourism Council's annual analysis (WTTC, 2021). Moreover, it is regarded as the world's most significant industry (InTech, 2019). OTAs, as intermediaries, are expected to grow from 40% in 2016 to 60% in 2025, creating $220 billion in additional revenue. Furthermore, the customer value added through cost and time savings is estimated to be worth $165 billion (World Economic Forum, 2017).

The outcome will be summarised in a table, which will then be applied to the generational development of blockchain in the following subchapter.

Influential Shift 1960s | CRS/GDS

One of the first substantial influences in the history of digital transformation and emerging ICTs was the Central Reservation System (CRS) and Global Distribution System (GDS), which facilitated the intermediation process (Sheldon, 1997).

Before CRS and GDS, accommodation service providers, such as hotels, relied on the telephone, teletype, and even postal mail for room reservations, which often resulted in reservations being forgotten or lost. Westin Hotels developed the first reservation system, known as "Hoteltype," in 1947, followed by the first CRS in the 1950s. These systems boosted the global tourism industry and significantly increased the reach of service providers, including individual hotels, airlines, car rental companies, and cruise firms (Almeida, 2022).

CRSs, developed by airlines, were viewed as a source of competitive advantage (Pemberton et al., 2001). They were regarded as the first significant innovation in tourism with the potential to redefine the industry's organisational structure

(Shanker, 2008). Furthermore, it has been noted that CRS/GDS were the first globally present examples of the application of ICT (Pease & Rowe, 2005).

GDSs were seen as the first evolutionary process shift in digital transformation, centralising the intermediation in the tourism industry. The digital connection between service providers and consumers, which establishes ICT for the intermediation of accommodation services, remains relevant today.

Since then, service providers have become strongly dependent on travel agencies and have paid significant fees. As a result, the balance of power shifted from suppliers to intermediaries (Thakran & Verma, 2013). This shift was successful due to the asymmetric market conditions, the ability of GDSs to lower transaction costs, and their effectiveness in aggregating essential information for providers and tourists.

The aggregation and centralisation of information in intermediation processes created market power structures. A decentralised blockchain-based booking system, such as the one under research in this study, has the potential to exert a substantial influence. Therefore, understanding GDS is not merely a matter of historical context, but is central to grasping the potential influence that the adoption of blockchain could exert.

After outlining the foundational role of centralised intermediation technologies like CRS and GDS, which still serve as the core technology for intermediation in accommodation services today, it is important to note that these systems originate from the pre-Internet era. They did not initially rely on the Internet because, according to the Internet Society, the first phase began in August 1962 at the Massachusetts Institute of Technology (MIT) (Leiner et al., 2009). The Internet did not experience mass adoption until the mid-1990s. The digital transformation and the influence of the Internet will be explored in detail in the next section.

Influential Shift 1989 | WWW

One of the most significant steps in developing the Internet is related to Tim Berners-Lee, who coined the term ‘Worldwide Web’ (WWW) in 1989 while working at CERN, the European Particle Physics Laboratory in Geneva, Switzerland. Berners-Lee developed the server technology “HTTP” (Hypertext Transfer Protocol) and the client “WWW” (Berners-Lee, 2021).

Since the 1990s, the WWW has changed how business is conducted in the tourism industry, representing a paradigm shift in the intermediation processes (Buhalis et al., 2019). With the mass adoption of the WWW, the number of websites began to grow substantially and became a major influence on intermediation in the tourism industry (Wiig, 2004). The WWW has played a leading role in reshaping tourism industry intermediation and developing new relationships between supply and demand (Štetić et al., 2018). It was initially thought that the importance of intermediaries would decrease with the rise of the Internet because consumers would book directly on service providers' websites (Tse, 2003). This prediction of disintermediation did not happen. Few researchers have connected the reluctance of consumers to book directly with the lack of a trust-enhancing mechanism for intangible products, which makes fraud easier than with traditional brick-and-mortar vendors (Ba & Pavlou, 2002). This trust-enhancing mechanism, referred to as e-trust, is thus imperative to online business success (McKnight et al., 2002).

Surprisingly, this study found only a limited number of large-scale empirical studies in the extant literature, particularly in the accommodation sector, that have systematically examined the relationship between hotel website quality and e-trust (Wang et al., 2014).

Besides the potential lack of a trust-enhancing mechanism on hotel websites described by Ba and Pavlou (2002), the tourism industry became more complex, specifically in the accommodation sector, because new digital distribution channels emerged. So-called OTAs (Online Travel Agencies) and platforms like HRS (Hotel Reservation System), Expedia, and Booking.com built on the WWW using

ICT like central reservation systems and GDS for users. Hotels were able to register for free to reach a broader range of potential guests. The platform gains commission if guests book through their portal (Carroll & Siguaw, 2003). OTAs became a significant force, allowing guests to directly access reservation systems and creating web-based travel agents and internet portals (Buhalis & Egger, 2008). The success of OTAs is based on a trust-enhancing mechanism, particularly in terms of safe payment and contracting conditions (Guttentag, 2015). As a result of the rise of the WWW, traditional travel agencies were the most affected; thus, they were disrupted by online booking (Tse, 2003). Traditional travel agents were disrupted as intermediaries linking service providers and guests (Thakran & Verma, 2013). The number of traditional travel agencies in Germany declined over just one decade, from 14,235 in 2002 to 9,986 in 2012 (Deutscher Reiseveranstalter Verband, 2012). At the same time, the total expenditure of German outbound tourism grew from 59.55 billion to 96.2 billion (World Tourism Organization, 2019).

In this influential shift, the tourism industry was restructured (Stangl et al., 2016), and the share of travel bookings made through OTAs has steadily grown. It is expected to increase further from 40% in 2016 to 60% in 2025, creating $220 billion in additional revenues (World Economic Forum, 2017).

Even considering other political and economic impacts, there is broad agreement among academics that the emergence of the ICT WWW disrupted traditional travel agencies as intermediaries.

This disruptive influence has had significant consequences for both travel agencies and hotels, as well as for guests according to Stangl (2016). While guests may enjoy the convenience and competitive pricing offered by these platforms, market concentration among key players could stifle competition and lead to increased hotel commission fees. The oligopolistic nature of the major booking platforms has reached a point where hotels have become increasingly reliant on these portals as the primary source for reservations. As highlighted by Andriotisy (2003), the control exerted by major booking platforms limits the bargaining power

of individual hotels, leading to increased commission fees and reduced profit margins.

This shift was successful for OTAs due to the use of centralised reservation systems for users on the WWW, along with technological catalysts that effectively navigated the asymmetric market, significantly reduced transaction costs, and acted as information aggregators, thereby reshaping the relationships between accommodation service providers and guests.

Influential Shift 1995 | Web Search Algorithms

The history of search algorithms can be traced back to 1995, when Larry Page and Sergey Brin, both students at Stanford, developed the first search engine called BackRub. This engine was based on a new algorithm that crawls and ranks websites by the importance of links. In 1998, Google Inc. was registered, allowing access to seemingly endless information (Google, 2021).

Search engines are essential for information searching (Ho & Liu, 2005) and for finding hotel websites (Law & Huang, 2006). Besides the accessibility of information on service provider websites, a second substantial influence of search engines was Google's pay-per-click (PPC) advertising model, which controlled the acquisition of billions of customers (London School of Economics, 2016). Carroll (2014) argues that the dominance of internet gatekeepers, such as Google, has led to a concentration of power in a small number of dominant technology corporations, able to wield an immense amount of social control. According to Dou et al. (2012), the actions and decisions of internet gatekeepers can significantly influence societal attitudes and have far-reaching consequences. Selectively promoting certain viewpoints or manipulating algorithms to prioritise specific content can amplify some narratives while silencing others.

It can be summarised that Google's search algorithms have profoundly influenced the accommodation sector, consolidated market power, and influenced consumer behaviour while challenging the traditional dynamics of the intermediation market.

The advent of search algorithms, most prominently Google, has dramatically reshaped the intermediation landscape by consolidating market power and directly challenging the dominance of OTAs. This shift is attributed to Google's technological catalysts, which enable the reduction of transaction costs, the aggregation of vast amounts of information, and the effective navigation of asymmetric markets.

Influential Shift 2001 | Web 2.0 and Social Media

With the evolution of the WWW, a new ICT category emerged: Web 2.0. According to the literature, Tim O'Reilly popularised this term, describing a turning point with the dot-com boom in 2001. Furthermore, O'Reilly states that network effects from user contributions have been a key factor in market dominance in the Web 2.0 era (O'Reilly, 2005). In this context, the term "Web 1.0" refers to the initial stage of connecting computers in the Internet era, whereas the term "Web 2.0" refers to the stage where people are connected, as noted by Anderson (2006). Closely connected to Web 2.0 is the term social media. It is a collective term for websites and applications that focus on communication dedicated to community-based input, interaction, content sharing, and collaboration. Two examples are microblogging (Twitter) and social networks (Facebook) (Techtarget, 2021). Social media has become an increasingly important source of information for tourists, accounting for a substantial part of web search results (Xiang & Gretzel, 2010). Besides information aggregation on social media, Facebook was the first social network to become an intermediary in the tourism industry. With an extensive global user base, the move into the travel ecosystem was realised in 2017 when they introduced a booking button for hotels (Schaal, 2017).

Social media has also introduced a new way of aggregating information through the use of hashtags. Popularised on Twitter, a hashtag is a word or phrase preceded by a hash sign (#). These served the initial function as metadata for sorting and aggregating information according to topics, and different use cases developed rapidly (Laucuka, 2018). Users tagged their individual experiences and created an online community, enabling them to interact with one another. Users can see the aggregated travel experience of this service or destination by clicking on

the hashtag. Besides information aggregation, this indexing served as a trust-enhancing mechanism because users could verify whether the service or destination accurately matched the advertisement (Hays et al., 2012). As Smith et al. (2005) point out, in an information-intensive situation, consumers actively seek the opinions of others.

With the rise of the social media platform Instagram, a new source of information aggregation and trust-enhancing mechanism gained momentum the ‘travel influencer’. Accommodation service providers, such as hotels, pay guests (influencers) to share their experiences because they are perceived as trustworthy experts (Gretzel, 2017).

The emergence of Web 2.0 and social media platforms such as Facebook and Instagram has introduced a new layer of complexity into the tourism intermediation process and significantly reshaped the intermediation landscape. These platforms have mastered the asymmetric information market using the same catalysts as the WWW did before, by offering new means of aggregating information, such as hashtags, and reducing transaction costs, thereby gaining guests' trust and influencing the intermediation of accommodation services.

Influential Shift 2006 | Crowdsourcing and UGC

Strongly connected to the basic idea of Web 2.0 is the concept of ‘Crowdsourcing’ (also known as crowd-outsourcing). This term was first mentioned in the article “The Rise of Crowdsourcing” in January 2006 in the magazine *Wired*. The author, Jeff Howe, described examples of how the term evolved, citing Wikipedia as one of the most successful crowdsourcing projects (Howe, 2006). Vander Schee (2009) defines crowdsourcing as “…the act of taking a job traditionally performed by a designated agent (usually an employee) and outsourcing it to an undefined, generally large group of people in the form of an open call”. Its application has been demonstrated in practice (Martin et al., 2008). In the tourism industry, Wikitravel has been utilised as a free travel guide (Wikitravel, 2023). These collaborations and user-generated content (UGC) aggregate information to navigate the

asymmetric information market and, as they are collaborative, act as a trust-enhancing mechanism. Specifically, one application of UGC has substantially influenced the intermediation of accommodation services: guest review platforms. Applying the crowdsourcing definition, Vander Schee (2009) states that a large group of people (guests) have an open call (please review your stay) for a job (aggregation of content on a centralised platform) that was traditionally performed by a designated agent (hotel tester). These crowdsourcing platforms substantially influenced guest behaviour (Veloso et al., 2019). Especially in the accommodation sector, guests inform themselves on review portals before booking, as they find it helpful in decision-making and are willing to pay more for a hotel that has received positive reviews (Spiller et al., 2010).

This had a profound influence on the distribution of services; while a dissatisfied guest in an analogue era would typically tell ten people about their experience with the service provider, now, thanks to web-based review platforms, they can potentially influence thousands of their peers, according to Hennig-Thurau et al. (2004).

The aggregation of information of UGC as a trust-enhancing mechanism in an asymmetric information market catalysed the rise of OTAs. By integrating crowdsourced content, the role of intermediaries like OTAs that offered review functions was strengthened (Guttentag, 2015). Selling an intangible service online, such as a hotel room or a B&B, crowdsourced guest reviews solve different problems. Users are more concerned about the opportunistic behaviour of online sellers due to the lack of actual contact with salespeople or tangible products, according to Schoorman et al. (2007). The inherent nature of the WWW limits the ability to fully assess product quality and sellers, making fraud easier than in traditional brick-and-mortar transactions (Ba & Pavlou, 2002).

Besides strengthening the role of OTAs as intermediaries, crowdsourcing has also influenced disintermediation. For example, hotels with their own guest review platforms could encourage guests to bypass intermediaries, thereby increasing direct sales (Garrigos-Simon et al., 2017).

In the context of trust-enhancing mechanisms, the discussion about fake reviews has increased since the rise of review platforms. However, researchers suggest that the belief that review platforms are full of false reviews to enhance a hotel's reputation or damage that of its competitors is unfounded (O'Connor, 2008); identifying fake reviews remains an ongoing research area (Elmogy et al., 2021).

Crowdsourcing and UGC can be summarised as significantly reducing the information asymmetries and transaction costs in the accommodation sector. By aggregating information about diverse user experiences on platforms such as guest review sites, they level the information asymmetry between service providers and guests. This facilitates decision-making and acts as a trust-enhancing mechanism, effectively reducing the risks associated with booking a hotel room or a B&B. As a result, these ICTs played a dual role in empowering consumers and strengthening the intermediary role of OTAs.

Influential Shift 2007 | Peer-to-Peer

The concept of peer-to-peer (P2P) markets, introduced by economists refers to online platforms that enable individuals and organisations to transact directly with one another without intermediaries (Benkler & Nissenbaum, 2006). Benkler argues that the development of digital technology and the expansion of the internet have enabled the establishment of new forms of cooperation. Only one year later, the world witnessed the evolution of influential peer-to-peer technology platforms in the accommodation sector.

In October 2007, two students in San Francisco welcomed three guests to their home and let them sleep on air mattresses. Afterwards, in March 2008, the hosts founded a community network platform where members could offer and book private accommodation: Airbed and Breakfast. In 2009, the name changed to the now-infamous Airbnb. The founders were Joe Gebbia, Brian Chesky, and Nathan Blecharcyk, who still preside over the peer-to-peer platform. Their website states that properties can be castles or apartments and can be booked for one night or an entire month. Their four million hosts offer properties in more than 100,000

cities, and the company claims that its total number of guests has surpassed 900 million globally (Airbnb, 2021).

The traditional market for accommodation services involves guests renting rooms from formal businesses, such as hotels. Airbnb reassembles traditional accommodation booking websites, like Expedia, but it has disrupted the established model by providing a peer-to-peer platform as an online intermediary where ordinary people trade with one another. In the case of Airbnb, one peer, the guest, sends a reservation request over the platform to another peer, the host. As a result, ordinary people can now essentially offer accommodation services (Guttentag, 2013).

Airbnb became one of the fastest-growing start-ups in history (Stone, 2017), rivalling the accommodation sector's traditional market leaders, such as Marriott. Following its initial public offering in December 2020, Airbnb was valued at a higher level than some of the largest established hotel companies worldwide combined (Ponciano, 2020).

There is a broad discussion about the exact role of Airbnb as an intermediary. From one perspective, it is only a digital distribution for two peers. Another perspective is that Airbnb has overcome the traditional barriers of transaction costs, building trust-enhancing mechanisms that, in the past, have restricted sharing activities. Therefore, Airbnb can be considered a market maker (Busch, 2018).

It can be concluded that this market would not have otherwise existed, given its inherent high level of asymmetric information. With the rise of the ICT peer-to-peer, the same catalysts that have been in effect since GDS apply, and the influence is similar to that of the WWW, as described as disruptive by Guttentag (2013). Meanwhile, others argue that Airbnb has had a positive impact on the overall accommodation sector. However, the academic literature in the last few years is still nascent, especially regarding its macroeconomic impact (Dogru et al., 2020).

In summary, Airbnb addresses the information asymmetry in the market through its review system, creating a more transparent transaction environment. This reduces transaction costs and aggregates information to help users make more informed decisions. This has contributed to the platform's rapid growth and exceptional market valuation, making it a disruptive force that has redefined traditional paradigms in one of the world's largest industries.

Airbnb's rise is an economic phenomenon and an example of how ICT peer-to-peer can exploit information asymmetry and aggregation to disrupt traditional markets. It is worth noting that blockchain’s inherent technology, as proposed by Nakamoto (2008), is a peer-to-peer technology and facilitates disintermediation.

Influential Shift 2012 | Semantic Web – Web 3.0

Semantics is the study of meaning in language (Cambridge University Press & Assessment, 2021). The Semantic Web is mainly attributed to the inventor of the WWW protocol (Berners-Lee, 2001). He was the first to describe how a personal web agent interacts with and gives recommendations to humans. Berners-Lee describes the challenge of the WWW being full of data but designed for humans to read and understand semantics and context. On the other hand, computers cannot parse data efficiently due to a lack of semantic knowledge.

The core concept of the Semantic Web is to establish a new web standard, transforming the web as we know it into a global database of information. Hence, it is also referred to as Web 3.0 by the WWW Consortium (W3C) (W3ORG, 2021).

One of the first authors to connect tourism service providers and the Semantic Web was Markoff (2006). He argued that the goal should be a web format that is less of a catalogue and more of a ‘personal advisor’ using artificial intelligence. The semantic web should be a system that can provide a reasonable and complete response to a simple inquiry, such as: “I am looking for a warm place to vacation, and I have a budget of $3,000. Oh, and I have an 11-year-old child.” Markoff suggests that such a query, with Web 2.0, would take hours of searching and increase transaction costs. Markoff argues that today’s guest review sites

force people to read through long lists of comments and observations left by others. In contrast, Web 3.0 would weigh and rank comments and find, by cognitive deduction, the ‘right’ hotel for a particular user.

Markoff's suggestion has the potential to substantially influence intermediation, as it radically cuts transaction costs and overcomes information market asymmetry. The Semantic Web has seen the beginning of mainstream industrial adoption (Hitzler, 2021). Google developed the “Knowledge Graph” to enhance search queries and to aggregate information about hotels in a box beside the search results. This aggregated data includes customer reviews, prices, availability, nearby sightseeing options, best offers, and booking channels from OTAs. In the current Knowledge Graph, the user must decide whether to click on the service provider's website (and bypass intermediaries) or intermediaries like OTAs. However, in March 2021, Google announced that it would implement direct bookings for hotels as an extension of the Knowledge Graph (Holden, 2021).

Google's role in intermediating services has been expanding, and travel business experts now have little doubt that Google will dominate the travel arena for some time and continue to disrupt the duopoly of OTAs, such as Expedia Group and Booking.com Holding (Kelleher, 2019). The Chief Executive Officer (CEO) of TripAdvisor (EXPEDIA Group), Stephen Kaufer, stated in an interview that Google uses its dominance against OTAs (Kaufer, 2020).

The Semantic Web serves as the foundation for social machines that integrate Artificial Intelligence (Hendler & Berners-Lee, 2010). Furthermore, in the current academic debate, the Semantic Web strongly resembles knowledge representation and reasoning as a sub-discipline of Artificial Intelligence (Hitzler, 2021).

Influential Shift 2022 | Artificial Intelligence

The conversation around Artificial Intelligence and Generative Pretrained Transformer (GPT) models, specifically Large Language Models (LLMs), has significantly ramped up since 2022, primarily due to the emergence of OpenAI's ChatGPT – technology that is frequently described as a game-changer (Mathew, 2023).

According to Kalla and Smith (2023), ChatGPT is a revolutionary technology that utilises advanced artificial intelligence techniques to generate natural language responses to a given prompt or input. It has been applied across a range of fields, including natural language processing, customer service, and content creation. Its design streamlines automated conversations and potentially renders human operators redundant.

According to Carvalho and Ivanov (2023), applications such as ChatGPT will have a significant impact on a wide range of aspects of the tourism industry. They are expected to optimise front-of-house customer interactions while increasing productivity and efficiency in back-end operations. Despite potential drawbacks regarding workforce implications, this technology is widely expected to enhance the skills of tourism workers.

Research on AI and tourism remains limited; although a few studies have explored practical applications, the existing literature is scarce. However, some research has examined use cases, such as those presented by Mich and Garigliano (2023), which have innovative business processes. For example, OTAs must modify their services to integrate holiday plans that users have created through conversations with ChatGPT. The CEO of Expedia, Peter Kern, sees AI integration as a means to ‘rebalance’ OTAs' dependence on Google (Schaal, 2023).

The application of ChatGPT in the intermediation of accommodation services remains an under-researched area due to its recent emergence and is outside the scope of this study. However, for future research, the technology's ability to aggregate and interpret vast amounts of data in natural language could represent a significant research area, including a paradigm shift alongside the digital transformation from the WWW to the Semantic Web.

Summary Influential Impacts

This subchapter examined digital transformation in the accommodation sector within the historical context of this study. It provided a structured approach to gaining insights into the pronounced interrelationship between the tourism indus-

try and ICT, with a particular focus on service intermediation in the accommodation sector. This interrelationship addressed the first sector-specific research problem in detail and has been notable since the early days of ICT, remaining one of the strongest driving forces behind changes in the tourism industry (Werthner & Klein, 1999, p. 5). Over the years, ICT underwent multiple shifts, each significantly impacting market dynamics within the tourism industry. These shifts will be outlined in this summary.

Beginning in the 1960s, a new era emerged with the advent of Global Distribution Systems (GDS) (Sheldon, 1997). These systems facilitate real-time bookings from intermediaries, such as travel agents (Thakran & Verma, 2013). They represent the first global application of ICT (Pease & Rowe, 2005) and shifted power away from service providers towards intermediaries (Thakran & Verma, 2013).

In the mid-1990s, the emergence and widespread adoption of the World Wide Web (WWW) led to significant paradigm shifts in the intermediation processes within the tourism industry (Buhalis et al., 2019). In this era, Online Travel Agency (OTA) services, such as Expedia (a division of Microsoft), emerged and quickly replaced and disrupted traditional brick-and-mortar travel agencies (Thakran & Verma, 2013). These OTAs relied on centralised systems, such as GDS (Dadic et al., 2021). They became a significant force in the tourism industry, representing an influential shift in the intermediation of accommodation services (Buhalis & Law, 2008). These had the effect of restructuring the tourism industry and adding complexity to the distribution of services (Stangl et al., 2016). In the context of restructuring, OTAs disrupted traditional brick-and-mortar travel agencies (Thakran & Verma, 2013).

The influence of OTAs on intermediation was conveyed not only by their new online booking channels. Another technology emerged at the turn of the millennium: crowdsourcing-based review platforms (Sidali et al., 2009). The value-creating application of the technology was also adapted for use on different booking platforms (Martin et al., 2008). Using this technology, OTAs such as Booking.com and Expedia fostered their market position.

WWW search engines, such as Google, enabled consumers to find tourism-related websites (Ho & Liu, 2005; Law & Huang, 2006). Google controlled the acquisition of billions of consumers. These developments radically disrupted the distribution of services in the tourism industry in two ways: via organic search engine results and paid advertising models (London School of Economics, 2016). Recently, Google's approach to the Semantic Web has been seen in mass adoption and has influenced the intermediation process up to the point of worrying the CEO of one of the major OTAs, Expedia (Schaal, 2023).

With the emergence of OTAs, review platforms, and search engines, the WWW positioned the tourism industry at the forefront of digital disruption (World Economic Forum, 2017).

In Germany, one of the world's largest tourism industries (GTAI, 2021), the disruptive influence of the WWW on intermediation was substantial. The number of traditional travel agencies in Germany declined by almost 30% over a decade, from 14,235 in 2002 to 9,986 in 2012 (Deutscher Reiseveranstalter Verband, 2012).

After the substantial disruption of travel agents, the next influential wave of emerging ICT shook up the accommodation sector. While previously, in the accommodation sector, mainly just the channels of the intermediaries changed, now the emerging ICT, as peer-to-peer technology, has changed the accommodation sector and its market structure forever.

In 2008, a start-up emerged based on the idea of facilitating accommodations on air mattresses (Airbnb, 2021). Airbnb developed into the new market leader in the accommodation sector in under ten years (Guttentag, 2015). Airbnb became the fastest-growing start-up in history (Stone, 2017) and soon emerged as a global player valued higher than the combined value of the world's largest hotel companies, including Marriott, Hilton, and Hyatt (Ponciano, 2020). This massive influence was based on the online peer-to-peer technology. The core idea was to intermediate online bookings between one peer offering accommodation in private residences and another, a guest seeking accommodation (Zach et al., 2020).

The table below summarises the influential shifts brought about by digital transformation in the intermediation of accommodation services, as well as the trust-enhancing mechanisms and information aggregation catalysts that reduce transaction costs.

Table 1 Influential Shifts by Emerging ICT and Catalysts (Ribes Vicente, 2023)

	Trust-enhancing mechanism to navigate asymmetric information (Varelas et al., 2019); Smith et al. (2005)	Information aggregation lowering transaction cost (Williamson, 2008; Wigand, 2020; Bellman et al., 2006)	Influence
GDS/CSR	Travel agents used this system in a coordination-intensive environment centred on information (Lewis et al., 1998) Consumers can make decisions about travel due to the intangible nature of tourism services (Poon, 1993).	Aggregation as competitive advantage (Pemberton et al., 2001)	Influential shift of power from service providers to travel agents (Thakran & Verma, 2013), redefinition of organisational structures (Shanker, 2008)
WWW	The lack of a trust-enhancing mechanism for an intangible product hinders guests from booking directly (Ba & Pavlou, 2002). OTAs, as intermediaries, are a trust-enhancing mechanism for safe payment and contracting conditions (Guttentag, 2015). OTAs have established e-trust as imperative for success (McKnight et al., 2002).	Aggregation by offering different service providers through OTAs to customers for comparison (European Commission, 2021).	Assumed disintermediation of traditional intermediaries like travel agents through direct booking on hotel websites (Tse, 2003) did not happen (Ba & Pavlou, 2002). However, it has a substantial influence on intermediation in the tourism industry (Wiig, 2004). OTAs and booking platforms are a significant force in the accommodation sector (Buhalis & Egger, 2008, p. 24). Bargaining power Andriotisy (2003), and the formation of a duopoly of OTAs, such as EXPEDIA Group and Booking.com Holding (Kelleher, 2019). However, the influence was primarily due to the disruption of traditional travel agents (Tse, 2003). (Thakran & Verma, 2013).
Search Engines & Algorithms	Consumers can search and inform themselves in-	Information aggregation is a key component of the Google	Rise of gatekeepers and dominance (Carroll, 2014); OTAs with

	dividually to find hotel websites (Ho & Liu, 2005). Trust-enhancing, as they are not dependent on a single travel agent.	algorithm, which crawls relevant content (Google, 2021).	paid clicks that control the acquisition of billions of customers (London School of Economics, 2016). Future Disruption of traditional travel brick-and-mortar (Thakran & Verma, 2013)
Web 2.0 Social Media	Users' contributions are key to success (O'Reilly, 2005), as they can verify whether the service meets the advertised expectations (Hays et al., 2012). Rise of influencers and trustworthy experts (Gretzel, 2017).	A substantial part of web search results (Xiang & Gretzel, 2010). In social media, media aggregation of information is introduced with hashtags from users for other users for comparison (Laucuka, 2018).	The influence of the WWW expanded by offering new means of aggregating information, gaining guests' trust. As described by Smith et al. (2005), in an information-intensive situation, consumers actively seek the opinions of others, and social media offers third-party evaluation.
Crowdsourcing	Trust-enhancing by UGC on collaborative platform (Wikitravel, 2023). Guests can inform not only one person, as on social media, but also a group (Spiller et al., 2010). Helpful in decision-making (Spiller et al., 2010). Service providers, such as hotels with their own guest review platforms, aim to encourage guests to bypass intermediaries and increase direct sales (Garrigos-Simon et al., 2017). False reviews, intended to enhance a hotel's reputation or damage that of its competitors, are unfounded (O'Connor, 2008); identifying fake reviews remains a vibrant and ongoing research area (Elmogy et al., 2021).	According to Vander Shee (2009), a large group of people (guests) have an open call (please review your stay) for a job (aggregation of content on a centralised platform) that was traditionally performed by a designated agent (hotel tester). OTAs introducing aggregated information with reviews (Guttentag, 2015).	Substantial influence on guest behaviour in the accommodation sector (Veloso et al., 2019). Guests often consult review portals before booking, as they find them helpful in decision-making and are willing to pay more for a hotel that has received positive reviews (Spiller et al., 2010). The role of intermediaries like OTAs that offered review functions was strengthened using aggregate reviews, and consumers are encouraged to book directly with hotels, with a disruptive influence on travel agents (Guttentag, 2015).
Peer-to-Peer	Trust-enhancing between peers through a P2P plat-	Aggregation of information about a million hosts offering properties in more than	A new intermediary, Airbnb, has become the global market leader in the accommodation sector

	form, where no market existed before (Guttentag & Smith, 2017).	100,000 cities (Airbnb, 2021).	(Ponciano, 2020). It can be considered a market maker (Busch, 2018), with a macroeconomic impact (Dogru et al., 2020), serving almost 1 billion customers (Airbnb, 2021). Has developed a disruptive influence on traditional hotel chains and OTAs (Guttentag, 2013).
Semantic Web/Web 3.0	Transforming the WWW into a global database (W3ORG, 2021). Moreover, more of a 'personal advisor', therefore trust-enhancing, with fewer manipulation possibilities (Markoff (2006).	Beginning of mainstream industrial adoption. Google developed the "Knowledge Graph", an aggregation of web information, including reviews, prices, maps, and availability (Hitzler, 2021).	Influence has not been researched thoroughly. Google announced that it would implement direct bookings for hotels as an extension of the Knowledge Graph (Holden, 2021). Potentially intermediating forces for OTAs, as it fosters direct booking at the hotel. This could potentially disrupt the duopoly of OTAs (Kelleher, 2019). OTAs fear that Google uses its dominance against OTAs (Kaufer, 2020).
AI	Under research in this study	Aggregation of a vast amount of information optimises front-of-house customer interactions (Carvalho & Ivanov, 2023)	Influence is under research due to its recent emergence; however, it is described as a game-changer (Mathew, 2023). According to Kalla and Smith (2023), ChatGPT is a revolutionary technology.

To summarise the first global use of ICTs pioneered in the accommodation sector, each major emerging ICT has since had a substantial influence. This was exemplified by a simple start-up that had a profound impact on the accommodation sector through the adoption of new peer-to-peer ICTs. As a result, the academic community, as highlighted by Guttentag and Smith (2017), has called for research into other technologies that have the potential for a similar impact.

One such technology, in particular, that has emerged over recent years and raised substantial interest among academics is the peer-to-peer technology blockchain (Caddeo et al., 2021; Kizildag et al., 2020; Rashideh, 2020).

This study aims to conceptualise a framework regarding the ICT blockchain and its influence on the intermediation of services in the accommodation sector. The above section has identified the main technological catalysts that have historically contributed to this interrelationship context, such as trust-enhancing mechanisms to navigate asymmetric information markets and information aggregation to lower transaction costs. This historical reliance on centralised, trust-enhancing intermediaries demonstrates a sector-specific path dependency that the conceptualised framework needs to address, as outlined in the first research problem of this study.

In the following section, these identified catalysts will be applied to blockchain technology to assess their potential to substantially influence the intermediation of accommodation services

2.3.2 Blockchains Generational Development and AI Integration

The previous section about the history of digital transformation highlighted the context of the profound interrelationship between ICT and intermediation processes in the accommodation sector. It emphasised the significant influence of two main technological catalysts. Firstly, trust-enhancing mechanisms for transactions between peers in asymmetric information markets. Secondly, lowering transaction costs, with a specific focus on information aggregation. These technological catalysts have directly shaped the evolution of intermediation processes in the accommodation services industry, redefining how accommodation providers and guests interact with each other.

The following section explores the transformative potential of blockchain technology within this identified interrelationship context and the two main catalysts. It goes beyond examining blockchain as a platform for cryptocurrency transactions, such as Bitcoin. Instead, it explores its generational development and the applicability of the identified catalysts as a technological foundation for a decentralised peer-to-peer booking platform.

There is a strong consensus in the academic community that blockchain is strongly associated with the anonymous creator Nakamoto (2008) and his seminal work ‘Bitcoin: A Peer-to-Peer Electronic Cash System’. In his whitepaper, Bitcoin is described as a purely peer-to-peer version of electronic cash, enabling online payments to be sent directly from one peer to another without involving a financial institution (Nakamoto, 2008).

Nakamoto (2008) refers only to ‘blocks’ in his publication, though the term blockchain is not mentioned in his paper. Instead, the latter popularised term, blockchain, is connected to the primary function of Nakamoto’s concept, the “crypto-analytic hash“. Based on this technology, Bitcoin creates an entry in a database called a “block” with every transaction. Each block contains a “crypto-analytic hash“ from the previous one, including a timestamp and transaction data. As every new block contains data from the prior block, they form a chain (blockchain), making it difficult to manipulate one particular transaction (Meier &

Stormer, 2018). Encrypting data before it is recorded is used to validate transactions and maintain the chain's immutability because transactions cannot be modified (Bashir, 2017).

This immutability is also connected to the underlying technology of Distributed Ledger Technology (DLT). DLT is a database that is consensually shared and synchronised across servers and accessible to multiple users who ‘observe’ the transactions. DLT builds on a decentralised peer-to-peer consensus function, where users observe the database in the event of a dispute (Meier & Stormer, 2018). The DLT approach, with identical copies maintained on multiple computer systems controlled by different entities, is an extraordinarily fast-moving phenomenon (Schatsky & Muraskin, 2015).

In addition to the decentralised DLT architecture, user access, the 'blockchain wallet', is central to blockchain technology. As Charles (2022) outlines, blockchain wallets are essential for the broader introduction of blockchain technology. They function as secure and decentralised software applications that allow users to manage their digital assets and engage with blockchains, facilitating efficient and trustworthy peer-to-peer and cross-border transactions. According to Khan et al. (2019), blockchain wallets employ various security mechanisms to protect transaction integrity and user privacy, ensuring that only the wallet owner can access their digital assets.

Extant tourism research is scarce in studies on blockchain wallets. A paper by Cannavò and Lamberti (2021) describes a popular tourist destination where the blockchain wallets enable tourists to securely store digital assets, such as cryptocurrencies, and make payments within the destination. Similarly, Khanna et al. (2020) identify wallets in the tourism sector as a secure and transparent means of conducting transactions, benefiting both tourists and service providers.

However, both publications examine blockchain solely as a decentralised platform for cryptocurrencies. The ongoing generational development of this technology suggests much broader applications beyond its use as a payment medium. Extant research divides the evolution of blockchain into four distinct generations:

Blockchain as a DLT, and its application to cryptocurrencies, is classified as Blockchain 1.0. The first generation of blockchain focused on cryptocurrency transactions following Nakamoto's (2008) white paper. According to Colomo-Palacios et al. (2020) and Baudier et al. (2022), Blockchain 2.0 emerged in 2013 with the broader application of DLT, offering the possibility of smart contracts as seen in ETHEREUM (2022). Smart contracts are defined by Szabo (1994) as a "computerised transaction protocol that executes the terms of a contract". The functionality of a self-executing contract extended blockchain technology by including the terms of the agreement between buyer and seller directly written into lines of code in the blocks of the blockchain. ETHEREUM is an open, programmable virtual machine (Joo et al., 2021). ETHEREUM was co-founded by Vitalik Buterin, who has also published white papers and articles on blockchain (Buterin, 2014).

Extant literature agrees on the specific functionality of Blockchain 2.0 as a foundational technology for a decentralised blockchain-based booking system in the accommodation sector. The smart contract represents a unique digital contract between the user and service provider, bypassing traditional intermediaries (Banerji et al., 2021; Engin Demirel et al., 2022; Girish Kumar et al., 2022; Irannezhad & Mahadevan, 2020; Ozdemir et al., 2019; Parekh et al., 2021).

Blockchain 3.0 represents the evolution of Blockchain 2.0 and its current status, emphasising decentralised interoperability, with no need for intermediaries, and resolving issues that prevent blockchain from becoming an industry-spanning application (Colomo-Palacios et al., 2020). In addition to the foundational role of smart contracts in bypassing traditional intermediaries, blockchain technology offers technological key features such as immutable transaction records. These features enable secure transactions between peers without the need for a central authority, thereby fostering trust among peers (Gupta & Sadoghi, 2021). This approach eliminates the reliance on a trusted third party, ensuring that transactions are both transparent and secure (Rawat et al., 2020).

That means centralised intermediaries, as third parties, potentially face a threat to their role (Tapscott & Tapscott, 2016). A new approach to blockchain design can create a more secure and trustworthy online environment (Putra et al., 2022).

The trust-enhancing technological architecture for peers, such as hotels, that facilitates transactions via smart contracts with guests without a central authority, like an OTA, has gained increasing attention in the existing literature.

An upcoming stream of tourism researchers categorises Blockchain 3.0 technology and its trust-enhancing mechanisms in decentralised systems that are capable of verifying guest reviews and removing fake comments and reviews posted on social media (Kwok & Koh, 2018; Önder & Treiblmaier, 2018). These unjust reviews are problematic for service providers such as hotels (Calvaresi et al., 2019).

The previous chapter, which discussed the history of digital transformation, identified several technological catalysts that have influenced intermediation in the accommodation sector. The chapter summarised that two main technological catalysts – lowering transaction costs and enhancing trust between peers – have been crucial. Blockchain 3.0, with its technological architecture as the basis for a decentralised booking system, integrates both. Such a system could significantly reduce transaction costs by eliminating the need for traditional intermediaries. At the same time, its immutable transaction records enhance trust between peers in transactions without a centralised intermediary, serving as a trust-enhancing mechanism that directly connects accommodation service providers and guests on a decentralised, blockchain-based booking platform, eliminating the need for a centralised authority like an OTA booking platform.

Besides the catalyst trust-enhancing mechanism that blockchain integrates, the second identified catalyst, lower transaction costs, particularly in terms of information aggregation, needs to be addressed in blockchain technology.

This study has outlined, in the chapter about the history of digital transformation, one specific aspect of lowering transaction costs. The technological functionality

to aggregate information has been a driving force in emerging technologies, influencing the intermediation of accommodation services.

In the context of information aggregation, the existing literature suggests a growing role for AI, particularly Large Language Models (LLMs) like OpenAI's ChatGPT, which has gained substantial influence since the end of 2022 (Kalla & Smith, 2023). This influence has even been described as a “game changer” by Mathew (2023). According to Carvalho and Ivanov (2023), this will likely have a profound and significant impact on multiple processes in the tourism industry, such as streamlined customer services and an increase in productivity and efficiency.

However, the literature commonly agrees that this integration will reduce the need for human interaction in searching for information to make decisions (Colomo-Palacios et al., 2020). Raja (2021) states that integrating AI into blockchain systems enhances their functionality and intelligence. Mukherjee and Pradhan (2021) describe how this evolutionary integration enables the analysis and processing of large amounts of data, makes intelligent decisions, and automates complex tasks. As Blockchain 4.0 continues to evolve, exploring the potential benefits and risks associated with this intersection, and developing appropriate frameworks, is essential (Raja, 2021).

Therefore, this study posits that the evolution of AI is a central context for the development of the conceptualisation aimed at understanding the influence of blockchain on the intermediation of accommodation services.

Blockchain 4.0 represents a significant milestone in the emergence of technology, integrating technological catalysts that have been influencing the intermediation of accommodation services since the 1960s. The core concept described is a decentralised blockchain-based booking system utilised to address the issue of asymmetric information in the market. It achieves this by integrating trust-enhancing techniques, such as peer reviews and smart contracts. Furthermore, the in-

corporation of AI and advanced information aggregation techniques has the potential to significantly reduce transaction costs, potentially leading to substantial changes in the intermediation dynamics within the accommodation sector.

Researchers are increasingly calling for more meaningful frameworks to understand the emergence of blockchain and its influence on the intermediation of services in the accommodation sector. This study responds to the call and aims to bridge the identified gap by developing a conceptual framework that incorporates innovation adoption models. It is extended to address the specific research problems of this study. First, the context of the pronounced interrelation between ICT and the intermediation of accommodation services, along with the specific inherent technological architecture of blockchain for disintermediation, positions it to have a significant disruptive impact on traditional centralised major OTAs and other booking platforms.

The following section will conclude the historical context relevant to the study, with a status quo in 2023 of the practical application of a decentralised blockchain-based booking system.

2.3.3 Status-Quo Real-Life Adoption of Blockchain in Tourism

While the last section explored the generational development of blockchain and the technological catalyst responsible for shifts in the historic context of digital transformation in the intermediation of accommodation services, it serves as groundwork for a theoretical approach to a blockchain-based booking system for accommodations. This section, however, explores the current state of practical applications.

Blockchain technology is emerging in industries such as supply chain and finance, as a potential solution for improving transparency, security, and efficiency (Unny & Lal, 2020). Tourism is also beginning to explore such applications, although real-life remains limited (Rejeb et al., 2020). The table below presents a selection of websites that publicly position themselves as using blockchain in the

tourism and accommodation context. This list was compiled through an exploratory online search using Google to examine the current market positioning and technological claims of these platforms.

Importantly, this analysis is guided by the foundational understanding of blockchain as outlined in Nakamoto's (2008) white paper, where decentralisation was not only a technical feature but a core objective, explicitly intended to bypass centralised intermediaries such as banks. Transferring this logic to the tourism and accommodation sector, the analysis examines whether the listed platforms exhibit this core characteristic: the ability to disintermediate traditional centralised intermediaries such as online travel agencies (OTAs) or booking platforms.

This step is essential not only to assess the disintermediation potential of these applications, but also to conceptualise the innovation adoption framework, as stated in the research objective, that integrates the specific dynamics of the accommodation sector and the perceptions of decision-makers regarding the adoption of decentralised technologies and their potential to influence the intermediation of accommodation services.

Table 2 *Blockchain-Based Platforms (Ribes Vicente, 2023)*

Description	Decentralised blockchain-based Booking System Accommodation
Winding Tree is an operating blockchain-based travel marketplace that enables hotels, airlines, and other travel providers to sell directly to consumers without intermediaries https://beta.win.so/	YES
Beenest Whitepaper: blockchain-based, open-source, decentralised short-term housing rental platform that utilises the Bee Token. Beenest eliminates the middleman, allowing 0% commissions while providing a seamless user experience. https://www.thebeetoken.com/	YES

Trippki is a blockchain-based platform that announces rewards to customers with cryptocurrency for booking hotel rooms, flights, and other travel services. By the time of the research in September 2023, the website https://trippki.com/ was down.	NOT AVAILABLE
Sonder is a blockchain-based platform that allows travellers to book one-of-a-kind and authentic travel experiences, such as home-sharing and vacation rentals. https://www.sonder.com	NO
LockTrip announced in a manifesto that it would be a blockchain-based hotel booking platform based on non-fungible tokens (NFTs) that would save customers money by eliminating intermediaries. https://locktrip.com/	NO
BitCanna is a blockchain-based platform that aims to build a decentralised marketplace for cannabis and hemp tourism. https://www.bitcanna.io/	NO
TravelChain is a blockchain-based platform that enhances data sharing and distribution in the travel industry. https://travelchain.io/	NOT AVAILABLE
Cool Cousin is a blockchain-based travel platform that pairs travellers with local experts to provide personalised travel experiences. By the time of the research in April 2024, the website was down. https://www.coolcousin.com/	NOT AVAILABLE
TUI Group, one of the world's largest tourism companies, utilises blockchain technology to improve supply chain efficiency and reduce costs, such as TUI Bed-Swap. https://www.tuigroup.com/	NO
Webjet, an online travel agency, is utilising blockchain technology to improve the transparency and	NO

efficiency of its hotel reservation process. https://www.webjet.com	
ARAW Token is a blockchain-based platform for payments in e-commerce, retail, travel, and tourism. https://arawtoken.io/	NOT AVAILABLE
Travacoin allows customers to use cryptocurrency to book and pay for travel services. https://travacoin.io/	NOT AVAILABLE
Loyyal enables tourism companies to create more transparent and secure loyalty and rewards programmes. https://loyyal.com/	NO
TravelBlock is a blockchain-based platform that aims to build a decentralised marketplace for the travel industry. https://travelblock.io/	NOT AVAILABLE
Flyus.com utilises blockchain technology in an exchange platform where flights can be booked using blockchain-based methods.	NO
Travala is an intermediary that offers crypto payment options. https://www.travala.com/	NO
Sandblock aims to transform the loyalty landscape with its blockchain-based platform, enabling travel providers to create their own loyalty programmes.	NO
DeskBell enhances the connection between hotels and their guests.	NO
The Peakwork Web3 Travel Platform is built on decentralised blockchain technology. https://www.peakwork.com/web3/	YES
Binance app, Crypto Air Tickets, offers a convenient way to reserve and purchase flight tickets using cryptocurrency. https://www.binance.com/	NO

Sleap.io, the world's first native Web3 hotel booking platform, integrates blockchain technology, AI-driven personalisation, and seamless cryptocurrency transactions. https://sleap.io/	NO
Expedia Group: blockchain technology will be utilised to develop a new loyalty programme, known as the Expedia Traveller Network (ETN).	NO
Liferewards is a blockchain-based travel rewards platform that allows travellers to earn, track, and redeem rewards for travel-related purchases. https://liferewards.ai	NO
Travelport is using technology to develop a new platform for travel payments. This platform will allow travel companies to accept payments in cryptocurrency.	NO

The research on the real-life application of blockchain technology in the context of tourism revealed that current applications do not align with the typical vision of a decentralised, blockchain-based booking system that academic research has envisioned as transformative in reshaping service intermediation in the accommodation sector. This hints at a potential disconnect between the academic discourse on blockchain's potential decentralised, disruptive influence and its real-life application.

Instead, most of these companies tend to approach blockchain with a more centralised and marketing-oriented mindset, often lacking the open-source or decentralised architecture required to enable genuine peer-to-peer interaction. In line with the research objective, this exploratory review aimed to assess whether existing platforms already reflect the disintermediation potential discussed in academic discourse within the real-life environment of the accommodation sector, or if there is a disconnect between the two. The results signal a potential disconnect:

Only Winding Tree (https://beta.win.so/) can currently be considered an operating, open-source, blockchain-based travel marketplace that enables hotels, airlines, and other providers to sell directly to consumers without intermediaries. Likewise, Beenest (https://www.thebeetoken.com/), though no longer widely active, was proposed as a blockchain-based, open-source, decentralised short-term housing platform offering 0% commissions. These two cases align with the foundational ideas outlined in Nakamoto's (2008) white paper and provide rare but valuable insights for developing a relevant conceptual framework.

2.4 Critical Review Innovation Adoption Frameworks

2.4.1 Introduction

The conceptual clarification in the first subchapter, outlined that intermediation traditionally relied on lowering transaction costs and addressing information asymmetries through information aggregation (Pearce & Schott, 2005; Werthner & Klein, 1999). It was also outlined that disintermediation was initially coined in the 1970s to describe bypassing financial intermediaries (Mills & Camek, 2004; Shunk et al., 2007). The term was later applied to e-commerce, where ICT enables direct exchanges between consumers and suppliers (Buhalis, 2003; Maharg, 2016), although scholars later noted that traditional intermediaries adapted and re-emerged in digital markets (O'Keefe et al., 2002).

The second subchapter of the literature review outlined how digital transformation and ICT have historically reshaped tourism intermediation, following the first sector-specific research problem regarding the pronounced interrelationship between ICT and the intermediation of accommodation services. It revealed that lowering transaction costs and addressing information asymmetries through information aggregation form a recurring pattern in major technological shifts, beginning with the introduction of Global Distribution Systems (GDS), which were among the earliest large-scale ICT applications in the tourism industry (Werthner & Klein, 1999).

Building on this foundation, the review traced the generational development of blockchain technologies, from Nakamoto's (2008) white paper to Blockchain 4.0, which incorporates Artificial Intelligence to enhance decentralised information aggregation. The analysis explored whether blockchain, particularly in the form of decentralised booking systems, has the potential to mirror the historical ICT patterns and act as a catalyst for transformation in intermediation processes. This potential has been increasingly supported by early real-life applications of blockchain-based booking systems (Demirel et al., 2022; Winding Tree, 2023).

In response to the rapidly evolving technological landscape, this study investigates how decentralised, blockchain-based booking systems affect the intermediation of accommodation services. The research aims to adapt and extend an innovation adoption framework, integrating insights from decision-makers within the German tourism industry. Accordingly, the third subchapter of the literature review critically evaluates existing research and examines sectors where blockchain applications have been explored. This review serves to address the first research sub-question: Which innovation adoption framework offers a suitable and adaptable foundation for analysing the influence of blockchain on the intermediary market in the German accommodation sector?

2.4.2 Blockchain in Tourism Research

The first sub-research question guides the critical analysis of how existing innovation adoption frameworks can be adapted to develop a conceptual framework that examines the influence of decentralised blockchain-based booking systems on the intermediation of accommodation services in Germany, while integrating decision-makers' perspectives and addressing the two specific sectoral research problems posed at the beginning.

First, the conceptual framework must account for the historically pronounced interrelationship between emerging ICTs and intermediation in the accommodation sector, as outlined in Section 2.3.1, which provides the historical context of digital transformation. This includes understanding the generational development from Blockchain 1.0 to 4.0, as well as integrating AI, as outlined in Section 2.3.2. Both developments are the basis for exploring the potential influence of blockchain in markets characterised by asymmetrical information and high transaction costs.

Second, as outlined earlier, the framework must also incorporate blockchain’s disruptive potential, particularly its capacity to facilitate disintermediation through direct peer-to-peer transactions that bypass traditional intermediaries such as OTAs (Rejeb et al., 2020; Filimonau & Naumova, 2020; Aghaei et al., 2021).

Moreover, the critical analysis is guided by the perspective of practitioners at decision-making levels, as they are the stakeholders who ultimately determine the adoption of innovations like blockchain-based booking systems.

This is especially important because the accommodation sector is highly dependent on centralised intermediaries.

To support this inquiry, the critical analysis is structured in two parts. The first part presents a structured literature review using the SCOPUS database, based on the keywords “blockchain” and “tourism”. All retrieved entries were manually screened for relevance, and duplicates and off-topic records were excluded. The remaining studies were analysed with particular attention to their thematic focus and relevance in addressing the research objective and bridging the gap.

In the second part, the reviewed literature is critically examined alongside established innovation adoption frameworks, such as the Technology Acceptance Model (TAM) by Davis et al. (1992), the TOE framework by Tornatzky and Fleischer (1991), Actor-Network Theory by Cressman (2018), and the theory of Disruptive Innovation (Christensen et al., 2018). The aim is to identify or adapt a framework that is both generic enough to be applicable and specific enough to reflect the technological, organisational, and contextual dynamics of blockchain adoption in the accommodation sector.

Through this two-step structure, literature screening followed by theoretical engagement – this chapter lays the groundwork for a conceptual framework that addresses the identified research gaps and informs the empirical part of the study.

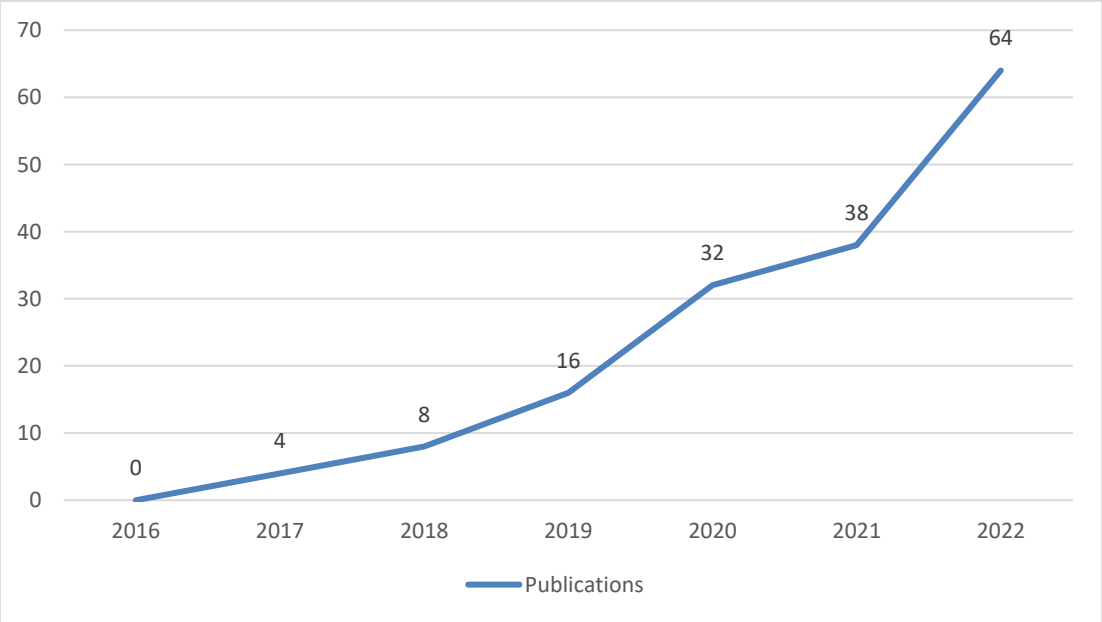
One of the first substantial bodies of work on blockchain and its influence on the tourism industry was produced by the London School of Economics (2016). The publication's primary research focus was to examine the influence of emerging technologies on the distribution and subsequent intermediation of services in the tourism industry.

One year later, the World Economic Forum (2017) stated that blockchain has the potential for influential shifts in the intermediation of services. Furthermore, Gelter (2017) states that blockchain will transform business models, disrupt existing value and forecasts, and strongly influence the tourism industry" (p. 74).

In 2017, the first papers about Bitcoin as a payment option in the tourism industry appeared (Leung & Dickinger, 2017). Since 2017, the volume of academic papers and research has continued to grow steadily. As a result, the database SCOPUS (2023) shows the first entries in 2017 when using the search phrase TITLE-ABS-KEY ("blockchain" AND "tourism"), including academic journal papers, conference proceedings, and book chapters.

Initially, the volume of publications doubled each year until 2020. There was a noticeable slowdown in 2021, but growth resumed vigorously, with the number of publications almost doubling from 2021 to 2022. This dynamic growth trend is illustrated in the accompanying figure, which highlights the increasing academic interest and research focus on blockchain technology in the tourism sector (SCOPUS, 2023).

Figure 1 Publications Keywords Blockchain and Tourism (SCOPUS, 2023)



Of the 197 publications in December 2022 in the SCOPUS database (2023), 133 were excluded from full-body reading. The focus of the excluded publications is

not relevant to the aim of this thesis, which is to examine the influence of blockchain on the intermediation of accommodation services in the tourism industry. The excluded publications, therefore, are not relevant to developing a conceptual framework and underscore the lack of research in this area. These papers can be found in Appendix 1.

After excluding literature, this study reviewed 64 out of 197 entries categorised in SCOPUS (2023) with the keyword search “blockchain” and “tourism” in detail, to identify suitable existing innovation adoption frameworks that can be adapted to develop a conceptual framework that examines the influence of decentralised blockchain-based booking systems on the intermediation of accommodation services in Germany, while integrating decision-makers' perspectives and addressing specific sectoral research problems.

The academic interest in the intersection of blockchain and tourism is a recent but rapidly accelerating phenomenon, the significance of which is underscored by its clear quantitative growth.

An analysis of the SCOPUS database confirms that after the first substantive works emerged around 2016, the volume of publications on the topic grew exponentially.

This dynamic indicates a research field moving from a niche to a central concern in tourism technology research, making a robust theoretical framework about innovation adoption and bridging the academic gap identified at the beginning of this study more urgent than ever.

The quantitative growth since 2016, however, has been paralleled by a thematic evolution that progressively reveals the academic gaps this thesis’s research question is designed to address. The literature has matured through different phases, however fails to account for the two interconnected sector-specific research problems posed at the beginning of this study: the historically pronounced interrelationship between the accommodation sector and emerging ICT, and the

unique blockchain-specific context in the accommodation sector that is historically highly reliant on centralised intermediaries, as outlined in the historical context.

The literature can be seen to mature through distinct phases: from foundational explorations of potential, through a diversification into specific technical models, and finally, to a critical self-awareness of its theoretical shortcomings.

Thematic Development in Tourism Blockchain Research (2016–2018)

The initial phase of research from 2016 to 2018 was necessarily exploratory and descriptive. Early works analysed the potential of blockchain to effect transformative shifts in specific national contexts, like Moldova (Pilkington & Crudu, 2016). However, this was positioned in the field of e-government, which is not within the scope of this study or the proposed foundational research guiding the emerging research field (Önder & Treiblmaier, 2018). The focus was on exploring the field by identifying opportunities and challenges for stakeholders, such as DMOs (Kwok & Koh, 2018). While this foundational work was essential for establishing the relevance of the topic, it was, by design, speculative and lacked analytical frameworks for the adoption of technological innovation. It overlooks the fact that the accommodation sector has a pronounced interrelationship with emerging ICT, having been repeatedly reshaped by technologies like GDS and OTAs.

By failing to contextualise blockchain within this history of digital transformation and technological disruption, these studies miss a crucial analytical layer.

Thematic Development in Tourism Blockchain Research (2019–2020)

As the field developed between 2019 and 2020, the research diversified into more concrete applications, however it largely lacked theoretical models or frameworks in its approach to adoption. During this period, researchers began proposing specific technical solutions for narrow problems. Examples include systems for monitoring Service Level Agreements on the blockchain to compensate tourists automatically (Nguyen et al., 2019), the development of integrated wallet-based platforms allowing tourists to interact with stakeholders (Bodkhe et al., 2019), and even the design of simulated multiplayer transaction games between tourists and service providers (Y. M. Arif et al., 2020).

Here, the research begins to conceptualise for the first time blockchain as a peer-to-peer (P2P) technology of interaction between service providers and guests, which is central to the scope of this study. This focus extends to related sectors, such as medical tourism, where studies have explored the use of smart contracts to increase trans-border tourism (Shen & Bai, 2020), or to verify the credentials of medical professionals, raising questions about patient–doctor trust in a disintermediated environment (Rejeb et al., 2020).

This pattern of focusing on specific technological features continued with an emphasis on establishing trust between peers. This included replacing centralised platforms with distributed trust-enhancing mechanism for reputation management, such as identifying fake comments on crowdsourcing platforms (Veloso et al., 2019). This study has outlined in 2.3.1 that such mechanisms were crucial in establishing the concentred market of intermediaries, from which the German accommodation sector is highly dependent.

While some case studies began to identify key reasons for adopting blockchain in specific destinations (Erceg et al., 2020), many works pointed to the technological concept of smart contracts as decentralised applications (Valeri, 2020; Karagoz Zeren, 2020; and Demirel et al., 2020). However, as outlined in this study in 2.3.2, discussing smart contracts only as a crucial technological function

for implementing a decentralised booking system misses the broader transformative and disruptive influence that blockchain can have. Initial critical works began to highlight how understudied the topic remained. For example, Filimonau and Naumova (2020) argued that blockchain can disrupt the traditional concentrated market and eliminate intermediaries in the accommodation sector, but noted that significant obstacles to adoption exist. They called for a firsthand feasibility test with expert opinions from industry professionals, using the Delphi consensus technique.

The research then focused on the ability to increase disintermediation, with researchers identifying it as blockchain's most effective influence (Rashideh, 2020), a sentiment echoed by Quiniou (2019), who noted that the dominance of intermediaries could be weakened. Others suggested that blockchain technology could influence all sectors of the hospitality and tourism industry (Willie, 2019), partly address the research problem of this study and underlining the need for deeper research. This period also saw the first attempts to create more structured approaches for practitioners. For the first time, essential criteria were proposed for decision-makers in the tourism industry to compare different approaches (Ozdemir et al., 2019).

The literature also presented P2P accommodation as an option following the COVID-19 crisis, proposing the adoption of blockchain to bypass strongly regulated P2P platforms, thereby enhancing transparency and protecting consumers (Comelles, 2020). This represents early research into a decentralised blockchain-based booking platform, a concept that, by 2023, had real-world applications, such as Winding Tree, as outlined in Section 2.3.3 of this study. Others identified blockchain as a paradigm shift, proposing its potential for disintermediation and the elimination of intermediaries from the tourism value system (Kizildag et al., 2020; Thees et al., 2020).

However, these papers, while indicating a direction, still largely miss the perspective of decision-makers of accommodation service providers. While the views of industry professionals were sometimes included (Melkić & Čavlek, 2020), the use of a SWOT analysis is a tool for innovation management, but not a theoretical

adoption framework, and the study did not empirically consider the lived experiences of these professionals.

In summary, during the 2019–2020 period, the first approaches concerning the potential influence of blockchain-based booking systems began to appear. However, with one notable exception that used Grounded Theory (Tyan et al., 2021), the literature still lacked a suitable innovation adoption framework that could be extended or adapted to analyse the influence on the intermediation of accommodation services from the perspective of decision-makers.

Thematic Development in Tourism Blockchain Research (2021–2022)

In the most recent phase of research, from 2021 to 2022, a systematic literature review on the impact of blockchain technology adoption on the tourism industry was conducted (Rana et al., 2022).

However, marginal technological solutions are still being researched, such as tracking traveller information using a distributed ledger (Dubey et al., 2022), or allocating seats to residents/tourists in a shareable vehicle (Benedict, 2022). Other examples include Gemiverse, a blockchain-based professional certification and tourism platform (Wei, 2022), and the general exploration of use cases for the tourism and hospitality industry (Önder & Gunter, 2022).

Not only do these studies often lack a theoretical base, framework, or model, but they also fail to capture the complete picture of the accommodation-specific research problems. This sector, as outlined in 2.3.1 the digital transformation section of this study, has historically been highly dependent on centralised intermediaries, such as OTAs or booking platforms, and is potentially subject to disruptive influences.

Further research echoes that smart contracts, as part of a blockchain-based booking system, have the potential to eliminate intermediaries (Irannezhad & Mahadevan, 2020) through peer-to-peer hotel bookings (Strebinger & Treiblmaier, 2022a). Saputra et al. (2022) argue that the tourism industry needs to employ blockchain in the future, which has become a necessity for a range of industries.

This is echoed by Luo and Zhou (2021), who propose a blockchain-based smart tourism platform, and research regarding the practical application of blockchain technologies at all stages of a tourist product booking (Arbatskaya & Khoreva, 2021). Further research recommends strengthening training in blockchain technology for tourism (Li et al., 2022).

In this phase, a growing stream of research also discusses opportunities and challenges in promising sectors for the development of blockchain technology (Caddeo et al., 2021). A similar approach is taken by Ampountolas and Chiffer

(2021) from the perspective of OTAs, regarding potential opportunities to improve and the challenge of maintaining power or being disrupted.

Although the discussion of opportunities, challenges, and practical application is central to innovation adoption within the scope of this study, no suitable innovation adoption model in the scope of this study is presented in these works.

One of the few related models is the Blockchain-Based Integrated Model (BLOBIM), which researches opportunities and challenges of blockchain technology for the tourism industry (Girish Kumar et al., 2022); however, the full text was not available to the researcher.

Other available research employs theoretical models or frameworks for innovation adoption, leading to a fragmented application of established but often not suitable theories. Examples include the Osterwalder and Pigneur (2010) Business Model Canvas, which suggests that blockchain-based platforms have the potential to change business models in tourism (Aghaei et al., 2021). While this research helps explore future business, it does not provide a dynamic, adaptable theoretical framework for understanding the complex interconnected research problems posed at the beginning of this study.

Viano et al. (2022) adopt (Linders, 2012) analytical framework for service co-production in the tourism sector; however, this specific use of Linders' framework is the right tool for analysing how a community might use blockchain to build a local tourism initiative together. It is not suitable for analysing how a fragmented sector, such as the accommodation industry, adopts blockchain in a concentrated market dominated by a few oligopolistic intermediaries.

A significant flaw is the frequent use of models focused on individual user acceptance, such as using the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2016). Chang et al. (2022) adopted UTAUT to analyse traveller reactions to crypto-currency, which is furthermore not focused on intermediation.

First research addressing decision-makers in the tourism industry notes that providers must understand their target audiences to successfully introduce blockchain-based booking platforms, using Diffusion of Innovations (DOI) (Rogers et al., 2009) to profile early adopters (Strebinger & Treiblmaier, 2022b).

While DOI is essential for understanding how a new idea spreads in general and explaining how an innovation spreads among a population of individuals, it is not the right tool for analysing a B2B technology-adoption decision from an organisational perspective, represented by decision-makers of the German accommodation sector with a technology that rarely has seen real-life application.

The academic gap, outlined in this study, is further evidenced by the use of a variety of unsuitable models, from Game Theory for supply chain decisions in tourism (Zhou et al., 2022). While Game Theory is a powerful tool for analysing competitive strategy, it is not an innovation adoption framework. Therefore, this study's research aim sets the scope one step before, exploring if decision-makers even want to "play" the game by potentially adopting blockchain-based booking systems.

Additionally, Value-Focused Thinking (VFT), as proposed by Keeney (1992) and adopted by Parekh et al. (2021), claims to be a potential solution that enables disintermediation. However, it is not a suitable adoption framework. While VFT could help a single decision-maker decide whether to adopt blockchain, the research question is about how to conceptualise an innovation adoption framework to be adapted for the accommodation sector integrating the perceptions of decision-makers.

In this phase of research, barriers and drivers, as well as cause-and-effect relationships on OTAs, were also explored using an Interpretive Structural Modelling framework (Sharma et al., 2021). The ISM framework, as applied in that study, is used for understanding OTAs by creating a map of barriers and drivers influencing their current system. It is not a tool for analysing the adoption of blockchain technology from the perceptions of service providers, a technology that, if

adopted, could fundamentally influence or disrupt the system of accommodation service intermediation.

Another study proposed an enabling framework that identifies the use of blockchain technologies and their applications (Balasubramanian et al., 2022); however, it does not focus on technology adoption.

Another example is the Institutional Analysis and Development (IAD) framework, which suggests that a limited number of actors lose power while the overall system benefits (Yadav et al., 2021). However, this framework focuses on institutional rules and social behaviour and tends to downplay the powerful external market pressures and concentred market structure, a central research problem this thesis addresses.

The full scope of this fragmented approach is further suggested by studies with a continued focus on descriptive analysis of barriers and industry practices (Cheriyan & Tamilarasi, 2021; Đikanović & Jakšić-Stojanović, 2022).

This theoretical gap is explicitly acknowledged within the existing literature, with calls from researchers to move beyond exploration and create meaningful frameworks and models that provide genuine value to the industry (Treiblmaier, 2021b, 2022). A methodological gap is compound from the consistent absence of practitioner and decision-maker perspectives (Rejeb et al., 2020), despite calls for their inclusion. To facilitate a deeper analysis, tourism industry experts must be involved, according to Valeri and Baggio (2021), which supports the research aim of this study to conceptualise a framework integrating the perceptions of decision-makers.

Recent work in this direction includes, for instance, the use of the Delphi consensus technique to explore expert opinions on opportunities, challenges, and risks (Dadkhah et al., 2022), as well as research on management perceptions regarding blockchain technology (Hsu & Leung, 2022).

Although these studies address the gap of including management experts, they still lack the kind of guiding theoretical framework needed to structure and interpret their findings comprehensively.

An interesting piece of research by Özgit and Adalıer (2022) suggests this, finding a "lack of overall knowledge of BCTs" in qualitative interviews with casino managers, particularly in areas beyond crypto-currency.

Summary

The detailed examination of 64 papers clearly suggests that academic research must adopt a broad perspective on existing blockchain characteristics to assess how blockchain can impact the tourism industry (Treiblmaier, 2021a). In the literature, there is an increasing call for research on the substantial influence of service intermediation on the tourism industry (Demirel et al., 2020; Filimonau & Naumova, 2020; Kizildag et al., 2020; Rashideh, 2020; Buhalis et al., 2019). However, this field of research is understudied (Ampountolas & Chiffer, 2021; Filimonau & Naumova, 2020), and a general tourism industry perspective is almost absent (Rejeb et al., 2020).

Despite its growing importance, there have been only a limited number of investigations into blockchain applications in the tourism industry (Ozdemir et al., 2019). The recognition of the topic in leading academic journals in tourism research is relatively low compared to the general level of interest in the technology, according to Treiblmaier (2021a). There have been increasing calls for research into the core characteristics of blockchain. Its primary benefit is that transactions are realised without intermediate agents, eliminating additional transaction costs (Leung & Dickinger, 2017). This increases disintermediation (Önder & Treiblmaier, 2018; Tyan et al., 2021). Online Travel Agencies (OTAs) can be replaced by systems that facilitate peer-to-peer communication and transactions, thereby creating new consumer-to-consumer markets (Önder & Treiblmaier, 2018).

Besides lowering transaction costs, blockchain can authenticate customer reviews (Tyan et al., 2021) to increase trust rating systems (Önder & Treiblmaier, 2018). Tourism products are intangible and highly dependent on trust and reputation management, which is traditionally centralised and delegated to reliable third parties, e.g. TripAdvisor (Calvaresi et al., 2019). The travel industry is significantly influenced by technological advancements (Buhalis & Law, 2008). First, researchers advocate for a national blockchain platform to counteract the fragmentation of the tourism industry, and all stakeholders should collaborate to

maintain control over blockchain's disruptive and disintermediating nature (Fragnière et al., 2022).

There is an upcoming stream of researchers who argue that blockchain-based booking systems can potentially have a significant influence on the intermediation of accommodation services. They can facilitate greater disintermediation (Ozdemir et al., 2019) and are suitable for eliminating intermediaries (Aghaei et al., 2021), thus eliminating additional transaction costs (Leung & Dickinger, 2017).

Blockchain-based booking systems also have implications for businesses, as they can facilitate greater disintermediation (Ozdemir et al., 2019). Therefore, adopting smart contracts plays a central role in the development of blockchain technology (Engin Demirel et al., 2022; Karagoz & Demirel, 2020). As argued in this study, the tourism industry is an information-intensive market characterised by asymmetric information between service providers and guests. Therefore, the intermediation of services must be complemented by trust-enhancing institutions. An example of this is the authentication of reviews (Veloso et al., 2019).

Since 2021, research has focused on the practical application of smart contracts in real-life scenarios. For example, Engin Demirel et al. (2022) propose a booking system with a unique smart contract between customers and hotels without intermediaries.

According to Treiblmaier (2021), for the tourism industry, only a few papers have been published in leading journals that rigorously investigate the potential impact of blockchain.

The critical literature review conducted for this study confirms that although blockchain's influence is widely acknowledged in the academic community of tourism research, the lack of technology innovation adoption frameworks or blockchain as an emerging decentralised booking system in the extant tourism literature remains a clear gap.

From the 64 papers reviewed, 14 researchers adopt or conceptualise frameworks; however, of these, only nine address the influence of blockchain on the intermediation of services in the tourism industry.

However, none of them directly addresses the two specific research problems posed at the beginning of this study: the historically pronounced interrelationship between ICT and the accommodation sector, and the blockchain-specific technological disintermediation architecture, with the potential to develop a disruptive influence in a sector that is not only highly dependent on intermediation but also dominated by oligopolistic gatekeepers, such as OTAs and major booking platforms.

One of the nine frameworks was contributed by Filimonau and Naumova (2020), who identified obstacles in the adoption of the accommodation sector. They conducted a first-hand feasibility test, gathering expert opinions from industry professionals and utilising the Delphi technique.

Another paper by Tyan et al. (2021) uses a grounded theory approach and a systematic literature review. Their conceptual model takes a holistic view of the real influence of blockchain on the tourism industry but fails to tackle the issue of its influence on intermediaries. It also lacks an empirical qualitative approach and overlooks the views of tourism industry professionals, especially from the accommodation sector.

In the paper by Melkić and Čavlek (2020), the views of industry professionals are somewhat included. However, the paper does not empirically consider the lived experiences of tourism industry professionals. While a Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis can support innovation management, it is not a form of innovation management.

Yadav et al. (2021) proposed an Institutional Analysis and Development (IAD) framework for a blockchain-enabled smart tourism ecosystem. They argued that the expected increase in disintermediation leads to fewer actors losing power but suggest that the whole system is beneficial. IAD frameworks focus on formal and informal rules and practices in the light of social behaviour. However, this study

focuses on the role of institutions and how they can influence innovation, downplaying external factors such as market pressure.

Another approach was presented by Zhou et al. (2022), which applied game theory to identify optimal strategies for adopting blockchain platforms. However, this framework is only suitable for decision-making research and strategic organisational interactions. Finally, the Integrity-Preserved Collaborative Augmented Reality Framework proposed by Syed et al. (2022) focuses on the protection and integrity of data, which does not align with the research objective of this study.

Lately, the existing literature has published frameworks related to technology acceptance and diffusion that align with this study's research aims, such as those by Sharma et al. (2021) and Strebinger and Treiblmaier (2022b).

However, both fail to address the specific research problems posed at the beginning of this study, further compounding the academic gap in suitable innovation adoption frameworks that this study aims to bridge.

After examining 64 papers in the research field of blockchain and tourism, the critical literature review has been expanded to consider generic innovation adoption frameworks used in the context of blockchain in sectors other than the tourism industry, in order to adapt and extend them to address this study's central objective.

The previous chapter highlighted a notable gap in the existing tourism research literature, specifically highlighting the lack of innovation adoption frameworks suitable for investigating the influence of blockchain technology, especially when applied as a decentralised booking system in the accommodation sector. Notably, while the diffusion and adoption of emerging technologies are thoroughly studied in innovation management with frameworks, this study reveals that these frameworks lack applicability to the tourism industry due to its unique, pronounced interrelationship with ICT and a dominant intermediation market.

The following section undertakes a critical analysis to identify innovation adoption frameworks that align with the specific research objective and problems of this

study. While sectors outside of tourism have benefited from well-articulated innovation theories, there is an urgent need for an industry-specific framework to encapsulate the dynamics of blockchain adoption in the tourism sector.

This will serve academic research and have pragmatic implications for accommodation sector decision-makers considering the adoption of blockchain.

2.4.3 Innovation Adoption Streams

Following the previous section's revelation of a lack of suitable frameworks addressing blockchain in tourism research, this section expands the scope to further address the second sub-research question: Which innovation adoption framework provides a suitable foundation for conceptualising the influence of blockchain on the intermediary market in the German accommodation sector? The critical review incorporates the lens of practitioner perspectives, as outlined in the identified academic gap.

The academic debate on how to conceptualise frameworks about the potential influence of blockchain in the tourism industry can be traced to 2017, as outlined in the previous section.

From the streams of technological innovation adoption theories that have been published, each focuses on a different aspect of the innovation process. Prominent innovation theories include the linear model of innovation, the stage model of innovation, the network model of innovation, and the evolutionary model of innovation. In the following section, the suitability of these different streams will be discussed.

Linear Models of Innovation

The first stream, linear models of innovation, includes the Theory of Reasoned Action (TRA) by Fishbein and Ajzen (1975). According to the theory, attitudes towards innovation are determined by evaluating the potential outcomes of engaging in innovative behaviour. However, the theory focuses on explaining consumer purchasing behaviour and, therefore, is not suitable for the aim of this study.

Other researchers on blockchain in the critical literature review applied another linear model for innovation, the Theory of Planned Behaviour (TPB) (Ajzen, 1985). According to the TPB, a person's behaviour is determined by their intention to carry out that behaviour, which is formed by their attitudes about the behaviour, subjective standards that shape behaviour, and perceptions of their level of behavioural control. Ullah et al. (2021) applied TPB to anticipate the adoption of DLT in manufacturing. Another researcher applied it in the context of Bitcoin (Schaupp & Festa, 2018).

One theory that builds on TRA and TPB in the linear innovation theory stream is the Technology Acceptance Model (TAM). It is a widely used framework for understanding and anticipating user acceptance of new technologies. TAM proposes that two factors are critical in determining an individual's acceptance and use of new technology: perceived usefulness and perceived ease of use. Perceived usefulness refers to an individual's belief that using technology will help them accomplish their goals or tasks more effectively. Perceived ease of use refers to an individual's belief that using technology will be effortless or without difficulty (Davis et al., 1989).

One of the first studies to apply TAM to blockchain was by Folkinshteyn and Lennon (2016). Then, Lou and Li (2017a) applied TAM to the general adoption, Thiruchelvam et al. (2018) to the supply chain, Shrestha and Vassileva (2019) to data sharing, and Ullah et al. (2021) to manufacturing and service. In tourism research, only one study has adopted TAM (Guych Nuryyev et al., 2020), but the paper focuses on cryptocurrency. Further linear models of innovation based on TAM are the Unified Theory of Acceptance and Use of Technology (UTAUT) and its extension, UTAUT2 (Venkatesh et al., 2016). UTAUT was applied by Arias-Oliva et al. (2019) to the cryptocurrency sector.

However, the two TAM factors – perceived usefulness and perceived ease of use – are insufficient to explain blockchain's influence on the intermediation of accommodation services in the tourism industry. Other factors may influence an individual's decision to adopt or reject technology. These factors include broader

social and cultural influence, support and training availability, and external pressure. Those theories with a linear innovation model, like UTAUT, that follow a predictable and orderly path, are not suitable or compatible with a social constructivist approach that recognises the role of social processes.

For this thesis, which aims to develop a sector-specific conceptual framework, adapting linear innovation adoption models are fundamentally misaligned with the research objective. The aim is not about examining a guest's acceptance, as omitted in the academic gap. This thesis aims to conceptualise blockchain, reflecting strategic organisational adoption decisions made by managers.

Stage Models of Innovation

The second stream of theories, the stage models of innovation, is a more complex theory that divides the innovation process into distinct stages. It is mainly attributed to economist Everett Rogers in his seminal book *Diffusion of Innovations*, first published in 1962. Rogers' model is based on his research into the diffusion of innovations, which is the process by which new ideas and technologies spread throughout a population (Rogers et al., 2009). He proposed a five-stage model of innovation, which describes the different phases a new technology typically goes through as it is introduced and adopted. The five stages of Rogers' model are knowledge, persuasion, decision, , and confirmation.

A limited number of blockchain researchers have adopted the Diffusion of Innovations (DOI) theory (Lou & Li, 2017) and have applied it alongside TAM (Friedlmaier et al., 2018) to a venture capital database. Nevertheless, the theory emphasises the characteristics of the technology under research and does not consider that individuals adapt to the stages linearly.

Although this stream of staged innovation theories could have the potential to be adapted into a social constructivist approach, the external factors of the tourism industry, with its asymmetric, information-based nature, make this stream unsuitable.

Within the stream of staged models of innovations, an increasing number of researchers have adopted different maturity models for blockchain. The most common one is the Capability Maturity Model (CMM). The CMM is a framework for evaluating and improving the processes and practices of an organisation. It was developed by the Software Engineering Institute (SEI) at Carnegie Mellon University in the 1980s. The CMM is widely used in software engineering to assess the maturity of an organisation's software development processes (Paulk & Weber, 1995). Wang et al. (2016) developed the Blockchain Capability Maturity Model (BCMM) and concluded that, at that time, blockchain was not sufficiently mature to be adopted by businesses. In other studies, the model was applied to evaluate the maturity of blockchain in the agricultural supply chain (Ronaghi, 2021). Others used it as a base to guide (Unny & Lal, 2020).

However, one criticism of the CMM is that it fails to account for the unique characteristics and needs of different organisations, as well as the people and culture that drive these processes and practices. Considering this, CMM does not fit the aim or approach of this study. The stage model focuses on inherent technological characteristics and the actions of individuals and organisations. However, external factors such as networks and market pressure, as well as the intermediary oligopoly in the accommodation sector, can significantly influence the emergence of blockchain.

In summary, frameworks based on stage models of innovation are unsuitable for the complex and dynamic process of technological adoption related to blockchain and its influence on the intermediation of accommodation services. Blockchain is not yet widely diffused, but it is being considered in academic discourse as a potential disruptive force against incumbent systems, such as OTAs and booking platforms. The process is not a diffusion; it potentially indicates a confrontation. It cannot adequately capture the structural dynamics where powerful intermediaries might actively resist a stage innovation process, as they fear being disrupted.

Evolutionary Models of Innovation

The third stream, the evolutionary theory of technological change, was developed by economist Richard Nelson and sociologist Sydney Winter in 1982 (Nelson & Winter, 2002). In their view, innovation is a process of continuous adaptation and change. According to the model, innovation is not a one-time event, but an ongoing process driven by market and environmental feedback. As a result, innovations evolve in response to changing needs and opportunities. One example of the evolutionary stream of innovation is the Resource-Based View (RBV). The RBV framework explains how firms can achieve and sustain competitive advantage by emphasising knowledge and learning (Treiblmaier & Önder, 2019).

Regarding blockchain, Treiblmaier (2018) and Nandi et al. (2020) applied RBV to supply chain management. Nevertheless, the theory does not emphasise external factors, like market pressure through disruption. Nevertheless, the accommodation sector has faced disruptive peer-to-peer technology in the form of Airbnb. By its technological nature, blockchain is described as potentially disruptive, justifying that this stream of innovation management models is unsuitable.

Therefore, any framework that does not adequately prioritise the threat of external disruption is fundamentally incompatible with the scope of this study. The research problems posed at the beginning of this study require a model that treats the external environment and disruptive potential as primary forces, not secondary considerations.

Network Models of Innovation

The fourth stream of innovation adoption models identified in the critical literature review of this study is the network models of innovation. They emphasise the role of collaboration and networks in the innovation process. According to this model, innovation is not the result of a single individual or organisation working in isolation, but rather the product of interactions and collaborations between actors in a network. One of the key contributors to the development of the network innovation model was economist Brian Arthur. Arthur (2010) argued that the success or failure of a technology is determined not only by its inherent characteristics but also

by the interactions and feedback loops that occur within networks of actors involved in its development and .

A range of theories has been developed based on the network models of innovation, including the theory of co-creation (Prahalad & Ramaswamy, 2002). These authors were among the first proponents of co-creation, arguing that low-income consumers could contribute to the design and development of goods and services tailored to their specific needs and preferences. The model was applied to tourism in the research area of blockchain and the accommodation sector (Buhalis et al., 2019), and the findings pointed to new forms of transaction without standard intermediaries. Nevertheless, co-creation focuses mainly on customers' needs and is therefore unsuitable for this thesis, as it focuses on decision-makers' adoption capabilities.

A frequently cited theory of the stream of network innovation is Actor-Network Theory (ANT), a framework for understanding the process of social and technological change. It was developed by French sociologist Bruno Latour and his colleagues in the 1980s and is based on the idea that all social and technological phenomena are the result of networks of actors, both human and non-human, that interact with and influence one another (Latour, 1996).

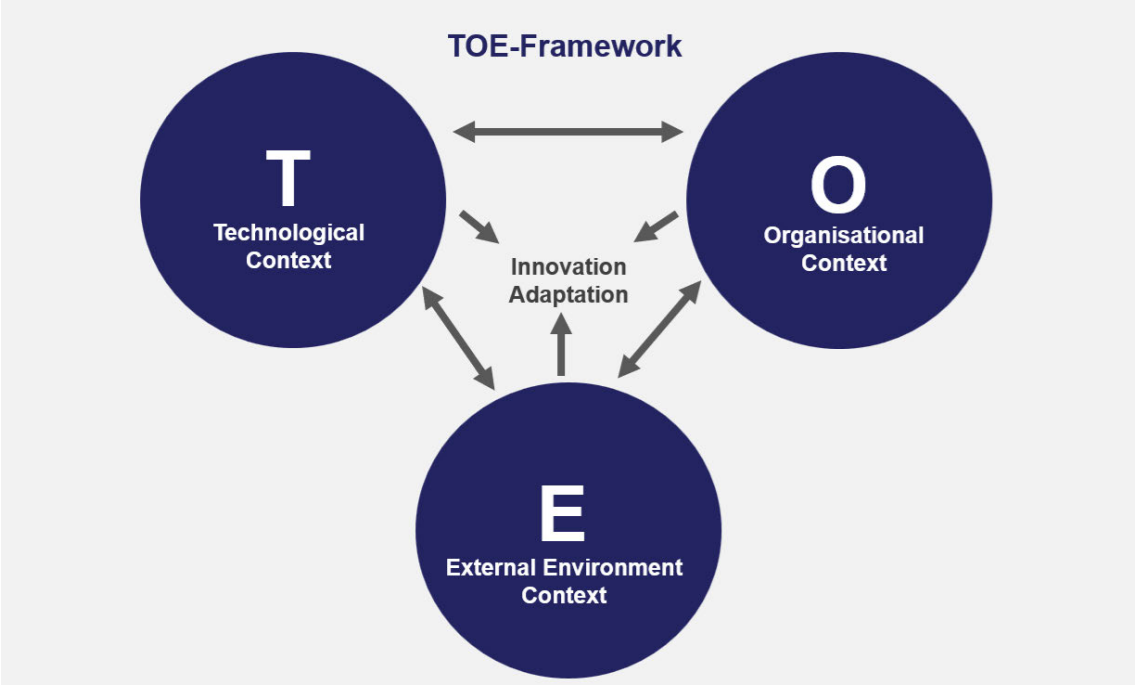
Islam et al. (2019) adopted ANT in the context of blockchain, noting that Bitcoin actor-networks comprise non-human actors like the blockchain, codes, electricity, and banks. Another paper by Treiblmaier (2018) and Treiblmaier and Önder (2019) applies ANT and reflects on its suitability compared with other models. Both papers call for more research on suitable frameworks for blockchain. Although ANT aligns with external factors and networks and could incorporate factors useful for this study, it primarily focuses on the micro level. As a result, it is not easy to test or apply in practice. Therefore, it is not a suitable theory to develop into a framework that conceptualises the influence of blockchain on the intermediation of accommodation services in the tourism industry.

The literature review has identified that network models are suitable for studying innovation. Within this area, a growing body of research focuses on the Technology–Organisation–Environment Framework (TOE), initially developed by Tornatzky and Fleischer (1991).

The core concept of the TOE framework is that technology adoption is shaped by three mutually shaping contexts: technology, organisation, and environment (Tornatzky & Fleischer, 1991). The context "technology" stands for the perceived benefit or gain from new technology (perceived benefits). The second context, "organisation", refers to the organisation's readiness to implement the new technology in a meaningful and equitable way (organisational readiness). In contrast, the term "environment" refers to the external pressures on the respective company (external pressure) (Tornatzky & Fleischer, 1991).

The illustration below displays the mutually shaping triad of contexts of the innovation adoption framework TOE.

Figure 2 TOE Framework (Tornatzky & Fleischer, 1991)



Baker (2011) acknowledges that the TOE framework is not without its critics and suggests that incorporating other theories could enhance it.

This study responds directly to that proposition. Its generalised nature does not account for the two interrelated research problems posed at the beginning of the study: the historically pronounced reliance of the accommodation sector on centralised intermediaries, and the disintermediating nature of the blockchain technology under investigation. This intersection of factors constitutes a significant gap in existing innovation adoption models, which this thesis seeks to address by identifying a model that is suitable to be extended and adapted, addressing research sub-question 1.

The following section, therefore, outlines the rationale for adopting the TOE framework as the study's primary framework and explains how its theoretical extension enables the study to address the identified research problems and bridge the academic gap.

2.4.4 Discussion on TOE Framework

The TOE framework, despite being over three decades old, has not seen significant development in recent information technology; however, it remains relevant as new contexts and technologies emerge (Hoti, 2015). It is widely recognised for its understanding of the adoption of new technologies within organisations, providing valuable insights and guidance for both researchers and practitioners, as well as explanatory power across a range of technological, industrial, and national/cultural contexts (Baker, 2011).

It has been adeptly applied across a broad spectrum of contexts, attesting to its enduring relevance, as noted by Nguyen et al. (2022). The TOE framework has been utilised in over 80 Information Systems (IS) empirical studies, indicating its robustness in understanding technology adoption, as noted by Thomas and Yao (2023).

Research, such as El-Haddadeh et al. (2021), has adapted TOE to explain the effective adoption of big data analytics, and Tajudeen et al. (2018) have expanded it into an integrative model of social media usage within organisations.

In the field of blockchain, Clohessy and Acton (2019) and Clohessy et al. (2020) applied TOE to examine its potential to disrupt and reshape a plethora of industries. Kulkarni and Patil (2020) and Hanna et al. (2020) applied it to smart contracts in finance, where blockchain can develop disruptive forces.

Recent applications include the use of blockchain technology in supply chains, where the TOE model effectively identified critical factors influencing adoption, such as trust and regulatory pressure (Chittipaka et al., 2022).

Malik et al. (2021) extend the TOE framework in their study by incorporating additional factors relevant to blockchain technology adoption, as this study critiques the framework to address decentralised environments.

This study will also extend the TOE framework to conceptualise the influence of blockchain on the intermediation of services in the accommodation sector. The advantage of this approach is that it can have three interconnected and mutually shaping outputs. First, it can be used to understand the influence of blockchain on organisations, such as different service providers in the accommodation sector. It can help decision-makers realise the potential benefits and challenges of developing strategies for adoption.

Second, it helps those using it to understand the impact of accommodation service providers on the deployment of blockchain. The decision, for example, of a hotel to invest in blockchain adoption can change the technology's trajectory and underline the non-linearity of the emergence of a new ICT in tourism.

Third, it can clarify the influence of the external environment, including the market conditions of the oligopoly of intermediaries in the accommodation sector, particularly in light of the disruptive nature of blockchain technology. This creates substantial external pressure to ensure competitiveness or avoid displacement.

The following section will delve into this contextual extension, addressing the specific research problems of this study, specifically the sector-specific interrelationship between ICT and the intermediation of services in the accommodation sector, as well as the blockchain-specific disintermediation context. To present the draft of the main contribution of the study, the innovation adoption framework, TOEDI ((Technology, Organisation, External, Disintermediation, Interrelationship), is introduced.

2.4.5 Contextual Extension TOE to TOEDI

The conceptual framework for this study aims to investigate the influence of blockchain on the intermediation of accommodation services. Based on the findings of the critical literature review, the proposed conceptualisation of the new framework extends the traditional three TOE contexts to five for TOEDI.

Core variables from the TOE framework, according to Tornatzky and Fleischer (1991):

1. Technological context: This includes factors related to the technology, such as ease of use, relative advantage over existing systems, and compatibility with existing operations.

2. Organisational context: This includes internal organisational aspects such as the size of the organisation, its willingness to change, and how decisions are made.

3. External environment context: This refers to broader external factors, such as market and guest dynamics, competitors, and the regulatory environment, that can facilitate or inhibit blockchain adoption.

4. Disintermediation context: This extended context addresses the transformative power of blockchain in a sector defined by an oligopoly of intermediaries. Such a perspective is not possible within the technology context of the traditional TOE framework, as the generic model fails to adequately address the elimination or reduction of intermediaries (e.g., travel agents, online platforms) in the booking

process. It directly engages with the specific research problem of this study concerning blockchain's decentralised and disruptive nature, an aspect that the existing literature has failed to address, as outlined in the academic gap.

5. Interrelationship context: Specific to the accommodation sector, this context explores the interconnected relationships between different stakeholders, such as hotels, tour operators, and consumers, and how blockchain could potentially influence these dynamics.

By combining the triad of context from the TOE framework, adopting Christensen's (1997) theory of Disruptive Innovation, and considering sector-specific contexts, this conceptual framework aims to provide a comprehensive, yet nuanced, tool for exploring the potential influence of blockchain on the intermediation of accommodation services in the tourism industry. Below, the five identified contexts are displayed in detail.

1. Technological Context

This section explores which studies address the diverse technological applications of blockchain. The following applications were identified: payment and cryptocurrency, smart contracts, review authentication, loyalty programmes, and tracking of goods.

Additionally, this study reviews the perceived technological benefits, identifying trust-enhancing mechanisms that lower transaction costs and facilitate information aggregation for navigating asymmetric information markets.

The critical literature reviews revealed that the primary stream of publications focuses on payment, as seen in the works of Folkinshteyn and Lennon (2016), Berg et al. (2019), Arias-Oliva et al. (2019), Buhalis et al. (2019), Clohessy et al. (2020), and Treiblmaier et al. (2020).

The second stream is using blockchain in supply chain management to track products, increase efficacy, simplify shipping documents, and reduce transaction costs (Thiruchelvam et al., 2018; Treiblmaier, 2018; Ronaghi, 2021). This stream does not affect the disintermediating and disruptive nature of the tourism industry.

Only a limited number of studies, such as Shrestha and Vassileva (2019) and Kulkarni and Patil (2020), have researched blockchain-based smart contracts, which are one of the key technologies for developing a decentralised blockchain-based booking system to influence the intermediation of services in the accommodation sector.

2. Organisational Context

The critical review of the literature revealed that research on blockchain has two major streams: one in the finance sector and the other in supply chain management. The financial industry is the only one that offers a wide variety of theories and conceptual frameworks in innovation management, with a primary focus on payment technology, such as Bitcoin. Early research focused on the financial sector, as technology first appeared there. In the finance sector, for example, Folkinshteyn (2016), Lou and Li (2017), Schaupp and Festa (2018), Friedlmaier et al. (2018), Berg et al., Arias-Oliva et al. (2019), and Kulkarni and Patil (2020).

It was identified as an emerging stream in the sector of supply chain management by Thiruchelvam et al. (2018), Treiblmaier (2020), Unny and Lal (2020), Nandi (2020), and Ronaghi (2021). Other researchers cover more than one sector or have a broader research focus on blockchain technology, including Wang et al. (2016), Clohessy and Acton (2019), Shrestha and Vassileva (2019), and Frizzo-Barker et al. (2020).

Nevertheless, although the tourism industry is one of the biggest industries in the world, and the market pressure as blockchain is described as potentially disruptive and reshaping the industry, only a limited number of theories or frameworks have been published. Buhalis (2019) applied the Theories of Co-Creation, focusing on Bitcoin and the consumer. Treiblmaier and Önder (2019) refer to the theory of Transaction Costs. Filimonau and Naumova (2020) are among the two researchers focusing on the adoption of smart contracts and reviews. On the other hand, Thees et al. (2020) researched use cases but did not focus on disintermediation.

Melkić and Čavlek (2020) present a view of different service providers through a SWOT analysis. Guych, Nuryyev et al. (2020) applied the TAM model; however, it was identified as unsuitable for the aim of this study. Tyan et al. (2021) and Fragnière et al. (2022) are among the few to employ a qualitative approach.

3. External Context

As this study aims to bridge the academic gap in the perspective of service providers from the accommodation sector, online intermediaries are defined as the critical external environment for service providers for these reasons:

Online tourism intermediaries, such as hotel booking platforms, are crucial bridges between hotels and consumers. The rise of online booking platforms has led to shifts in business models (Buhalis & Law, 2008). They provide market access and visibility through services such as information aggregation and booking, streamlining transactions, and reducing tourist risks (Pearce & Schott, 2005). While hotels gain access to extensive customer bases through these intermediaries, they also incur significant commission fees of 15% to 30%, which particularly impacts smaller establishments with limited resources (Carroll & Siguaw, 2003). Hotels increasingly depend on these portals for bookings, as they have become the primary source of online reservations (Stangl et al., 2016).

Winding Tree (2023) reports that one trillion U.S. dollars are paid in commissions to intermediaries, motivating hotels to promote direct booking channels. Besides the financial aspect, the dependence on intermediaries can lead to a loss of control over the customer experience. Booking platforms heavily influence guests' decision-making processes, from selection to final booking. The reviews and ratings on these platforms can significantly affect a hotel's reputation and occupancy rates (Pearce & Schott, 2005).

The power of the platform challenges rate parity, affecting profit margins and brand value (Carroll & Siguaw, 2003).

The oligopolistic nature of the booking portal industry necessitates careful regulation to ensure competitive fairness and market health (Stangl et al., 2016). This

concentration of power among dominant major players can exert external pressures on hotels, influencing their strategic decisions and operations.

In the context of the traditional TOE framework, online tourism intermediaries such as hotel booking platforms can be considered an integral external environment factor for hotels. They influence hotels in diverse ways, affecting market access, financial performance, customer relationship management, and strategic planning. The high fees charged by these platforms, combined with their oligopolistic market structure, underscore their impact on the economic sustainability of businesses. Their influence on customer behaviour, rate management, and technology adoption makes them a central part of the external environment in which hotels operate. As such, incorporating this external environment variable into the traditional TOE framework provides a more nuanced understanding of the complex interactions that shape the hotel industry.

4. Disintermediation Context

This extended context highlights blockchain's transformative potential in reconfiguring a sector dominated by an oligopoly of intermediaries. The upcoming stream of literature describes blockchain as a disintermediating technology, however most researchers do not adopt Christensen's theory of Disruptive Innovation. It is suggested that it is not a disruptive technology but a foundational one that can create new foundations for the economy and social systems (Iansiti & Lakhani, 2017).

This study argues that this is a fundamental misconception in the accommodation sector, one that has not been examined in detail. Therefore, this study revisits this suggestion in light of the generational development of the fourth generation of blockchain with AI, applying the directions for further research outlined by Christensen et al. (2018). Therefore, the conceptual framework aims to provide a sector-specific understanding of the disruptive influence on the intermediation of accommodation services. Based on Christensen's theory of Disruptive Innova-

tions, companies can either create a new market by targeting customers not previously served by incumbents (Christensen, 1997) or target less demanding customer groups that account for only a small part of the market leaders' sales (Christensen et al., 2018). An example of Disruptive Innovation is the emergence of digital music, such as streaming services. Disruptive Innovations have lower quality at market launch than established products, at least in terms of the performance dimensions important to mainstream customers. However, they are demanded by a smaller customer group with lower demands on classic product characteristics (Adner & Zemsky, 2005).

Christensen's five characteristics of disruptive innovation, as elucidated in his later work, are pertinent in the context of blockchain's impact on the intermediation of accommodation services. The characteristics are initial performance, product features, market entry performance, development, and displacement of incumbents (Christensen & Matzler, 2013).

1. Initial performance: In blockchain-based booking systems, disruptive technologies potentially initially lag behind incumbents in traditional performance metrics valued by mainstream consumers. This could include factors such as transaction speed and scalability. However, these initial shortcomings can potentially be outweighed by the unique benefits offered by blockchain, such as enhanced security and transparency of transactions.

2. Product features: Disruptive technologies like blockchain often introduce novel features that appeal to a specific subset of customers. For example, blockchain-based products potentially offer lower costs, greater simplicity, enhanced security, and improved traceability compared to traditional booking systems. These features can attract early adopters and niche markets.

3. Market entry: Blockchain technology for accommodation services potentially initially targets developing or niche markets. Mainstream consumers, especially those accustomed to traditional booking systems, may be reluctant to adopt this

disruptive technology until its benefits become more apparent and widely accepted. Thus, market entry often starts with early adopters and specialised segments.

4. Performance development: As blockchain technology matures and evolves, it continues to improve its performance. This progress is driven by continuous innovation and development, eventually reaching the performance standards required by the mainstream market. When blockchain systems meet or exceed these benchmarks, they have the potential to displace the dominant technology and incumbents in the accommodation services industry.

5. Displacement of incumbents: The final stage of disruptive innovation occurs when the new technology, blockchain-based booking systems, displaces established incumbents in the mainstream market. As blockchain gains broader acceptance and demonstrates its superiority in terms of security, trust, and efficiency, it has the potential to replace traditional intermediaries and reshape the landscape of accommodation services.

Incorporating these characteristics into the conceptual framework for blockchain-based booking systems provides valuable insights into the potential transformation and disruption this technology can bring to the intermediation of accommodation services in the tourism industry.

5. Interrelationship Context

Given the interrelated nature of emerging technologies and the tourism industry, as highlighted in this study's literature review, it is apparent that the TOE framework requires an extended approach to capture this dynamic. While the TOE framework focuses primarily on technological, organisational, and environmental contexts, it lacks a variable that addresses the unique relationship between ICT and tourism, a dynamic that has been observed since the early adoption of ICT (Werthner & Klein, 1999, p. 5).

The intermediation of intangible services characterises the tourism industry and its information-intensive nature, where information serves as the "glue" in the distribution chain (Wiig, 2003).

This study introduces a new context that aims to capture the historical and evolving relationship between ICT and the intermediation of accommodation services, a relationship that has significantly reshaped the intermediation processes within the industry.

From the early days when GDSs served as the first global examples of Information Technology (IT) applications (Pease & Rowe, 2005) to the mass adoption of the WWW and the rise of online travel agencies and booking platforms (Buhalis et al., 2019), the industry has been in a constant state of transition. The dominance of major booking platforms has eroded the bargaining power of individual hotels, resulting in higher commissions and reduced profit margins (Andriotisy, 2003).

Subsequently, Google's advertising model became a central customer acquisition tool (London School of Economics, 2016), and social media emerged as a significant source of information for travellers (Xiang & Gretzel, 2010). More recently, tourism crowdsourcing review platforms have begun to influence consumer behaviour significantly (Veloso et al., 2019). Furthermore, Airbnb has successfully outperformed traditional accommodation providers, achieving market valuations comparable to the largest hotel chains (Stone, 2017; Ponciano, 2020).

Introducing this new contextual variable enhances the framework's explanatory design, particularly in the accommodation sector. This modification provides a more comprehensive lens through which to examine key factors, such as trust-enhancing mechanisms, information asymmetry, and complexity in decision-making, that influence the adoption of blockchain-based systems for accommodation bookings.

By extending and adapting the traditional TOE framework in this way, this study aims to gain a deeper understanding of how technological innovations, such as blockchain, could further influence intermediation processes in the specific context.

Perspective and Methods

The conceptualisation of TOEDI was based on an examination of previous studies by Folkinshteyn and Lennon (2016), Islam et al. (2019), and Friedlmaier et al. (2018). A significant body of research employs quantitative methods, as seen in studies by Lou and Li (2017), Thiruchelvam et al. (2018), Kulkarni and Patil (2020), Hanna et al. (2020), and Ullah et al. (2022), which involve business experts.

Three researchers have employed quantitative methods with a sample of consumers: Arias-Oliva et al. (2019), Shrestha and Vassileva (2019), and Treiblmaier (2020).

The first researchers to apply qualitative methods with business managers were Wang et al. (2016), Treiblmaier and Önder (2019), Ronaghi (2021) (with mixed methods), Tyan et al. (2021), and Fragnière et al. (2022).

Kulkarni and Patil (2020) employed the TOE framework in their research on payment transactions, utilising 409 quantitative online questionnaires administered to business managers. Hanna et al. (2020) applied TOE to blockchain adoption in the value chain using quantitative regression analysis, based on 427 online questionnaires. Clohessy et al. (2020) adopted TOE to look at payment and smart contracts with a systematic literature review.

Clohessy and Acton (2019) examined the influence of organisational factors on blockchain adoption through quantitative and qualitative data analysis. To provide a structured framework for their analysis, the authors drew on established organisational theories based around TOE and delivered a systematic literature review of the antecedents of blockchain adoption.

Based on publications about the influence of blockchain on the intermediation of accommodation services, the dominant perspective is one of adaptation, with a focus on the consumer. The proposed framework, TOEDI, aims to address the research objective of integrating decision-makers, including industry professionals, in adapting and extending the existing innovation adoption framework.

The only framework used in the tourism industry that incorporates the Delphi method and the business manager perspective is contributed by Filimonau and Naumova (2020), which was achieved through the Delphi method with different perspectives from brand/owner, supplier, consumer, and policymaker on the tourism industry, eliminating the middleman. The proposed TOEDI will adopt the Delphi consensus technique, as discussed in the research design.

2.5 Summary Critical Literature Review

This chapter laid the theoretical foundation for achieving the overall research objective of this study: How can existing innovation adoption frameworks be adapted to conceptualise the influence of blockchain on the intermediation of accommodation services in Germany, integrating the perspectives of decision-makers?

The critical literature review has addressed research sub-question 1: Which innovation adoption framework provides a suitable foundation for analysing the influence of blockchain on a sector-specific intermediary market, such as the German accommodation industry?

To identify a suitable innovation adoption framework, the first of the three subchapters discussed key conceptual clarifications. The concept of intermediation was introduced and linked to foundational theories, such as asymmetric information (Akerlof, 1970; Giannakas & Fulton, 2020) and transaction cost theory (Williamson, 2008). These theories will be examined further regarding their continued relevance to the accommodation sector and their applicability to decentralised blockchain-based systems.

Furthermore, the specific role of intermediation in the accommodation sector was clarified, with a focus on how it has evolved due to digital transformation, particularly through the influence of ICT. The strong relationship between ICT and intermediation in this sector was emphasised (Pearce & Schott, 2005; Buhalis & Law, 2008), supporting the need for a sector-specific framework as outlined in the research problem.

The first subchapter concluded with a conceptual clarification of disintermediation, its origins in the financial sector (Mills & Camek, 2004), and its extension into e-commerce and tourism (Buhalis, 2003). It then introduced the closely connected concept of disruption, based on the theory of Disruptive Innovation (Christensen, 1997; Christensen et al., 2018), as a framework for assessing whether blockchain, as a decentralised technology, has not only the potential to bypass existing intermediaries but also fundamentally reshape intermediation structures.

This section also underlined the importance of analysing the historical development of intermediation to identify recurring patterns and catalysts of emerging ICTs.

Therefore, subchapter 2.3, reviewed the historical context of digital transformation in the intermediation of accommodation services. It focused on the pronounced interrelationship between emerging ICT and intermediation, as previously outlined, and directly addresses the first specific research problem posed at the beginning of this study.

The literature review reveals the pronounced sector-specific interrelationship between emerging ICT and the intermediation of accommodation services. ICT has played a pivotal role in reshaping the intermediation of services, such as hotels and B&Bs, since its introduction and subsequent growth. This phenomenon is commonly defined by how online platforms, like OTAs, have successfully integrated technological catalysts, such as information aggregation for lowering transaction costs and trust-enhancing mechanisms to navigate the asymmetric information market.

The second section of subchapter 2.3 applies the drivers and catalysts of digital transformation to the generational development of blockchain, from the original white paper by Nakamoto (2008) to the latest advancements integrating Artificial Intelligence (AI). The combined insights from the historical context of digital transformation in the intermediation of accommodation services and the technological drivers of blockchain form the foundation for the critical literature review, which has investigated existing innovation adoption models in subchapter 2.4.

Furthermore, the second specific research problem was addressed: blockchain's inherent technological architecture for disintermediation. This technology, if adopted in the accommodation sector, which relies heavily on an oligopoly of intermediaries, could have a significant impact.

Therefore, the previously identified catalysts were applied to blockchain and reviewed. The review considered the generational development of blockchain, from

Nakamoto's (2008) first white paper on a decentralised cryptocurrency to the fourth generation of blockchain that integrates AI (Colomo-Palacios et al., 2020).

Both catalysts were applied to the fourth-generation blockchain, which led to a reassessment of blockchain as a Disruptive Innovation, adopting Christensen's (1997) theory and its directions for future research (Christensen et al., 2018).

After addressing the historical context in subchapter 2.3 of the literature review the two specific research problems of this study, the interrelationship of ICT and the disintermediation architecture, the critical literature review addressed the research objective of this study about existing innovation adoption frameworks that can be adapted or extended to be applied to the influence of blockchain and the intermediation of accommodation services.

In Chapter 2.4, the initial exploration of 197 academic publications in the field of tourism research indexed in SCOPUS (2023) under the keywords blockchain and tourism revealed that 133 of them did not align with the scope of this study, particularly not with its objective to adapt or extend innovation adoption frameworks based on practitioners' perspectives.

The remaining 64 publications, drawn from a wide range of research fields within tourism research, were subjected to a critical literature review. This review revealed a significant research gap: none of the existing studies directly addresses the specific research problems outlined at the beginning of this study, including the strong interrelationship between ICT and the intermediation of accommodation services, and blockchain's inherent potential for disintermediation as a disruptive innovation.

Due to the lack of a suitable innovation framework in the existing tourism research literature that addresses this study's objective; to adapt and expand an innovation adoption model about the influence of blockchain on the intermediation of accommodation services from the perspective of the decision-maker, the literature review was expanded to include models from different streams of innovation adoption research.

Using a cross-sectional approach, this study reviewed innovation adoption models and frameworks. In particular, innovation adoption frameworks are widely applied in finance and supply chain management.

However, the cross-sectional research highlighted the need for an accommodation-specific framework. In the financial sector, the research focuses mainly on payments and cryptocurrency applications, which are not covered in this study. In supply chain management, blockchain is used to track tangible goods rather than information-dependent services, which is neither the focus of this study. The cross-sectional review shows an emerging stream of research that tends towards qualitative expert interviews with industry professionals. In tourism research, the adoption of emerging ICT and the involvement of industry professionals are almost absent (Rejeb et al., 2020).

The literature review also revealed that much of what has been published focuses on linear theories of innovation adoption management, which do not consider the inherent disintermediating nature of the blockchain. Other factors relevant to the objective of this study, such as technology shaped by a network of social organisations or external factors like market pressure from an oligopoly or disruptive innovation, are rarely considered.

The critical literature review examined the four primary streams of innovation adoption frameworks and models and justified the chosen TOE framework (Tornatzky & Fleischer, 1991).

Its generic nature makes it suitable for extension with specific contexts and backgrounds (Baker, 2011). Furthermore, its enduring relevance in different fields, according to Nguyen et al. (2022), makes it suitable. Furthermore, it has been applied to blockchain technology, according to Clohessy & Acton (2019), Clohessy (2020), Kulkarni and Patil (2020), and Hanna et al. (2020).

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This literature review has established the necessity of extending the TOE framework to address the two specific research problems about which leads to the proposed TOEDI framework, which will be empirically grounded in the subsequent chapters.
The literature review concludes with the proposal to extend the TOE framework by adding two new contexts: first, the accommodation sector-specific pronounced interrelationship (I) context, and second, the blockchain disintermediation (D) context. These two additions form the basis for the proposed TOEDI framework. This directly addresses the research question: How can existing innovation adoption frameworks be adapted to develop a conceptual framework that examines the influence of blockchain on the intermediation of accommodation services in Germany, while integrating the perspectives of decision-makers?

To integrate the decision-maker's perception into the conceptualisation of TOEDI will be addressed in the empirical part, addressing research sub-question 2: Which factors, constructed from the perceptions of decision-makers, influence the emergence of blockchain in the German accommodation intermediary market?

This bridges the academic gap and allows for exploring how the potential transformative influence of blockchain, as discussed in the academic discourse, is perceived and interpreted by practitioners in the German accommodation sector.

Furthermore, it also facilitates a deeper understanding of the research problems posed at the beginning of this study, specifically the sector-specific challenges arising from the pronounced interrelationship between ICT and the structure of the accommodation sector. The research design is outlined in the next chapter.

3 Research Design

The critical literature review concludes by justifying the adoption of the generic TOE framework (Tornatzky & Fleischer, 1991) as the primary framework from the network stream of innovation adoption models. This generic innovation adoption framework, with its triad of context, is suitable for extension with the accommodation sector-specific interrelationship context and the blockchain-specific disintermediation context in adopting the theory of Disruptive Innovation (Christensen, 1997). The extension of TOE addresses the specific research problems of this study and represents a draft novel conceptual framework, referred to as TOEDI.

This chapter outlines TOEDI's chosen research design and discusses different research paradigms, including objectivism, subjectivism, and social constructivism. It justifies the adoption of a social constructivist research paradigm, as the study aims to provide an in-depth understanding of the lived experiences and perceptions of decision-makers in the German accommodation sector regarding the influence of blockchain on the intermediation of accommodation services.

In line with the social constructivist research paradigm, the methodological approach employed is a qualitative research methodology that adopts a thematic analysis (Braun & Clarke, 2006). The findings of the thematic analyses will be condensed into consensus statements to facilitate the adoption of the Delphi consensus technique. Delphi is attributed to Dalkey and Helmer (1963) and is a widely used consensus-building technique suitable for areas lacking expertise in technology. It has also been used in blockchain research (White, 2017). Furthermore, it will outline how the successful application of the Delphi technique allows the reconceptualisation of TOE from organisational to sectoral innovation adoption.

Moreover, the sample strategies and the depiction of decision-makers through a German university network are discussed and justified. The number of participants in the sample and the data collection methods, involving semi-structured interviews, will also be explained.

To ensure the quality of the study, the researcher's axiological stance, which refers to beliefs and values that may potentially influence the study, will be discussed. Furthermore, the researcher's reflexivity and awareness of potential biases will be outlined.

Finally, the chapter describes how this research contributes new knowledge by outlining the potential influence of blockchain on the intermediation of accommodation services. At the end of the chapter, ethical considerations, confidentiality, and data protection considerations are discussed.

3.1 Research Paradigm

According to Rehman and Alharthi (2016), adopting research paradigms is essential to the research process. This study found that the research paradigms applied in the existing literature on blockchain differ across industries. In industries where blockchain has a higher adoption rate and maturity, like finance or supply chain, research has widely focused on objectively measuring the adoption of the technology using quantitative research methods, including surveys and statistical analysis, to collect data and test hypotheses. Folkinshteyn and Lennon (2016) were among the first researchers to use objective data to examine the influence of blockchain on different areas. Treiblmaier et al.'s. (2020) exploratory approach draws on survey data to analyse factors influencing cryptocurrency adoption. Berg et al. (2019) analysed the potential implications of using objective data in cryptocurrency. Treiblmaier (2018) emphasises objective transaction costs in supply chains. Lou and Li (2017) used a quantitative survey to understand the factors influencing business managers' adoption of blockchain technology in finance. Schaupp and Festa (2018) used quantitative data and statistical analysis to identify patterns and trends in the development of the cryptocurrency market. Ullah et al. (2021) researched the predictors of distributed ledger technology adoption using quantitative data from a survey of manufacturing and service organisations in Pakistan. Nandi et al. (2020) emphasise the objective value, rarity, and imitability of resources to study supply chain performance. Other re-

searchers employ objectivist measurements of process maturity, as seen in studies by Wang et al. (2016) and Unny and Lal (2020), which explore verifiable transactions, and Ronaghi (2021), who ranks the dimensions of blockchain technology based on input from agricultural experts.

While objective research on blockchain is effective for studying its technical aspects, such as algorithms and performance, it falls short when exploring blockchain's influence on accommodation service intermediation. In this sector, where the real-life application of blockchain is almost non-existent, qualitative methods are necessary for a comprehensive understanding due to the inherent uncertainty and nonlinear disruptive influence.

This study revealed a lack of mature tourism research and a gap in suitable conceptual frameworks. Specifically, the research problem outlined in this study, with blockchain’s disintermediating architecture and the interrelationship of the accommodation sector with technological catalysts, trust-enhancing mechanisms, and information aggregation, is deeply embedded in social and organisational contexts. These specific research problems have not been previously addressed, and the objective research paradigm may not be able to capture them adequately. Objectivist research design overlooks subjective experiences in the context of technology adoption and oversimplifies the complex structure of the accommodation sector, which ranges from international hotel chains to private Bed-and-Breakfasts. Therefore, a purely objectivist research paradigm is not suitable for studying the influence of blockchain on accommodation service intermediation.

Besides the stream of research using objective, quantifiable data, there is an emerging stream that combines a mixed-methods research approach, involving quantitative data collection alongside qualitative approaches through interviews, with a more subjectivist perspective, as noted by Shrestha and Vassileva (2019). Guych Nuryyev et al. (2020) studied blockchain adoption and its influence on the tourism and accommodation sector from a more subjective perspective. Subjectivism emphasises the creation of meaning by the subject concerning the object. In contrast, objectivism believes that objects exist independently of subjects (Crotty, 2020). This study showed that, remarkably, the subjectivist perspective

of experts in the tourism industry has been almost absent in research on blockchain and tourism (Rejeb et al., 2020).

Further authors emphasise the subjective interpretations, social contexts, and cultural factors that can impact blockchain adoption (Akhtar, 2023). Sharma et al. (2021) explored the qualitative critical barriers and drivers that enable blockchain. Fragnière et al. (2022) used an exploratory approach to describe and explain how tourism industry professionals perceive the advantages and disadvantages of blockchain.

However, subjectivist research relies on the subjective perspectives of experiences and, therefore, may be limited in capturing objective and measurable phenomena from a technological standpoint. The technological influence of blockchain has been growing, and it is one of the top strategic technologies for the tourism industry (Panetta, 2020).

Nevertheless, decision-makers in the accommodation sector may not be aware that blockchain has undergone generational shifts. These shifts are composed of four generations, as outlined in the critical literature review of this study (Baudier et al., 2022; Colomo-Palacios et al., 2020). Moreover, the adoption of digital technologies has accelerated over the past few years, primarily due to the COVID-19 crisis (McKinsey & Company, 2020).

Therefore, from a subjectivist perspective, decision-makers in the accommodation sector are potentially unaware of, for example, the fourth generation of blockchain that integrates AI.

Therefore, this study posits that blockchain influence as decentralised booking systems, although they have already seen real-life applications (Winding Tree, 2023), researched from a subjectivist perspective, fails to make a significant contribution to knowledge.

For this reason, this study opts for a social constructivist approach (henceforth constructivism) because, in contrast to the subjectivist research paradigm, constructivism does not narrow down subjectivist experiences. Instead, it deals with

the complexity of mutually shaping actors (Agius, 2013). This research paradigm aligns with the core intention of the primary framework, TOE (Tornatzky & Fleischer, 1991), and its extension to TOEDI with five contexts as mutually shaping actors.

Constructivism has its roots in the seminal work of Vygotsky (*1934/+1986), who posited that learning cannot be separated from social context. Vygotsky established the concept of inter-functional relations and proposed that knowledge is a product of the interaction of social and mental functions, whereby each constructs a mental world of experience through cognitive processes (Boyland, 2019).

Much of the theoretical impetus for modern constructivism came from Thomas Kuhn (1922–1996). Kuhn noted that the world is 'mind-dependent' and that what we define as reality is not directly knowable or utterable without naming objects. This naming makes statements possible but introduces relativity to them and can lead to 'incommensurability' when two interpretations of the name differ (Kuhn, 1990).

Building on this ontological assumption, the view of an object in this world is individually constructed by giving it meaning, naming it, and attributing associations. Naming an object necessarily involves a constructive process that subsequently changes the epistemological status of the object, as it has now entered a subjective discourse, where humans can discuss and gain knowledge (Burr, 1995). This constructivist ontology posits that no objective reality exists, and the human mind continually constructs concepts, models, and schemes to make sense of experiences. Furthermore, it continually tests and modifies these constructions in light of new experiences (Schwandt, 1994).

Over the years, an increasing number of strategy researchers have argued for the potential of the constructivist perspective, particularly in the face of unanticipated uncertainties and challenges (Spender, 1996). This aligns with the research objective of this study, which considers the integration of practitioners' perspectives on the emergence of blockchain in the intermediation of accommodation services.

For blockchain, the constructivist research paradigm also acknowledges the context of individuals and organisations that shape the technological context. The perspective of this study, integrating decision-makers in the accommodation sector, is critical, as the sociocultural barriers and constraints that can affect the adoption of blockchain among tourism professionals have not yet been examined through research (Fragnière et al., 2022). However, the history of technological adoption demonstrates that sociocultural factors are crucial. Therefore, addressing these factors is essential for understanding how blockchain-based technologies can be used to develop further decentralised transaction systems (Zamani & Giaglis, 2018).

Only a limited number of researchers in tourism have adopted the constructivist research paradigm to explore blockchain and its influence. Tyan et al. (2021) proposed a grounded theory-based conceptual model for the adoption of blockchain technology in tourism. The research identified the key factors influencing blockchain adoption through in-depth interviews with experts. The revealed key factors included perceived benefits, perceived risks and challenges, and contextual factors such as government policies and regulations. The authors drew on the perspectives and experiences of industry experts to create a conceptual model emphasising knowledge construction through iterative data analysis.

The research design of Tyan et al. (2021) provided valuable insights for this study, particularly in identifying key factors influencing technology adoption.

This study will empirically build on perceptions of benefits, challenges, and other contextual forces to conceptualise TOEDI. The primary framework, TOE, was identified in the critical literature review as being strongly connected to theories of technological innovation adoption. Similar innovation adoption frameworks, such as TRA and TPB, have demonstrated practical applicability. However, it is important to note that these frameworks do not focus as extensively on ICT adoption as the TAM and TOE frameworks (Miyazaki & Fernandez, 2000).

This study will adopt and reconceptualise TOE in an iterative approach. TOEDI, as an extension of TOE, recognises that the perceptions, beliefs, and attitudes of

individuals within the organisation influence technology adoption and use. TOE also acknowledges that social and political factors can shape the external environment, affecting technology adoption and use (Tornatzky & Fleischer, 1991).

The following table builds on the epistemological distinctions outlined by Lincoln and Guba (1985) and draws on the examples of research discussed earlier in this section. In the table, the author exemplifies the current empirical realities of this study about the influence of blockchain on the intermediation of accommodation services in Germany.

While blockchain in tourism is increasingly discussed in the academic literature, as outlined in the literature review and demonstrated by the exponential growth in related publications in recent years (Scopus, 2023), it remains a technology with limited real-life application in the intermediation of accommodation services, with Winding Tree (2023) being a rare example.

Given this early stage of technology adoption in the accommodation sector, objective measurement and reliable data remain scarce, limiting the applicability of objectivist approaches. Furthermore, since the technology has not yet been implemented in practice in Germany, practitioners in the accommodation sector have had little to no exposure, which in turn restricts the subjective experience, thereby challenging the suitability of a subjectivist paradigm.

The table exemplifies these empirical conditions within the aim of this study, to adapt and extend the existing innovation adoption framework, TOE, to TOEDI. This serves to bridge the identified academic gap and address the two central research problems formulated in the introduction.

Table 3 Epistemological Perspectives (Ribes Vicente, 2023; adapted from Lincoln and Denzin (2000)

	OBJECTIVISM	**SUBJECTIVISM**	**SOCIAL CONSTRUCTIVISM**
	Outlined by Lincoln and Guba (1985), this paradigm assumes that reality is observable and	Emphasises the creation of meaning by the subject on the object (Crotty, 2020). The subjectivist perspective of experts in	Assumes that no objective reality is waiting to be discovered (Schwandt, 1994), and knowledge and meaning are

	measurable. It is frequently adopted in sectors like finance and cryptocurrency (e.g., Lou & Li, 2017) or supply chain research (e.g., Ullah et al., 2021). However, it is not suitable for the aim of this study because blockchain has only recently seen real-life application (Winding Tree, 2023), resulting in…	the tourism industry has been almost absent in research on blockchain (Rejeb et al., 2020), mainly because blockchain-based booking systems have only recently seen real-life application (Winding Tree, 2023), resulting in…	co-constructed through social interaction (Boyland, 2019). Strategy researchers have argued that this method helps address unanticipated uncertainties and challenges (Spender, 1996). As described in the academic gap, this study explores an under-researched technology within a specific sectoral research problem to conceptualise an innovation adoption model. Therefore, this paradigm is suitable for the aim of this study…
Empirical Conditions			
Technological Context	… a lack of quantitative data, e.g., hotel booking transactions per second, market share, and cost comparison.	… a lack of technological case studies from hotels implementing blockchain-based booking systems.	… by investigating potential technological knowledge, perceived benefits, and challenges in integration from different decision-makers in the accommodation sector.
Organisational Context	… a lack of service providers in the accommodation sector to measure their best practices on an organisational level.	… a lack of experience-rich accommodation service providers to analyse their subjective perspectives on the organisational level.	… by investigating interactions and social constructions from different decision-makers and how their organisations are shaped to adopt emerging technologies.
External Environment Context	… a lack of objectively measurable influence on traditional intermediaries from blockchain.	… no decision-maker in the accommodation sector in Germany has experienced changing market pressure and the economic influence of blockchain on traditional intermediaries.	… by deepening the understanding of decision-makers' perceptions of blockchain adoption and the resulting influence on the traditional intermediaries as an external environment.

Disintermediation Context	… lack of identifiable hotels replacing traditional intermediaries to assess the influence quantitatively.	… only a limited number of stakeholders in the accommodation sector actively engage with blockchain-based booking technologies, making it difficult to collect comprehensive insights through qualitative methods such as interviews.	… exploring meanings and perspectives among decision-makers as they gradually potentially become familiar with blockchain technologies.
Interrelationship Context	…only a historical view and not on the potential influence on the development of the interrelationship, as the aim of this study.	… subjective experiences concerning ICT have changed significantly, challenging the generation to create a cohesive subjective narrative.	…exploring how the interrelationship between ICT and tourism has been perceived, shaping current practices of decision-makers concerning emerging technologies.
Perspective and Methodology	… lack of quantitative data on the influence of blockchain on the intermediation in the accommodation sector.	… lack of experts and case studies that focus on adoption experiences.	… creating meaning from the lived experiences and perceptions of decision-makers about blockchain using qualitative interviews.

Summarising, this study will adopt a constructivist research paradigm to conceptualise an extended TOE framework, referred to as TOEDI, to bridge the academic gap and address the specific research problems outlined at the beginning of the study.

This research paradigm contributes to a previously overlooked area of research, focusing on understanding the lived experiences and perceptions of decision-makers in the accommodation sector regarding the influence of blockchain on the intermediation of accommodation services. Unlike the prevailing objectivist and subjectivist perspectives, this research addresses the specific research problem for the first time, considering blockchain's complex, non-linear emergence beyond cryptocurrencies, and emphasising its generational evolution towards AI as Blockchain 4.0, as a Disruptive Innovation.

Addressing the research problem about the pronounced interrelationship between ICT and the accommodation sector, the study acknowledges blockchain's influence as a phenomenon deeply rooted in organisational contexts that objective measures cannot fully capture. By exploring how technology, organisation, and the external environment are socially constructed through decision-maker interactions, this research aims to reveal the mutually shaping contextual forces and factors that influence blockchain as a decentralised booking system for the accommodation sector.

Considering the potential unfamiliarity with the evolution of blockchain and real-life applications among decision-makers, this study aims to investigate decision-makers' perceptions concerning the adoption of these systems.

This study addresses the research objective within the social constructivist paradigm, which aims to extend the innovation adoption framework, TOE. The empirical phase of the study is designed to identify significant qualitative contextual factors, including perceived benefits and challenges from practitioners, that can inform the conceptualisation of TOEDI. The following section outlines how the research paradigm was validated through an exploratory pilot study.

3.2 Exploratory Feasibility Pilot Study

In a doctoral project, an exploratory pilot study is suitable for assessing the feasibility of initial ideas, which may then lead to the study or be abandoned entirely at a later stage (Easterby-Smith et al., 2012). One of the roles of pilot studies is to determine the epistemology and methodology of research (Janghorban et al., 2014). According to Thabane et al. (2010), pilot studies often mistakenly focus on statistical significance rather than feasibility.

For the feasibility of this study, the researcher explored whether the concept of blockchain smart contracts, which could potentially emerge as a decentralised booking system, is familiar to practitioners. A statistical pilot study would not prove the feasibility. Instead, the author explored the initial research question within the network of the cooperating institution, iba | University of Cooperative

Education, through open interviews with stakeholders, including faculty members and students of the Bachelor of Arts (B.A.) programme, and management and executives of cooperative education partners, primarily hotel chains or individual SMEs.

All persons were unaware of blockchain's potential influence on the accommodation sector, which has gained significant attention in the academic community.

However, the initial pilot interviews raised interest, but the feasibility of exploring practical knowledge or experience was abandoned. Instead, it became clear at an early stage that it is a crucial part of a social constructivist research paradigm to explore perceptions of the phenomenon. In a constructivist perspective, the collaborative effort between researchers and participants to construct reality makes pilot studies a vital part of calibrating this joint process (Barrett, 2023).

The author of this study concluded from the pilot study that interviews about the perception of blockchain's influence on the accommodation sector require complementing organisational charts. According to Olmo-Extremera et al. (2023), organisational charts are visual aids to support understanding and provide additional context during interviews, clarifying abstract ideas.

The organisational chart visualised in the interviews is presented in Appendix 5.

3.3 Methodological Approach

This chapter outlines the methodological approach used to empirically ground the draft TOEDI framework and answer the study's second sub-question. The chosen methodology is a response to the exploratory pilot study, which signalled that the extent of practitioners' prior knowledge of a technology that has rarely seen real-life application, and the literature hints at a disconnect between academia and practitioners. In Subchapter 3.1, therefore, a social constructivist paradigm was justified and adopted to explore the perceptions of decision-makers in the German accommodation sector and to co-construct an understanding of the factors influencing the emergence of technologies in intermediation.

The following sections will detail the qualitative methodology, including the use of thematic analysis and the Delphi consensus technique, chosen to systematically capture the practitioner perspectives needed to conceptualise the adapted and extended TOEDI framework.

3.3.1 Quantitative and Qualitative Methods

Seale (1999) highlights the significance of clarifying why qualitative methods were chosen, as well as the process of sampling, gaining access, recording, and analysing data. Although quantitative and qualitative methods have been employed in both constructivist and positivist epistemologies, the methodological approach predominantly associated with the constructivist perspective is qualitative data collection methods (Easterby-Smith et al., 2012).

As Creswell and Poth (2016) outlined, qualitative data collection offers distinct advantages. It enables an in-depth understanding of complex phenomena, flexibility in data collection and analysis, contextual insights, the capture of participants' perspectives, and the generation of new theories and hypotheses. These strengths enable researchers to explore rich and nuanced insights into individual experiences, social processes and the meanings individuals ascribe to their actions. Easterby-Smith et al. (2012) similarly point out that qualitative data collection methods can help understand respondents’ meanings of their “world”, which is suitable for adapting new issues and ideas and contributing to developing new theories.

This aligns with the adoption and extension of an innovation adoption framework within the constructivist research paradigm, as discussed in Section 3.1. However, the social constructivist paradigm and the associated qualitative methods have complementary strengths and limitations. These limitations include that data collection can take up a considerable amount of time and resources, and data analysis and interpretation can be highly challenging, as they depend on the intimate, tacit knowledge of the researchers (Easterby-Smith et al., 2012).

For the aim of this study, the chosen qualitative data collection method is justified as studies on emerging technologies have employed qualitative approaches (Hopp et al., 2018). Moreover, considering the inherent uncertainty and non-linearity of the path of disruptive innovation, a group of experts focusing on generating ideas is recommended (Krotov, 2019). As detailed in the literature review, blockchain, while increasingly discussed in academic discourse (SCOPUS, 2023), has seen almost no real-life application in the intermediation of accommodation services.

However, as highlighted in the specific research problems of this study, its architectural potential for disintermediation makes it relevant in the field of disruptive innovation. Therefore, this study adopts Krotov's (2019) approach, which involves interviewing a group of experts within a social constructivist paradigm. As this study is the first to conceptualise an innovation adoption framework about the potential influence of blockchain on the intermediation, data is scarce; therefore, these expert interviews are crucial for understanding complex decision-making processes (von Soest, 2023) and understanding perspectives and interpretations that shape practices within their field (Döringer, 2021).

As detailed in the academic gap, this perspective of practitioners in the accommodation sector regarding the potential influence of blockchain-based booking systems has been absent in extant literature.

Therefore, in the context of this study, an expert is defined as a practitioner in the accommodation sector who holds decision-making responsibilities. This study refers to these experts as decision-makers. Within the scope of this research, their

perceptions are crucial to the aim of conceptualising an innovation adoption framework, as they are the stakeholders who have a significant influence on whether and how innovations are adopted. This study provides detailed inclusion and exclusion criteria, as outlined in the sampling strategy in Chapter 3.4, specifying which participants qualify for the qualitative research conducted through interviews.

This study represents the first empirical research in Germany to integrate the perspectives of practitioners, as decision-makers, in examining the potential influence of blockchain on the intermediation of accommodation services.

As outlined in the previous subchapter on the exploratory pilot study, this pioneering research establishes a baseline of the existing, and potentially limited, knowledge that these practitioners have regarding the topic.

However, in addressing the identified academic gap and the study's research objectives, it is crucial to integrate the perceptions of these decision-makers. Despite any limitations in their prior technical knowledge, they possess the necessary sectoral experience to identify factors crucial when considering emerging technologies within an intermediation market dominated by powerful gatekeepers, such as OTAs.

Therefore, the integration of these practitioner perspectives, regardless of their prior knowledge, is addressed by the study's second research sub-question and forms the empirical core of the thesis.

Within a social constructivist paradigm, this study examines the perceptions that are constructed when decision-makers are presented, potentially for the first time, with the technological concept. This approach is particularly relevant given that the concept, while widely discussed in academic literature, has seen limited real-world application, and the literature hints at a disconnect between these two domains.

The focus is on analysing the reasoning and the concerns they raise after being presented with blockchain-based booking systems. The aim of the methodological approach is not to have participants assess whether blockchain possesses a significant disruptive character; its inherent design, as conceptualised by Nakamoto (2008), is treated as fundamentally disruptive. Instead, the objective is to identify, through interviews, the factors that practitioners perceive as potentially either fostering or hindering the disruptive potential of innovation within their sector.

The specific methodology for these qualitative interviews will be outlined in the subsequent sections.

In qualitative research, three primary types of interviews are typically employed: structured, semi-structured, and unstructured. Structured interviews permit a researcher to prepare and administer questionnaires in which predetermined questions (for respondents) are enumerated without the possibility of follow-up questions. Although it is simple to manage, it does not allow for an in-depth examination of the issue or phenomenon. The semi-structured interview enables a researcher to include key questions related to the topic, and it also allows both the researcher and the respondent to diverge and explore a phenomenon in depth (Saunders et al., 2009). This flexibility is particularly relevant in the context of this study, which explores an emerging technology that has seen minimal real-life application in the accommodation sector. The use of semi-structured qualitative interviews follows a social constructivist paradigm, allowing for the application of content analysis methods, such as thematic analysis or the Delphi consensus technique. The development and deployment of the interview guideline for the semi-structured interviews, including example questions, are described in detail in Chapter 3.4.

However, researchers working in organisations and with managers argue that researchers should attempt to mix methods to some extent because they provide more perspectives on the investigated phenomena. Creswell and Poth (2016)

suggest that mixing qualitative and quantitative methods may be conducted simultaneously or sequentially, although in the latter case, they assume that qualitative methods should precede quantitative methods.

This study employs a sequential design, beginning with a qualitative approach through semi-structured interviews with decision-makers, aiming to generate valuable insights into the perceived potential influence of blockchain-based booking systems. The study applies Braun and Clarke's (2006) six-phase approach to thematic analysis to identify both major themes and sub-themes. These major themes will then be adapted to an extended version of the traditional TOE framework, which includes the contexts of Technology, Organisation, and External Environment. This triad of context is further expanded to address the two specific research problems posed at the beginning of this study: the historically pronounced interrelationship between ICT and intermediation in the accommodation sector, and the blockchain-specific context of technological disintermediation. This extension and adaptation, discussed in Section 2.4 of the literature review, form the basis of the TOEDI framework, which addresses the research objective of conceptualising an innovation adoption framework for understanding the influence of blockchain on the intermediation of accommodation services.

The sub-themes identified within the five major contexts in the thematic analysis will serve as specific factors within each of the contexts of the TOEDI framework. This extended framework, along with its factors, is central to the study's aim: to conceptualise an innovation adoption model that integrates sector-specific intermediation structures and blockchain-related decentralised dynamics.

To empirically validate the identified factors, the study will apply the Delphi consensus technique. In this process, the qualitatively derived sub-themes will be condensed into consensus statements, which will then be empirically researched through a quantitative survey. This approach combines qualitative insight with quantitative generalisability, ultimately contributing to a deeper understanding of the phenomenon on a sectoral level rather than an individual's perception of innovation adoption.

Both the rationale of thematic analysis and the Delphi method will be critically discussed and justified in the subsequent methodology sections.

3.3.2 Rationale Thematic Analysis

Methodological tools, such as qualitative content analysis or thematic analysis, are useful for interpreting qualitative interviews. While both are suitable for analysing text, they differ in their epistemological underpinnings and analytical focus. According to Krippendorff (2019), content analysis categorises and quantifies data systematically, examining the frequency of particular concepts or words, the presence of pre-defined themes, and inter-element relationships. In contrast, thematic analysis, as outlined by Braun and Clarke (2006), is a flexible method for identifying, analysing and reporting patterns within data, with a deep focus on exploring underlying meanings and contexts.

However, the distinction between these methods is not always clear-cut, with significant overlap in their practical applications. This study opts for thematic analysis due to its explicit alignment with a constructivist epistemology. This approach, which posits that meaning is co-constructed between the researcher and the data rather than simply being 'extracted' (Braun & Clarke, 2022), is particularly suitable for exploring an emerging technology that has almost no real-life application in the accommodation sector.

Thematic analysis enables an iterative coding and theme-identifying process that can be inductive, deductive, or a combination of both. This means that themes can be derived from the data (inductive) or based on existing theories or concepts (deductive), or a hybrid approach can be used.

The inductive method is beneficial when exploring new or under-researched topics or attempting to develop a new theoretical framework based on the findings (Boyatzis, 1998). This approach is suitable for understanding a novel phenomenon, such as blockchain, and its potential influence on service intermediation.

However, the deductive approach facilitates building on and extending suitable existing theories, as blockchain in other sectors, such as finance and supply chain, has been thoroughly researched using innovation adoption frameworks,

as outlined in the literature review of this study, including the generic TOE framework (Tornatzky & Fleischer, 1991). Although more than 30 years old, its suitability has been discussed in this study; its foundational contexts remain relevant.

Nevertheless, opting only for a deductive approach risks forcing the data into pre-existing contexts and potentially overlooking accommodation sector-specific research problems generated by the unique context of an emerging blockchain technology with an inherent disintermediation architecture in a sector that relies on centralised intermediation gatekeepers, like OTAs or booking platforms.

A purely inductive approach, on the other hand, might fail to engage with established innovation adoption frameworks that have been established in research.

Therefore, this study opts for a hybrid thematic analysis in line with the epistemological constructivist stance. This hybrid approach allows the identification of overarching themes that capture the phenomenon, combining inductive and deductive methods (Fereday & Muir-Cochrane, 2006). This combines two qualitative approaches: one where themes are already known, and another where the themes are unknown and must be created or constructed, as noted by Swain (2019).

However, this hybrid approach is not without its methodological challenges. A key challenge lies in ensuring that the established concepts of the TOE framework and its extension, TOEDI, do not inadvertently bias the identification of new, emergent themes. To minimise this potential bias, the initial phase of coding will be primarily deductive. In a subsequent phase, the data will be re-analysed from an inductive perspective.

This aligns with the constructivist stance of this study, acknowledging the researcher's role in constructing meaning through both a theoretical lens and direct interaction with the data, as employed in the hybrid thematic analysis and the subsequent Delphi consensus techniques.

3.3.3 Rationale Delphi Consensus Technique

When adopting a constructivist perspective, all knowledge is viewed as socially constructed, understood as “the best-informed and most sophisticated construction on which there is a consensus at a given time” (Guba & Lincoln, 1989).

This perspective aligns well with the Delphi consensus technique, where participants can reiterate and reanalyse their judgements in different expert interview rounds. The technique was pioneered in the 1950s by researchers at the RAND Corporation, who were involved in a project with the US Air Force. Therefore, the technique emerged during the Cold War and was used to make decisions about a possible atomic confrontation with the Soviet Union (Dalkey & Helmer, 1963).

The technique involves obtaining the most reliable consensus from a group of experts. The primary technique involves a series of intensive questionnaires with controlled feedback on opinions (Rowe & Wright, 1999). Typical Delphi studies comprise three rounds. The first round begins with a questionnaire developed by the researcher. The second is a questionnaire based on the findings of previous rounds to find a consensus. This can be repeated if no consensus is found (Brady, 2015).

Every participant in the interview round is diverse, and the collective lived experiences of the participants demand fluidity from the constructivist researcher to appreciate that each participant constructs reality differently. Participant sampling must be oriented toward enabling the most comprehensive and valid profiling, portraying a holistic snapshot (Boyland, 2019).

Delphi has a long tradition of being applied to the emergence of technological development or when certain events will occur (Mittroff et al., 1973). For example, in 1978, it was applied to evaluate the effect of personal computers. In 1982, these results were compared with the actual development of personal computers and showed that the consensus reached by the Delphi panel of experts in 1978 was completely accurate (Gray & Nilles, 1983).

In the context of blockchain, Delphi was used to analyse the views of business management scholars and expert practitioners to understand how blockchain potentially influences the future of business (White, 2017).

Benefits

The Delphi technique is an epistemically sound practice that can be considered a practice of knowledge formation (Lalumera, 2015). The basic rationale of this widely recognised method is to elicit judgements on problems by combining expert assessments that consistently outperform standard interacting groups of experts (Garrod & Fyall, 2015).

Anonymity is a key advantage of the Delphi method, as it avoids confrontations among experts. One of the main characteristics of the Delphi data collection is anonymity. Dalkey and Helmer from the RAND Corporation noted in their Delphi experiments that: “The method employed in the experiment appears to be more conducive to independent thought on the part of the experts and to aid them in gradually forming a considered opinion. Confrontation, on the other hand, all too often induces the hasty formulation of preconceived notions, an inclination to close one's mind to novel ideas, a tendency to defend a stand once taken, and sometimes alternately, a predisposition to be swayed by persuasively stated opinions of others.” (Dalkey & Helmer, 1963). Each expert on the panel is asked to give anonymous answers. Typically, all participants remain anonymous, even after completing the final report, allowing for the free expression of opinion (Gracht, 2012).

This thesis extends the TOE framework, a theoretical framework with mutually shaping forces and factors that influence the innovations and adoption of new technologies.

As displayed in the section above, Delphi is particularly suitable for the current study because it facilitates the collection of opinions from experts in the field of tourism, particularly in areas where research or data is limited regarding blockchain technology. On the other hand, the TOE framework provides a systematic

technique for understanding the elements that influence the adoption of new technologies in organisations (Tornatzky & Fleischer, 1991). The adoption decision-influencing contexts of the TOE are technology, organisation, and environment. This study conceptualises an extended TOE framework to address specific research problems posed at the beginning of this study.

The influence of blockchain technology on the accommodation sector is a complex process influenced by factors across different contexts. The Delphi technique enables the gathering of decision-makers' perceptions in a social constructivist approach to how they make meaning of the influence of these factors and their relative importance. In contrast, the primary TOE framework enables a structured examination of these factors.

By incorporating expert input, the Delphi technique offers a way to validate the findings for the extended TOE framework. Since the thematic analysis is based on both a theoretical framework and the perspectives and lived experiences of decision-makers, this enhances the results. This qualitative approach aims to "generate understanding" rather than "measure and generate explanations", according to Stenbacka (2001).

Applying the Delphi consensus technique to conceptualise an extended TOE framework allows for knowledge generation in an area with limited research, as described in the critical literature review of this thesis. Furthermore, the decision-makers' constructed view on the topic, gathered through the Delphi technique, can be used to identify new factors or relationships that were not initially considered within the primary TOE framework or the extended TOEDI contexts, including disintermediation and interrelationship.

Limitations

This study acknowledges that the Delphi technique has been a subject of controversy. However, former negative evaluations of the technique have also been described as inappropriate (Rowe & Wright, 1999). Garrod and Fyall (2015) describe the method as flexible and capable of tapping into expertise. The authors note in their study that the technique has been discussed as controversial in the

academic community, and they argue that it is essential to explore its strengths and limitations.

Further studies criticise the fact that the method has not been used consistently as a methodological guideline (Okoli & Pawlowski, 2004).

It is important to acknowledge that statistical tools have their limitations when it comes to calculating the Delphi consensus. As Waggoner et al. (2016) explain, statistical analysis alone cannot detect the reasoning behind experts' responses. Some participants may carry biases or hidden agendas that shape their perceptions.

As this study adopts a social constructivist paradigm, the described limitations of statistical tools are not viewed as shortcomings, but rather as a reminder of the need to explore the meanings behind the data.

Consensus is understood not merely as numerical agreement but as a reflection of socially constructed viewpoints shaped by context, experience, and interaction to construct an understanding of a future-oriented phenomenon where no single expert holds all the answers,

However, a limitation is the potential for bias on the part of the researcher or the participants, which will be discussed in Section 3.6.3.

3.4 Research Population

3.4.1 Sample Strategy and Techniques

According to Bell and Bryman (2007), sampling techniques are crucial in selecting a subset of individuals or units from a larger population to identify broader patterns. They distinguish between two broad categories: probability and non-probability sampling. In probability sampling, each member of the population has a known, non-zero chance of being selected. Among the probability sampling techniques are:

a. Simple random sampling: Each person or unit has an equal chance of being chosen.
b. Systematic sampling: Selecting individuals or units from a list or population using a fixed interval.
c. Stratified sampling: The population is divided into subgroups or strata, and a sample is drawn from each subgroup.
d. Cluster sampling: A random sample of clusters is chosen after dividing the population into naturally occurring groups or clusters.

While probability sampling is suitable for some research designs, it does not apply to this study. As Mason (2018) argues, probability sampling is inappropriate for qualitative research because it prioritises representativeness over relevance, whereas purposive strategies aim to capture rich, context-specific understandings.

Bell and Bryman (2007) outline multiple non-probability sampling strategies. In these strategies, the probability of selecting each member of the population is unknown or cannot be determined. Techniques for non-probability sampling include:

a. Convenience sampling: Individuals or units are chosen based on accessibility or availability.
b. Quota sampling: The sample is designed to ensure that certain quotas for specific subgroups or characteristics within the population are met.

c. Snowball sampling: Researchers ask initial participants to refer them to other people who meet the research criteria, and the process is repeated until a sufficient sample size is reached.
d. Purposive sampling: Researchers choose individuals or groups based on specific criteria or characteristics to achieve specific research goals.

Patton (2015) argues that in purposive sampling, people or organisations are selected because they have insight into a phenomenon, rather than for empirical generalisation. This aligns with the specific research aims of this study, which aim to generate empirically researched factors in the innovation adoption framework from decision-makers in the accommodation sector.

This intentional selection aligns with the constructivist emphasis on capturing diverse, contextualised meanings, as qualitative research values information-rich cases and in-depth description over generalisability (Padgett, 2016), a perspective echoed by Patton (2015). According to Denzin and Lincoln (2018), qualitative researchers attempt to make sense of phenomena in terms of the meanings people bring to them. Participant sampling must be oriented toward enabling the most comprehensive and valid profiling, portraying a holistic snapshot (Boyland, 2019). This aligns with the social constructivist paradigm of this study.

The sampling strategy employed in this research is classified as non-probability sampling, specifically purposive sampling, with a focus on expert sampling. The research will develop a selection process, as outlined in the next section, that is suitable for examining the perception of decision-makers regarding the impact of blockchain-based booking systems in the German accommodation sector.

The study applies expert sampling within the network of the cooperating institution, iba | University of Cooperative Education. This cooperation underlines the importance of availability and willingness to participate, as highlighted by Bernard (2017). It is appropriate because it ensures that the participants chosen have the necessary background and expertise to provide valuable insights into the re-

search topic. Furthermore, it enables the researcher to collect detailed information and perceptions from experts who can potentially decide to adopt or reject such technologies for their organisation or for which they are advising.

3.4.2 Sample Criteria

The previous section outlined and justified the sampling strategy and technique adopted within the scope of this study. In the next step of any research process, selecting the sample is crucial to obtaining accurate, helpful, and valid findings. This study justified the adoption of expert sampling as a purposive sampling method in the previous section, where the researcher selects participants with expertise in a particular field.

This expertise has been previously defined in the study for practitioners at decision-making levels in the accommodation sector, referring to the experts as ‘decision-makers’. The definition and scope of a decision-maker encompass individuals who possess executive power to decide whether to adopt blockchain technologies within their organisations, participate in the decision-making process, or belong to a network of actors with sufficient expertise or influence to impact the decision to adopt such technologies.

This study aims to take a social constructivist perspective on decision-makers' perceptions of the potential influence of blockchain-based booking systems on the accommodation sector. To gain an in-depth understanding of this specific field, this study decided to limit the research sample to interviews with experts, who are categorised as ‘decision-makers’ throughout the study, with specific characteristics as inclusion criteria.

Accommodation Service Provider: These participants, mainly hotel owners and managers, are deeply involved in both the operational and strategic facets of decision-making within their organisations. With firsthand knowledge of the actual systems, practices, and challenges faced by their organisations, they offer valuable insights into the potential benefits and implications of new technologies such as blockchain for reducing reliance on intermediaries. Their perspectives are grounded in practical experience, making them crucial stakeholders in discussions about blockchain adoption.

Consultants Accommodation Sector: Consultants play a pivotal role due to their extensive knowledge spanning the sector, their diverse array of clients, and

their deep understanding of technology trends. Positioned at the forefront of developments, consultants offer a comprehensive view of the sector's practices and challenges. Their advice frequently guides the decision to adopt or reject new technologies and is instrumental in shaping strategic decisions regarding the of technology.

Representatives of Associations and Destination Managers: The involvement of these stakeholders is critical for the qualitative research in this study, due to their strategic networking position and profound knowledge of the complexities of the accommodation sector. They frequently serve as the primary point of contact for members considering the adoption of new technologies. Their extensive understanding of the accommodation sector makes them key influencers in the decision-making process regarding technological innovations.

While acknowledging the distinct professional roles within the sample, this study posits that each group of experts contributes uniquely to the decision-making ecosystem within the accommodation sector, providing a blend of operational insights, strategic foresight, and sector-wide perspectives. The decisions of hotel owners are directly influenced by the advice of consultants and the policies of destination managers. Therefore, a meaningful consensus must emerge from the interplay of these interdependent perspectives rather than from a single, isolated group. Their collective expertise and influence are essential for capturing the perception of the potential influence of blockchain-based booking systems.

Exclusion Criteria

As described in the academic gap, there is a notable absence of frameworks and empirical data derived from practitioners at the decision-making level about the potential influence of blockchain in the intermediation of accommodation services. This signals a potential disconnect between academic discourse and its challenges in the adoption and practical application of innovation in the accommodation sector. Therefore, this study has defined clear inclusion criteria to ensure that participants possess the authority and insight required to speak to organisational innovation adoption processes. However, it is important to clarify

why other stakeholders, such as travel agents, airline experts, and tour operators, were excluded from this research. This decision is based on the specific research questions being investigated and the aim to understand the perception of stakeholders involved in decision-making processes regarding the adoption of decentralised blockchain-based booking systems, as well as the potential influence this adoption has on intermediaries. While travel agents and tour operators are integral to the broader accommodation ecosystem, they are mostly intermediaries and, therefore, are impacted.

This exclusion criterion ensures that this study remains focused on practitioners in the accommodation sector who are actively involved in making or influencing strategic decisions about adopting decentralised blockchain-based booking systems, rather than those who are potentially affected by such adoption decisions.

However, consumers play an important role in any adapted and extended innovation adoption framework. This study is centred around decision-makers in the accommodation sector, who not only shape strategic decisions but also possess in-depth knowledge of guest dynamics and expectations within the service industry. This understanding is directly reflected in the structure and content of the research interviews.

In summary, the methodological decision justification for excluding intermediaries and guests and focusing on the inclusion of decision-makers in the accommodation sector offers the potential to generate rich, in-depth data directly aligned with the research objective and academic gap. This focus also enables the Delphi consensus technique to generate contextual factors for the extended TOEDI as a sectoral innovation adoption framework, thereby bridging the academic gap.

The following section describes how the decision-makers were selected using the purposive sampling technique within the database of the cooperating institute, the iba | University of Cooperative Education database.

3.4.3 Sample Size

Patton (2015) argues that qualitative research relies on strategic decisions rather than strict rules, particularly in the selection of interview participants. Furthermore, it states that the sample size in such studies varies based on the investigation's purpose, stakes, utility, credibility, and available resources.

There is no general agreement in the literature about the number of participants required for the Delphi method. Studies have been conducted with virtually any panel size (Akins, 2005). However, it has been established that a minimum sample size of 10 experts is adequate (Clayton, 1997). Delbecq et al. (1975) suggest that ten to fifteen participants are sufficient if the background of the Delphi subjects is homogeneous. Okoli and Pawlowski (2004) recommend 10–18 experts on a Delphi panel or up to 20 (Turoff & Linstone, 1975).

Based on this, the sample size of this study comprises 12 German decision-makers, selected according to the inclusion criteria outlined in Section 3.4.2. This criterion includes three types of professionals. First, decision-makers from accommodation service providers, primarily hotel owners and managers, are actively involved in decisions regarding the adoption of emerging technologies and booking systems. Second, consultants in the accommodation sector frequently influence the adoption or rejection of new technologies and shape strategic decisions. Third, representatives of industry associations and destination management organisations, who often serve as key points of contact for accommodation service providers in the respective destination, are considering the of innovative technologies.

The following section outlines the identification process of these participants through the institutional network of the iba | University of Cooperative Education, which serves as a cooperating partner in this study.

3.4.4 Sample Dataset and Extraction

This section describes the process used to select a sample of decision-makers for this study, based on a purposive sampling strategy and the inclusion criteria. This sampling procedure aims to ensure that the sample provides a valuable

foundation for the empirical grounded factors within the five TOEDI contexts. The selected sample provides further evaluation and understanding of the conceptualisation of an innovation adoption framework about the influence of blockchain on the intermediation of accommodation services in the German tourism industry.

The list of potential participants was obtained through the database of the cooperating institute, iba | University of Cooperative Education. The database “Unternehmen Bewerber Management System” (UBMS), which translates into English "Company Applicant Management System" from the iba | University IT department. The researcher defined a list of data entries, and the table below lists the data that had to be exported from the UBMS and filtered by companies assigned to the field of “Hotel and Tourism Management”:

Table 4 Data Set UBMS (Ribes Vicente, 2023)

1	Company Name
2	Company Code
3	Company Postal Code
4	General Status
5	Number of Job Offers
6	Number of Job Offers
7	Contact Person Salutation
8	Contact Person First Name
9	Contact Person Last Name
10	Contact Person Position
11	Contact Person Email

The iba | IT department received an email request from the head of cooperating company partners, Nancy Zschocke, on the 23rd of April, 2023, with the criteria defined above by the researcher of this study. The email, written initially in German, is attached in the appendix. The list of potential contacts was obtained through a database inquiry, resulting in a total of 9,530 data entries in an Excel sheet. These entries had to be filtered to match the inclusion criteria defined in Section 3.4.2.

The researcher then used a multi-step iterative approach, as Delbecq et al. (1975) recommended, as follows:

Step 1: Filtering general status to “Contractual Partner”

The Excel sheet was first sorted by the contractual status "Vertragspartner", which translates to “Contractual Partner”. In the context of cooperative education, this refers to organisations that, at the time of data extraction, had an active agreement with the university regarding the payment of tuition fees for students in the dual study mode (i.e. working and studying in parallel). This step not only helped reduce the large number of data entries but also ensured that potentially non-contactable organisations – those no longer in an active relationship – were excluded. An active contractual status also implies, under the current data protection regulations, that these organisations have agreed to be informed about relevant activities of the iba | University. It confirms that a valid data protection agreement was in place between the university and the respective companies until at least the end of the summer semester 2023 (September). This filtering step reduced the dataset to 3,310 entries.

Step 2: Removing duplicates

Any duplicate entries were removed to ensure that each company was only represented once in the dataset. No duplicate was found.

Step 3: Filtering by position

The remaining 3,310 entries were sorted based on the individual's position. Entries without a specific job title or empty fields were excluded, resulting in a dataset of 2,066 entries.

Step 4: Ensuring complete contact details

The dataset was further refined by including only entries with complete contact information, reducing the dataset to 1,540 entries.

Step 5: Identifying decision-makers according to the inclusion criteria

The researcher developed a list of relevant German keywords to filter the dataset based on the field “Position”. This step aimed to include only individuals who meet the inclusion criteria defined in Section 3.4.2. The targeted keywords typically include job titles held by decision-makers in the accommodation sector, such as

CEOs, tourism board directors, or general managers. The filtering ensured that only relevant professional profiles were retained for further consideration. The following table lists the specific job titles used to identify decision-makers, along with the number of entries corresponding to each title.

Table 5 Identification Decision-Makers (Ribes Vicente, 2023)

General Manager	26
GM (General Manager)	13
Management/Leadership	5 (Leitung 3, Leiter 1, Leiterin 1)
Manager	1
Owner (female)	25
Owner (male)	70
Executive Board	2
Hotel Manager	9
Director	63 (Direktor-40, Direktorin-17, Direktion-6)
Managing Director	73
Hotel Director	60 (Hoteldirektor 44, Hoteldirektorin 16)
Agency Owner	1 (female 1, male 0)
Operations Manager	2
CEO	3
Cluster Manager	2
Area Manager	4
Regional Manager	5
Department Head	13 (Abteilungsleiter 10, Abteilungsleiterin 3)
Division Manager	3
Team Leader	3
Project Manager	1
Board Member	12
Partner	8
Chairman	2
Vice President	1
President	1

This step resulted in a dataset of 253 decision-makers. In this dataset, the gender was manually verified to ensure a personalised invitation.

Step 6: Categorising

The type of service provider further categorised the dataset to better understand their potential perception of technology adoption and intermediation in the accommodation sector and meet the inclusion criteria.

Step 7: Contacting

The researcher contacted potential participants via email, providing a brief description of the study and the Delphi consensus technique. The email is attached in Appendix 3.

Step 8: Second contact and selection

The initial response rate was low, with only eight participants confirming their willingness to take part in the interviews. For these eight, the interview schedule was adjusted accordingly, and the selected decision-makers confirmed their participation via email, submitting online consent forms once a date and time were agreed upon (see Appendix 4).

While scheduling the first interviews, the researcher initiated a second round of personalised invitations and follow-up calls to reach the targeted sample size of 12 and to ensure diversity across the participants. This was not only necessary to close the numerical gap but also methodologically important. In purposive expert sampling, diversity and role-specific relevance are essential to capturing a broad spectrum of perspectives (Patton, 2015).

This second round of contact reached the intended final sample of 12 decision-makers, including representatives from different roles: hotel managers from different business sizes, accommodation sector-specific consultants, and destination management representatives. This contributes to a more robust empirical grounding in the conceptualisation of the factors within the five contexts of TOEDI.

3.4.5 Final Sample

The final sample of 12 participants successfully captured the intended diversity, including representatives from accommodation service providers (both chain and private), specialist consultants, and influential associations, thereby providing the holistic perspective required for the study.

In this study, the Delphi consensus technique is employed to facilitate at least two rounds of data collection. The results of the first round, conducted in a virtual face-to-face setting, will be subjected to thematic analysis, following the steps outlined by Braun and Clarke (2006). The TOEDI context forms the base of the major themes, while the sub-themes are condensed to consensus statements that are evaluated statistically in the second and potentially in the third round to reach a sectoral consensus. These consensus statements serve as the basis for conceptualising the contextual factors within the five contexts of TOEDI.

The 12 participants remained anonymous to one another to facilitate the free expression of opinion (Gracht, 2012). The questions are based on the guidelines of semi-structured questions in the five contexts of TOEDI developed earlier in this study. As data is collected, the questions become more structured in subsequent rounds until a consensus is reached (Brady, 2015).

Interviewees who agreed to participate in the study were invited via email to an online interview via Microsoft Teams. These participants received an electronic invitation letter (Appendix 3), and they had to check the consent box in the invitation letter to gain access to the online meeting. The consent form can be found in Appendix 4.

The following table lists the final sample of the decision-makers:

Table 6 Final Sample Decision-Makers (Ribes Vicente, 2023)

No.	Gender	Occupation
1	m	Managing Director | Destination Management
2	m	Managing Director | Tourism Consulting
3	m	Managing Director | Sustainable Development

4	m	Associate Director of Operational Excellence | Finance & Travel Management
5	m	Area Manager | Sustainable Development
6	m	Senior Management Consultant Hotel Services | Real Estate
7	f	Managing Director | Hotel SPA Development
8	f	Hotel Manager | International Hotel Chain
9	f	Head of HR & Recruiting | German Hotel Chain
10	m	Hotel Owner | 2 Private Hotels
11	f	Multi-site Manager | International Hotel Chain
12	f	President Regional Chapter | Hotel and Tourism Association

The interviews will be conducted online via Microsoft Teams in German, as all participants and the interviewer are native German speakers. Participants need to provide consent for video recording and automated transcription at the beginning of the semi-structured interview.

The next chapter will outline the data collection and analysis process in more detail.

3.5 Data Collection and Analysis

3.5.1 Introduction

In the previous chapter, the research population was outlined, and the justification for combining both methods was provided, as this approach bridges the academic gap addressed in this thesis. This subchapter outlines how the interview design was developed within the broader social constructivist paradigm of the thesis, focusing on the perceptions of interviewees as decision-makers in the accommodation sector.

The interviews aim to capture rich, contextually embedded perspectives from these key actors, whose roles enable them to influence or directly determine the adoption of decentralised, blockchain-based booking systems. Their insights are essential for developing a conceptual framework that reflects not only the theoretical dimensions of innovation but also the practical assumptions, sector-specific realities, and situated knowledge that shape adoption processes within a specific context.

3.5.2 Semi-structured Interviews with Decision-makers

As outlined in the methodological approach in Section 3.3 of this thesis, semi-structured interviews within a social constructivist paradigm enable the combination of guided inquiry and open-ended exploration (Saunders et al., 2009). This flexibility aligns with the requirements of thematic analysis (Braun & Clarke, 2006) and complements the Delphi consensus technique, which has been shown to consistently outperform standard group methods when synthesising expert insights (Garrod & Fyall, 2015).

This study, which addresses the research question of how existing innovation adoption frameworks can be adapted to examine the influence of decentralised, blockchain-based systems, has justified the extension of the traditional triad of contexts in the TOE framework by Tornatzky and Fleischer (1991) to the TOEDI framework. TOEDI is conceptualised across five distinct contexts, which will be empirically filled with specific factors relevant to the adoption of blockchain in the accommodation sector. These factors will be gathered through semi-structured

interviews with decision-makers, coded following the thematic analysis steps proposed by Braun and Clarke (2006). The resulting subthemes will be condensed into initial consensus statements, which will then be refined and validated through the iterative Delphi consensus technique.

The decision-makers' perceptions play a central role in shaping and validating the TOEDI framework with empirically researched factors across its five contexts. Their expertise and strategic insights ensure that both the traditional TOE contexts and the extended TOEDI contexts are enriched with sector-specific factors relevant to the accommodation sector. Through qualitative semi-structured interviews and an iterative Delphi consensus technique, decision-makers contribute to refining the framework, ensuring its applicability and robustness.

Even if individual participants are not equally familiar with all five contexts, the consensus-building process enables a collective sharpening of each factor. Additionally, this iterative consensus technique not only enhances sector-specific relevance but also facilitates the partial discovery of new factors, expanding the framework's scope and adaptability.

To ensure the specific role of decision-makers contributes to the reconceptualisation from TOE to the TOEDI framework, a structured interview guideline is essential. The interview guidelines facilitate a targeted exploration of the participants' firsthand experiences, strategic choices, and operational challenges during the interviews.

Structuring the interviews around the five contexts of the TOEDI framework ensures that their perspectives are systematically collected and analysed, allowing for a comprehensive understanding of blockchain’s potential influence in the intermediation of accommodation services in the German tourism industry. This approach strengthens the framework by integrating real-world expertise, making it both theoretically sound and practically relevant.

3.5.3 Interview Guideline

The interview guideline was developed in line with Braun and Clarke (2013) approach to thematic analysis, which emphasises flexibility and openness. It was structured around the adaptation and extension of the TOE framework (Tornatzky & Fleischer, 1991) into the five contexts of TOEDI, using broad, open-ended questions that allow decision-makers to shape the direction of the conversation. This format avoids pre-defining codes and supports the emergence of themes based on participants' lived experiences and perceptions, while remaining closely aligned with the study's social constructivist paradigm and research sub-question 2: Which factors, constructed from the perceptions of decision-makers, influence the emergence of blockchain in the German accommodation intermediary market?

As this study has established, the codes and subthemes generated through thematic analysis will be further refined into consensus-based themes using the Delphi technique. In preparation for this process, the interview guideline already incorporates question types commonly found in Delphi studies. Following Althaus (2007), these include formulations such as:

a. Will it happen?
b. What are the effects?
c. Are the effects desirable?
d. What promotes development?
e. What inhibits development?

The combination of thematic analysis and the Delphi consensus technique supports two central aims of this study: exploring the adoption of an emerging technology, such as blockchain, and understanding its influence in a sector where real-life applications are still limited. Thematic analysis enables the discovery of relevant themes grounded in decision-makers' perceptions, while the Delphi process allows for the validation and refinement of these findings at the sectoral level through structured expert consensus. This methodological combination strengthens the development of the conceptual framework at the core of this study.

The TOE framework, as discussed in this study, is widely applied in technology adoption research and includes a set of well-established factors within each of its three primary contexts. These established factors are reflected in the interview guideline and serve as a foundation for the extended TOEDI framework.

Technological Context – Questions

This section represents the technological context of the primary TOE framework and explores the potential influence of the technology under investigation on the intermediation of accommodation services. Consistently highlighted in the literature on technology adoption, factors include perceived relative advantage (perceived benefits compared to existing solutions), complexity (challenges of and use), and compatibility (alignment with existing systems) – core factors (Baker, 2011; Tornatzky & Fleischer, 1991). These factors are relevant for understanding how decision-makers evaluate potentially emerging blockchain-based booking systems, such as Winding Tree (2023).

Example questions focused on perceived technological benefits, challenges in integration, and other factors that can be considered contextual factors.

1. What technological features would blockchain-based booking systems need?

2. What benefits could contribute to adopting blockchain, in your opinion?

3. What do you perceive as challenges in implementing blockchain in the accommodation sector/your organisation?

Organisational Context – Questions

The organisational context in the TOE framework focuses on top management support, organisational readiness, and available expertise in innovation adoption, as outlined by Tornatzky and Fleischer (1991) and reaffirmed by Baker (2011). This context captures internal factors that influence adoption decisions. In the

scope of this study, which aims to conceptualise a framework for analysing the potential disruptive influence of decentralised blockchain-based booking systems, such as Winding Tree (2023), it is essential to gather perceptions of why the accommodation sector continues to rely on centralised external intermediaries. These booking portals, based on Global Distribution Systems (GDS), are often described as oligopolies (Stangl et al., 2016) and charge substantial commissions (Carroll & Siguaw, 2003).

The following interview questions are designed to explore perceptions of current internal digital practices, particularly regarding the continued use of booking portals instead of promoting direct bookings through their websites or, for example, via destination management organisations. This continued reliance may be linked to slow innovation adoption in the accommodation sector, as described by Işik et al. (2019), an industry-wide gap in technological expertise (Buhalis & Law, 2008), or financial constraints that limit strategic action, especially in light of high commission fees (DiPietro & Wang, 2010).

1. What advantages do booking portals offer for hotels?

2. Why/Why not do hotels use these online intermediation platforms?

3. What percentage of commission do service providers like hotels have to pay to intermediaries?

4. How do you perceive the technological adoption capabilities of the accommodation sector?

External Environment Context – Questions

The external environment context within the TOE framework encompasses the industry's structure, the presence or absence of technology providers, and the regulatory environment (Tornatzky & Fleischer, 1991). According to Baker (2011), this dimension has been investigated in the literature – for example, by examining the relationship between market competition and innovation adop-

tion, the technological maturity of the industry, or broader macroeconomic factors such as wage levels. In the scope of this study, the interview questions in this section focus on the broader industry and market context in which the accommodation sector operates, particularly the role of platform oligopolies and the resulting dependency dynamics within the sector (Stangl et al., 2016). Intermediaries and booking portals significantly influence how services are marketed and booked, with commission structures that have a substantial impact on providers' profit margins (Carroll & Siguaw, 2003). This section aims to capture the perceptions of decision-makers regarding these dynamics. Example guiding questions for the semi-structured interviews include:

1. How do you perceive the influence and market power of intermediaries and booking portals in the past, present, and future?

2. What features do booking portals offer compared to direct booking on hotel websites for guests?

3. Why do guests probably prefer booking portals over direct booking with hotels?

Extended Disintermediation Context **–** Questions

This context of the interview guideline addresses the second research problem of this study, blockchain's inherent disintermediation nature and the potentially disruptive influence of blockchain-based booking systems on the intermediaries of accommodation services. The TOEDI framework, as outlined in the literature review, was developed in response to this potential influence.

Previous studies applying the TOE framework to blockchain, such as Clohessy and Acton (2019) and Clohessy et al. (2020), have explored the technology's transformative potential. However, in their work, the inherent disintermediation architecture of blockchain was integrated into the technological context of the TOE framework. However, as argued in the literature review, this integration is insufficient for understanding the full implications of blockchain in the context of accommodation services. A more nuanced approach is needed, one that treats

disintermediation not only as a technological attribute but as a cross-cutting, potentially disruptive influence. Its structural impact on value chains and market logic remains underexplored, particularly in tourism and accommodation (Ampountolas & Chiffer, 2021; Filimonau & Naumova, 2020; Valeri & Baggio, 2021). This study, therefore, justifies the explicit inclusion of disintermediation as an extended context in the TOEDI model.

Accordingly, the interview guideline includes a section focused on assessing decision-makers' perceptions of blockchain's disintermediating potential. This includes their general knowledge of the technology, their awareness of its implications for existing oligopolistic intermediation structures, as described by Stangl et al. (2016), and their relationship to the broader academic discourse on disruptive influence on the intermediation of services in the accommodation sector.

1. What do you know about blockchain and smart contracts, and their technological nature?

2. Are you aware of the trending academic topic of blockchain's disintermediating characteristics as a decentralised booking system?

3. What are your perceptions of blockchain's potential to disrupt intermediaries/booking platforms?

Extended Interrelationship Context – Questions

This section of the interview guide addresses the extended context interrelationships that relate to the first research problem, specifically the pronounced interrelationship between ICT and the accommodation sector in this study.

This interrelationship, as explored in the literature review, has its roots in the 1960s with the first global application of information technology: Central Reservation Systems (CRS) and Global Distribution Systems (GDS) (Pease & Rowe, 2005). It has continued to unfold through significant paradigm shifts in the intermediation processes of the tourism industry, such as the emergence of the World

Wide Web (Buhalis et al., 2019) and the rise of Online Travel Agencies (OTAs), which quickly replaced and disrupted traditional brick-and-mortar travel agencies (Thakran & Verma, 2013).

These digital transformation shifts have continuously influenced value creation, intermediation processes, and power dynamics in the accommodation sector. Understanding these historical developments is crucial for assessing the potential influence of blockchain on the intermediation of accommodation services, which is the overarching aim of this study. Therefore, this section of questions for the semi-structured interview is dedicated to understanding the perception of decision-makers on accommodation sector-specific characteristics and catalysts as mutual shaping forces with technological, organisational, and external environments in the accommodation sector.

The interrelationship context, as part of this study's extension from the traditional TOE to the TOEDI framework, is directly linked to the research question: How can innovation adoption frameworks be adapted and conceptualised to assess the influence of blockchain on the intermediation of accommodation services? As described in one of the two specific research problems formulated at the beginning of this study and explored in the literature review, this sector-specific context in the accommodation sector has not existed previously.

Therefore, qualitative research into how this accommodation sector–specific interrelationship is perceived by decision-makers is essential for advancing the conceptualisation of the framework of this study.

It enables a deeper understanding of decision-makers' perceptions of digital transformation in the past, as well as their perceptions of future technological shifts.

This section of questions aims to understand the perception of the historical impact of ICT on tourism in general, especially in the accommodation sector. It will delve into the perceptions of emerging technologies on tourism, the future role of information technology in the industry, and the comparative impact of ICT on the accommodation sector compared to other industries.

1. How have emerging technologies influenced the tourism industry in the past?

2. Is the tourism industry more influenced by information technology than other industries?

3. How do you see the relationship of ICT in the future of accommodation service intermediation?

4. Which emerging technologies will influence the tourism industry, particularly accommodation service intermediation?

3.5.4 Interview Settings

The previous section presented and justified the interview guideline, including example questions suitable for the empirical conceptualisation of factors within the five contexts of the TOEDI framework, using thematic analysis and the Delphi consensus technique. This guideline will support the flow of questions in the semi-structured interviews during the first round of the Delphi process, aiming to provide a comprehensive understanding of the potential influence of blockchain on the intermediation of accommodation services.

Building on the study's research paradigm and acknowledging that blockchain is a nascent technology in the accommodation sector with a lack of real-life applications, as revealed in subchapter 2.3.3, the interview setting integrated a methodological tool. During the interviews, a visual aid in the form of an organisational chart is presented to the decision-makers to help clarify the academic discourse on disintermediation by illustrating the current oligopoly of intermediaries against a potential decentralised, blockchain-based booking system.

This section outlines the practical setting in which the interviews will take place. The interviews will be conducted in German, as both the participants in the sample and the researcher are native German speakers. This allows participants to express their perceptions more naturally, thereby improving the richness and authenticity of the data.

The interviews will be conducted online via Microsoft Teams, as it is assumed that decision-makers in the business context are familiar with this platform. To ensure accuracy, interviews will be recorded with the participants' consent. The recording on Microsoft Teams will facilitate the creation of an automatic transcription in German directly integrated into the software.

This transcript can then be manually checked by the researcher for any ambiguities by replaying the recording as needed. This two-step process combines efficiency with accuracy, ensuring that nuances, essential to the qualitative, constructivist approach of this study, are preserved.

To preserve the original meaning, the thematic analysis will be conducted in German to optimise the findings within the sub-themes. The findings from these sub-themes will then be condensed into consensus statements, also in German, and distributed to the same sample of decision-makers as part of the second round of the Delphi technique.

In the thesis, the Delphi consensus statements will be translated from German to English by the researcher and refined using the translation software DeepL. The transcripts of all interviews will be attached in the appendix.

The responses will be subjected to thematic analysis, following the five-step methodology outlined by Braun and Clarke (2006). This analysis will be organised around five major themes corresponding to each of the TOEDI contexts. Within these major themes, patterns will be identified and grouped into sub-themes.

These sub-themes will then be condensed into single propositions called 'consensus statements'. These consensus statements will play a crucial role in the statistical evaluation conducted during the second round of the Delphi technique. This aims to systematically identify areas of agreement in the key contextual factors within each of the five contexts.

3.5.5 Steps Thematic Analysis

Interviewee responses will undergo thematic analysis to explore, identify, analyse and interpret underlying patterns and themes using the six steps proposed by Braun and Clarke (2006). This section describes the trajectory of the thematic analysis used in the study.

The six steps consist of: becoming familiar with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and finally, generating theme reports.

The interview data are coded using *MAXQDA* (2022) because this allows a centralised data storage.

The following are descriptions of how each step of the thematic analysis will be executed:

First Step: Data Familiarisation

The process is initiated by reading and rereading the interview transcripts from the decision-makers. The transcripts will be generated during virtual meetings via Microsoft Teams and transcribed using the built-in transcription feature.

This familiarisation process enabled the researcher to examine the interview data, identify patterns, and capture initial thoughts.

Second Step: Generation of Initial Codes

After becoming familiar with the data, the researcher will begin to generate initial codes by identifying significant text segments using qualitative data analysis software, *MAXQDA* (2022). According to Boyatzis (1998), developing codes involves identifying "segments" within the data that represent meaningful units or ideas. These segments are then assigned codes that represent the content or meaning of the segment.

The initial themes and codes were derived deductively from the five contexts of TOEDI, followed by an inductive analysis, which allowed themes to be developed from both existing theory and emergent data.

Third Step: Theme Search

After the initial coding of interviews, the researcher will look for sub-themes, identify patterns, and categorise them. According to Boyatzis (1998), after coding, the researcher examines the codes and their associated data segments to identify patterns and relationships. These patterns serve as the foundation for sub-themes that capture the essence of the phenomenon being studied.

Fourth Step: Examining Themes

After identifying potential sub-themes, the researcher will refine these to ensure they form a coherent pattern that offers consistency and originality.

This procedure includes two evaluation levels. The first level focuses on refinement by assessing the data within each sub-theme to ensure that these form a coherent pattern. The sub-themes may be merged, divided, or discarded.

The second evaluation level assesses the sub-themes by examining the entire dataset. This step involves determining whether the sub-themes accurately represent the data and research question.

This step is crucial in understanding the perceptions of decision-makers regarding emerging technologies and intermediation in general, as well as the potential disruptive influence of blockchain on the intermediation of accommodation services.

Fifth Step: Definition and Naming of Sub-Themes

After completing the thematic review, the researcher defines and names the emergent sub-themes. This step requires developing a definition that captures the essence of each sub-theme and distinguishes it from the others.

Additionally, the researcher assigns descriptive and informative names to each sub-theme, making the presentation of the findings more accessible.

Sixth Step: Producing the Report

In the final step, the findings will be brought together into a clear and structured report for the findings chapter of this study, with five major contexts that will be linked back to the TOEDI framework, each containing three to four sub-themes representing factors within the five contexts, supported by selected quotes from the interviews. In the following steps, the sub-themes will be condensed into consensus statements, which will then undergo the Delphi consensus technique.

The subsequent section will outline how the condensed sub-themes as consensus statements will be validated in the second Delphi round.

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3.5.6 Delphi Consensus Technique Calculation

Scale

This study opts for a 7-point Likert scale, where participants were asked to rate their agreement or disagreement with a given consensus statement on a continuum from 1 (“I strongly disagree with the consensus”) to 7 ("I strongly agree with the consensus”). This granular level of response is chosen to provide more detailed information about the expert panel's opinions, allowing for more nuanced interpretations of the data (Likert, 1932). The Likert scale has undergone extensive validation over nearly a century, affirming its reliability and effectiveness in capturing subjective opinions and attitudes (Carifio & Perla, 2007). It was applied as it is one of the most fundamental and frequently used psychometric tools in social sciences research. The seven-point scale includes a neutral midpoint, allowing respondents to express a neutral or undecided position (Joshi et al., 2015).

Using the Likert scale in Delphi studies has become widely accepted for measuring consensus among panellists (Rowe & Wright, 1999).

This methodological choice has important implications for the Delphi study. The Likert scale measures attitudes and opinions, fostering collaboration and collective wisdom among participants (Skulmoski et al., 2007). By incorporating a Likert scale into the Delphi method, the complexity of individual perspectives was recognised, and it was possible to reconcile these into a harmonised understanding. Researchers such as Sullivan and Artino (2013) argue that this approach enhances the validity and reliability of the findings, as it allows for iterative rounds of questions to occur, encouraging participants to refine their responses in light of the collective feedback. The Likert scale provides a valuable tool for managing the dynamics and complexity of the consensus-building process within the Delphi study.

Agreement Rate

Delphi studies have been criticised for using subjective criteria or descriptive statistics to quantify consensus. According to Gracht (2012), the criteria have been chosen arbitrarily. In an extensive literature review, he outlined that researchers have primarily measured consensus using three different descriptive statistics: association, central tendency, and dispersion measures.

This study adopts all three descriptive statistics to calculate consensus amongst the interviewees based on 7-point Likert scale responses. A common approach is first to calculate the agreement rate. According to Gracht (2012), the Likert scale is a suitable tool:

Based on a scale that ranges from 1 to 7:

1. Strongly disagree 2. Disagree 3. Tend to disagree 4. Neutral/Undecided 5. Tend to agree 6. Agree 7. Strongly agree.

One of many measurement criteria for calculating the agreement rate on a consensus in a Delphi study is mostly subjective (Gracht, 2012).

Seagle (2001) suggest consensus as achieved on an item if at least 60% of the respondents agreed with the 5-point scale, while other suggest (Vogel et al., 2019) this should the lower threshold this study opted for a 7-point scale and modified it to achieve 60% agreement, using scale 6 ("Agree") and 7 ("Strongly Agree") as a consensus.

$$\text{Agreement Rate} = \frac{\text{Total number of responses}}{\text{Number of responses with ratings 6 and 7}} * 10$$

- No Agreement: Agreement Rate ≤ 20%

- Low Agreement: 0.2 < Agreement Rate ≤ 40%

- Moderate Agreement: 0.4 < Agreement Rate ≤ 60%

- High Agreement: 0.6 < Agreement Rate ≤ 80%

- Strong Agreement: Agreement Rate > 80%

Standard Deviation

Another statistical tool commonly used in the Delphi technique is the standard deviation, which measures the average distance between each expert's response and the mean of all the responses. Lower standard deviation values indicate that the responses are clustered tightly around the mean, suggesting a higher level of consensus among respondents. In Delphi studies, the standard deviation is usually examined in combination with the mean, and together, they represent the most common descriptive statistics.

West and Cannon (1988) and Rogers and Lopez (2002) also suggested a specific criterion for consensus: if all the experts' scores fall within the mean ± 1.64 times the standard deviation range, there is a consensus.

Interquartile Range

According to Gracht (2012), a range of statistical tools can be employed in the consensus calculation process of a Delphi study. One such tool is the interquartile range (IQR), which measures the dispersion or spread of the experts' responses. Latif et al. (2017) echo that the consensus calculation can be based on statistical measures such as the central tendency (median), which is less sensitive to extreme values than the mean and standard deviation. Additionally, Murphy et al. (1998) recommended using the median and interquartile range rather than the mean and standard deviation in Delphi research, as they are considered more robust.

The exact range when a consensus is obtained is discussed broadly. According to De Vet et al. (2005), it is achieved if the IQR is one or below on a 7-point Likert scale, while according to Rayens and Hahn (2000), an IQR of 1 or less for consensus is found to be a suitable consensus indicator for a 4- or 5-point scale. Scheibe et al. (2002) noted that the more points are on the scale, the larger the IQRs that can be expected.

The scale applied according to De Vet et al. (2005) and Latif et al. (2017), is:

- No Consensus: High IQR values indicate a wide spread of responses if the IQR is greater than 2.
- Low Consensus: Moderate IQR values if $1 < IQR \leq 2$.
- High Consensus: Low IQR values indicate that most responses are clustered around the median when the IQR is ≤ 1.

3.5.7 Summary

This chapter introduced the study's multi-faceted approach to data collection and analysis. Data will be gathered via semi-structured interviews with decision-makers, as defined in the research population in subchapter 3.4. The interviews will follow a structured guideline (outlined in 3.5.3), which is based on five key contexts. Three of these are derived from the primary Technology-Organisation-Environment (TOE) framework, while two have been added to adapt and expand upon the framework in line with the research objective of this thesis.

The interviews will be conducted in German via Microsoft Teams and automatically transcribed within the application. The resulting transcriptions will then undergo Braun and Clarke's six-step thematic analysis process in a hybrid approach, switching back and forth between theory and data collection to reach the intended conceptualisation. The sub-themes identified in the five contexts through this analysis will subsequently form the basis for a Delphi consensus technique, which, when consensus is reached, will serve as contextual factors contributing to this study’s TOEDI framework.

Building on this data collection and analysis approach, the following subchapter outlines the specific measures taken to ensure the quality and credibility of this research. This includes a crucial discussion, under the social constructivist paradigm, on the validity and trustworthiness of the results, the role of the researcher, and the practice of reflexivity.

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3.6 Research Quality

3.6.1 Validity and Reliability

Ensuring research quality is a fundamental requirement of any study. In traditional positivist research paradigms, quality is typically assessed through the concepts of validity, which refers to the extent to which research measures what it intends to measure, and reliability, the ability to produce consistent results upon replication (Outhwaite & Turner, 2007).

However, as this study is situated within the social constructivist paradigm, as outlined in 3.2, these traditional metrics are insufficient and conceptually misaligned. Researchers argue that concepts such as reliability and validity are rooted in an experimental tradition that views the researcher and the method as distinct entities (Lincoln et al., 1985).

In the constructivist paradigm, by contrast, it is considered impossible to differentiate between the researcher and the method. This positivist perspective is therefore unsuitable for the methods presented in 3.3 of this study. In qualitative interviews and the subsequent thematic analysis, the researcher is a primary tool of interpretation and therefore cannot be separated from the research process.

As Stenbacka (2001) states, traditional concepts like validity and reliability do not align with the constructivist paradigm because its goal is not to measure and generate explanations, but rather to understand and comprehend. The interest is in "understanding another person's reality based on a specified problem area to generate an understanding of a social phenomenon" (Stenbacka, 2001).

Seale (1999) highlights that qualitative criteriologist, who validate reasoning to achieve knowledge, have gradually moved away from modernist commitments. This results in conceptions of validity and reliability that are extremely distant from positivist or realist perspectives (Lincoln et al., 1985). Constructionist epistemology is much less concerned with issues of validity and more concerned with providing a rich picture of life and behaviour in organisations or groups (Easterby-Smith et al., 2012).

3.6.2 Trustworthiness

According to Lincoln et al. (1985), in the constructivist paradigm, instead of validity and reliability, the concept of 'trustworthiness' is more relevant for qualitative research. This reconceptualisation is a critical departure from the positivist search for a single, objective reality. Instead, within the constructivist paradigm, the goal is to represent the multiple, socially constructed realities of participants. Trustworthiness is therefore established not through statistical replication, but through a rigorous adherence to four key criteria: credibility, transferability, dependability, and confirmability. Credibility refers to the extent to which the findings align with reality. It is a subjective question that is based on individual assessments. Transferability refers to the ability of the findings of a qualitative study to be applied to other contexts or settings. This is achieved when the researcher provides a detailed and transparent description, allowing readers to assess the relevance to their situations. Dependability ensures the research process is logical and documented, making it auditable and consistent. Finally, confirmability demonstrates that the findings are grounded in the data itself, rather than in the researcher's personal biases.

Nevertheless, “trustworthiness is always negotiable and open-ended, and not a matter of final proof, whereby readers are compelled to accept an account” (Seale, 1999).

Although it is recognised that a thorough knowledge of prior research is fundamental, it is rare for good research ideas to be derived directly from the literature. Indeed, qualitative researchers are frequently observed to develop post hoc theoretical rationales for their work, which are explained when the thesis, or learned paper, is submitted (Golden-Biddle & Locke, 2007). This aligns with the thematic analysis approach of this study, which aims to identify key contextual factors from the perspective of decision-makers for the targeted TOEDI conceptualisation.

What is important is that researchers understand the ethical issues involved when dealing with qualitative methods (Easterby-Smith et al., 2012). Crucial to conducting ethical research is protecting participants' rights and welfare, obtaining

informed consent, and maintaining confidentiality (Saunders et al., 2009). According to Outhwaite and Turner (2007), these ethical considerations, such as participant confidentiality, may constrain the quality of research. Researchers must also ensure that their study does not harm participants. This consideration is discussed in Section 3.7, following the next section, which examines the role of the researcher and their reflexivity.

3.6.3 Role of the Researcher and Potential for Bias in Delphi

In the Delphi, the researcher positions himself in the dialogical self of "I". He must allow each participant to reconceptualise, reframe, and reconstruct information to understand lived experiences. Every participant in the interview round is diverse, and the collective lived experiences demand that the constructivist researcher exhibit fluidity to appreciate that every participant constructs reality differently (Boyland, 2019).

A primary advantage of the Delphi method is its mitigation of "groupthink" – the biases of dominance and conformity typical of face-to-face interactions – due to its anonymous structure (van der Gracht, 2012). However, the Delphi consensus technique is vulnerable to cognitive biases that affect human judgment. According to Winkler and Moser (2016), at the beginning, experts may be influenced by how questions are framed or by what they hope is true (desirability bias). In later rounds, they might follow the majority opinion (bandwagon effect) or hold on to their initial views even when new evidence suggests otherwise (belief perseverance).

Furthermore, the researcher can be a significant source of bias. The process of aggregating and presenting feedback between rounds is a critical point. If a researcher consciously or unconsciously directs opinions or themes, this undermines the fundamental principle of the Delphi technique, which is to capture an authentic expert consensus (Beiderbeck et al., 2021).

To mitigate researcher-induced bias, a strict hybrid thematic analysis process is employed, starting with a primarily deductive phase in the context of TOEDI. In a subsequent phase, the data are re-analysed from an inductive perspective to

build sub-themes. These sub-themes are then condensed into consensus statements before a final quantitative consensus calculation measures the precise level of agreement. The consensus calculation is presented in the next section.

3.6.4 Researcher's Reflexibility

Research conducted from a constructivist epistemological perspective can be compared to an act of sculpting, which creates knowledge as a representation of reality rather than excavating reality itself. The author of this study was not able to track the original source of this metaphor. However, it inspired this study. Subsequently, the researcher and his notions must be distinct from the research process.

The researcher's preconceived notions can lead to an underlying assumption about the nature of the problem, which may already imply a solution. Therefore, there is no independent academic knowledge because it is socially constructed and linked to the researcher (Mir & Watson, 2000). Furthermore, the researchers unintentionally introduce bias into the study through their preconceptions. Participants' perspectives or experiences may also introduce bias (Outhwaite & Turner, 2007). Therefore, researchers must be transparent about any limitations or potential biases in the research process (Saunders et al., 2009). Here is the personal statement about the reflexivity of the researcher of this study, Guillermo Ribes Vicente:

I have more than 20 years of practical experience in operations and consulting in the German tourism industry. During this time, I found that the tourism industry, and especially the accommodation sector, has been increasingly challenged to adapt to emerging technologies, a behaviour caused by the absence of knowledge and awareness about the influence of upcoming innovations. In this study, I was conscious of my biases and assumptions as a researcher who worked in this field and took precautions to ensure that they did not unfairly influence the study's outcome. At the beginning of the study, I was driven to create a

meaningful framework to help incumbent firms in the accommodation sector navigate the next wave of innovation regarding blockchain, like a consultant would. However, during my research journey, and especially when delving deeper into different epistemological stances, I shifted from a more objectivist, measurable approach in my thesis to a new focus on understanding social interactions with technology. Furthermore, I have always been an early adopter of technology, and I found it difficult to understand why others "do not see" what is emerging. However, with the accumulation of knowledge, my horizon broadened, and I now understand that technology adoption is a multifaceted, interdependent social phenomenon that cannot be observed linearly from my viewpoint.

Throughout the research process, I have considered my own bias and the potential for bias in the study. I have also discussed the study's limitations and challenges, as well as how they were addressed.

Despite these efforts, certain biases may persist in the study. As a result, I have provided a detailed account of the research process and the data gathered, so that others can evaluate the findings and draw their own conclusions.

3.7 Research Ethics

This study adhered to the University of Gloucestershire's Handbook of Research Ethics and followed all relevant guidelines on Data Protection and the General Data Protection Regulation (GDPR) (University of Gloucestershire, 2023). All data were kept safe and not given to a third party. Further, the data were only used for original research before they were deleted.

Additionally, the study followed the guidelines of the cooperating institution, iba | University of Cooperative Education (iba, 2021b). It also complied with the German data protection guidelines, Datenschutz-Grundverordnung (DSGVO) (EUR-LEX, 2021).

The decision-makers were contacted via the iba | University of Cooperative Education network after they had been identified in the iba database.

As the participants were identified in the network of the iba | University, where the researcher is employed, the following issues were addressed:

> Participation was voluntary and could be revoked at any time.
>
> It was made clear that all personalised data is stored confidentially outside the server infrastructure of the iba | University of Cooperative Education and would be deleted after the study is finished.
>
> The identities of the interviewed decision-makers are kept anonymous.
>
> The cooperating iba | University of Cooperative Education does not know the participants.

Before the interview, an online consent form had to be checked on the landing page to gain access to the online meeting via Microsoft Teams (Appendix 5).

3.8 Summary

This chapter presented the research design, justifying the selection of a social constructivist epistemology as the underpinning paradigm. The rationale is based on the consideration that blockchain has been widely implemented in sectors such as finance and supply chain, as evidenced by the literature. Conversely, its practical application in the accommodation sector remains limited. Given this disparity, an objectivist epistemology emphasising quantifiable research seems inappropriate due to the lack of reliable, objective data. In addition, the absence of an application leads to a lack of individual experience among practitioners, which hinders the adoption of a subjectivist epistemology.

The social constructivist approach informed the methodological design. A hybrid thematic analysis was used to identify preliminary factors for the draft TOEDI framework, which comprises five contexts. These factors are then validated and

refined through the Delphi technique as a consensus-building method to address the second research sub-question.

The research population subchapter justified a purposive sampling approach, utilising qualitative interviews with German decision-makers who possess in-depth expertise in the accommodation sector. Three characteristics were defined to become “decision-makers”. This includes operational decision-makers, such as hotel managers, and strategic stakeholders like owners, as well as professionals affiliated with decision-making processes in the accommodation sector, including consultants. Finally, representatives from accommodation-focused Nongovernmental Organisations (NGOs), such as associations or destination management organisations (DMOs), frequently serve as the first point of contact for emerging developments. As such, these decision-makers play a crucial role in shaping the potential trajectory of the emergence of blockchain technology in their perception and willingness to adopt decentralised blockchain-based booking systems.

Following this, in the subchapter "Data Collection and Analysis," a semi-structured interview guideline was introduced. This guideline adopted the primary TOE framework by Tornatzky and Fleischer (1991). It incorporated the three contextual variables of the framework, ensuring that the questions addressed the interplay of technological, organisational, and external environmental contexts. The extended TOEDI complemented the interview guidelines with a fourth context, providing example questions that highlighted the pronounced interrelationship between ICT and the intermediation of accommodation services, as discussed in the critical literature chapter.

Furthermore, the interview guideline incorporated the triad of contexts from the TOE framework, together with two extended contexts specific to the accommodation sector. These extensions addressed the sector’s pronounced interrelationship with ICTs in a centralised, oligopolistic market, as well as blockchain’s disintermediating technological nature, which has the potential to disrupt traditional intermediaries such as OTAs, booking portals, and other gatekeepers, as suggested by an upcoming stream of researchers (Demirel et al., 2022; Filimonau & Naumova, 2020; Kizildag et al., 2020; Rashideh, 2020; Buhalis et al., 2019). In

the questions about the fifth context of potential disruption, this study draws upon Christensen's theory of Disruptive Innovation (Christensen, 1997) and its revision and recommendation for future research (2018). Chapter Three concluded with a critical reflection on research quality and researcher reflexivity, highlighting key ethical considerations.

Chapter Four will provide a comprehensive overview of the empirical findings gathered through the qualitative interviews.

4 Findings

4.1 Introduction

Based on the draft TOEDI framework developed in the literature review in response to the first research sub-question, these findings further conceptualise and construct the factors within the five contexts through a constructivist epistemology. The empirical data, collected from 12 semi-structured interviews conducted between 6 June and 26 July 2023, address the second research sub-question by capturing perceptions of blockchain's potential influence on the intermediation of services in the accommodation sector.

As described in the methodology chapter (3.3.3), the thematic analysis followed a six-step process, as outlined by Braun and Clarke (2006).

First, data familiarisation was conducted by thoroughly reading all 12 interview transcripts from decision-makers (see Appendix 7). Second, initial codes were generated by identifying significant text segments, guided deductively by the five contexts of the TOEDI model. Third, sub-themes were searched by recognising patterns and categorising codes. In the fourth step, themes were refined and evaluated to ensure coherence and representativeness across the dataset, with a focus on decision-makers' perceptions of emerging technologies and the potential disintermediation effects of blockchain. In step five, sub-themes were clearly defined and named to ensure conceptual clarity and accessibility in the presentation of results. The thematic analysis culminated in step six, resulting in the generation of five theme reports (Braun & Clarke, 2006). In the theme reports, the major themes are presented with their associated TOEDI sub-themes.

Using Braun and Clarke's (2006) six-step method, the analysis provided a descriptive overview of the responses, categorised into five major themes, representing the five contexts of TOEDI. Within the five major themes, 19 sub-themes were identified.

In each sub-theme, Delphi consensus statements were formulated after the interview responses had been interpreted and condensed. These statements were

the basis for deploying the Delphi consensus technique, a systematic method designed to achieve consensus among experts. The set of 19 Delphi consensus statements was presented to the decision-maker cohort in an online questionnaire as part of a second round of the Delphi consensus technique.

The second Delphi round generated 19 consensus statements with at least moderate agreement, which serve as contextual factors for conceptualising a novel innovation adoption framework as an extension to the primary TOE framework. This framework aims to bridge the identified academic gap and address the specific research problems posed at the beginning of this study.

The corresponding descriptive data are presented and illustrated with compelling quotes from decision-makers for each sub-theme.

The data from each sub-theme were condensed to generate a Delphi consensus statement, which will later be evaluated for the agreement rate with the same cohort of decision-makers in the second Delphi round.

Based on the draft TOEDI framework, a taxonomy has been developed that identifies and categorises each sub-theme. Each sub-theme is identified by the first letter of the major theme within which it is located, followed by a number. This structured approach enables a structured presentation of the interrelated sub-themes and provides a convenient reference system in the conceptualisation of TOEDI. The taxonomy is outlined in the table below.

Table 7 Taxonomy Sub-themes (Ribes Vicente, 2023)

Major Theme	Technological	Organisational	External	Disintermediation	Interrelationship
	T	**O**	**E**	**D**	**I**
Subthemes	T.1	O.1	E.1	D.1	I.1
	T.2	O.2	E.2	D.2	I.2
	T.3	O.3	E.3	D.3	I.3
		O.4	E.4	D.4	I.4

The findings are presented in the next chapter.

4.2 Theme Interrelationship Context

The literature review outlined the interrelationship between ICT and the intermediation of services in the tourism industry. This interrelation has been observed ever since the arrival of ICT (Werthner & Klein, 1999).

This major theme sheds light on decision-makers' perceptions of the interrelation between ICT and the intermediation of services in the tourism industry. In the major theme, four sub-themes were identified:

4.2.1 Influence of ICT | I.1

Interviewees pointed out that the influence of information technology on the tourism industry has grown exponentially, with many stressing that it is virtually impossible to operate without it: Interviewee 2 expressed that modern tourism would hardly exist without information technology. ICT has been and will be a game-changer in all sectors of tourism. Similarly, Interviewee 3 emphasised the relentless progression of this influence. This sentiment was reinforced by Interviewee 7, who referred to technology as ground-laying and indispensable. Interviewee 3 remarked that its influence is very high, and Interviewee 4 added that it has had increasing influence. Interviewee 8 expressed ICT as a high necessity.

Interviewees highlighted the enormous growth and reliance on information technology over recent years. Interviewee 7 noted a significant and explosive increase over the last two decades. This sentiment was echoed by Interviewee 9, who emphasised the immense influence, especially in digital hotel bookings. Interviewee 1 foresaw that this trend is likely to grow even more, potentially exponentially.

The digital transition from traditional methods to more technology-driven solutions was highlighted. Interviewee 4 noted the decline of classical paper-based tools and outdated catalogues many years ago. This transition has simplified processes and created new possibilities in the field, as indicated by Interviewee 5's reflection on the trend from physical travel agencies to online bookings.

The influence of technology is also noticeable in terms of how hotels and service providers reach and cater to their clientele. Interviewee 6 spoke about how technology has enabled more providers to market their services and reach guests beyond regional boundaries. Meanwhile, Interviewee 9 talked about the rise in the influence of ICT, particularly in hotel bookings. This interviewee emphasised that overlooking ICT is unthinkable for anyone other than a micro business accommodation provider.

Interviewee 4 noted that these technologies have opened doors for unparalleled opportunities. This potential translates to profits, with Interviewee 5 characterising the impact as “very profitable”.

The automation brought about by information technologies has also revolutionised pricing, capacity evaluation, and overall operational management. Interviewee 10 spoke to this point, remarking on how much of the process is now fully automated, from price formation to assessing current occupancy.

Lastly, the interviewees also acknowledged the positive influence on workflow in daily operations and the ability to focus more on human interactions. Interviewee 11 reflected this sentiment, emphasising how technology has made work easier and allowed for a greater concentration on people.

Interviewee 7 mentioned how hotels could barely generate bookings without technology, while Interviewee 9 said, "I would say it has an influential impact on hotel bookings since hardly any service is not booked digitally".

Interviewee 1 noted that the influence of ICT has been very strong recently, especially in booking services and accommodation. Interviewee 8 summarised this by saying, "One cannot overstate the importance; without information technology, there is no tourism anymore".

Moreover, information technologies have democratised the marketplace, allowing a more extensive range of providers to offer and sell their services, as Interviewee 6 added, and without them, they would likely have faced difficulties in reaching regional and national guests (Interviewee 6).

The profoundness of this impact is further quantified by Interviewee 8, who estimated that the influence accounts for around 70%. This percentage points to the proportion of services or interactions now facilitated or dominated by technology within the tourism sector.

Interpretation

The responses of decision-makers reveal a consensus around the indispensable and transformative role that information technology has played in the modern era of tourism. The interviewees emphasise the profound growth and dependence on IT, pointing out that modern tourism would hardly exist without it (Interviewee 2). ICT was not described as an optional tool but as the essential infrastructure that underpins nearly all operational and booking functions in today's accommodation industry. An important point made by the interviewees is how information technologies have democratised the marketplace, allowing more providers to market and sell their services. This reflects a structural change in market access; digital platforms have lowered barriers for smaller accommodation providers to reach a broader range of guests, but have also introduced new dependencies on digital gatekeepers.

This shift from traditional methods to online booking was characterised as a shift towards simplifying processes and opening new possibilities in the sector. Participants also highlighted the revolutionary effect on pricing, capacity assessment, and overall operational management, much of which is now fully automated. Such automation represents more than efficiency; it marks a reorganisation of how value in the accommodation sector is created, measured, and delivered to guests.

The influence of ICT in the tourism industry is strongly evident in service intermediation, particularly in hotel bookings. This aspect further illustrates the pervasive influence of technology in shaping the way the industry operates today. By standardising and speeding up booking processes, ICT has not only enabled intermediation but also redefined what guests expect: fast, secure, and convenient transactions.

Overall, this sub-theme reveals that ICT is not merely supporting the accommodation sector; it is structuring it. In terms of extending the TOE framework, this highlights the need for added context, reflecting the pronounced interrelationship that addresses the sector-specific research problem posed at the beginning of this study.

Consensus – Influence of ICT I.1

Information technology has emerged as the backbone of the tourism industry, revolutionising every aspect from bookings to operations, and has impacted the market so profoundly that without it, tourism as we know it would be unimaginable today.

4.2.2 Adoption Capabilities | I.2

The last sub-theme explored the influence and interrelationship between information technology and modern tourism. A consensus emerged that ICT had become an indispensable industry, echoing the findings of the critical literature review.

However, that led directly to this sub-theme: if technology plays a vital role and is closely tied to tourism development, how do decision-makers within the accommodation sector perceive their sector's capabilities in adapting to technologies?

A common theme among the decision-makers was the accommodation sector's relatively slow adoption of information technology and its slow adoption of digital solutions. Interviewee 7 observed that the industry is lagging in diverse areas. Interviewee 1 also mentioned the difficulty of grappling with technological advancements in the current organisational structure of tourism.

Interviewee 12 called for greater openness in the hotel industry concerning technology adaptation. Interviewee 6 pointed out, “There are certainly others (other sectors) who are slower to come to terms with it, but the hotel industry, gastronomy and tourism are somehow part of it”.

Furthermore, Interviewee 6 observed that the adaptation of technology in tourism operates more slowly than in other sectors. Interviewee 9 joked that the tourism

industry, particularly the accommodation sector, is 10,000 years behind and that there is a lack of competencies.

One interviewee (1), with a destination management background, cynically remarked that he/she would be happy if guests could pay by card in the hotels under his/her responsibility.

However, there were indications of positive developments, particularly driven by the recent impact of COVID-19. Interviewee 12 noted the silver lining of the pandemic for the industry, forcing a realisation of the need to embrace new technologies.

Interpretation

The research revealed a contradiction in the perception of ICT influence in general and the adoption of ICT within the accommodation sector. Despite a consensus that ICT is essential for modern tourism, an observation consistent with the critical literature review, decision-makers in the sector expressed concern about the slow pace at which the industry is adopting digital solutions.

Respondents cited a range of reasons for this sluggish adaptation, including organisational slowness and a perceived lack of skills in dealing with technological advances. It was highlighted by Interviewee 9 with a joke that the accommodation sector is 10,000 years behind. This remark, while humorous, reflects a more profound frustration about systemic inefficiencies and outdated structures that hinder digital transformation.

This discrepancy between recognising ICT's importance and the hesitation to adopt it indicates a misalignment between strategic vision and operational reality. The findings suggest that resistance is not only technical but also embedded in organisational culture, legacy systems, and the sector's historically reactive stance toward innovation.

This collective sentiment among decision-makers, comparing their sector with others, highlighted the need for an sector-specific framework that incorporates

not just the technological dimension of blockchain adoption, but also the readiness, openness, and capacity for change within accommodation organisations to explore the potential influence of blockchain. This supports the relevance of the TOEDI framework, which considers a network of interrelated contexts in the adoption of blockchain innovation.

Consensus – Adoption Capabilities ICT I.2

Although the tourism industry has been and continues to be strongly influenced by information technologies, the accommodation sector, in particular, has been remarkably slow at adapting to new technologies compared to other industries.

4.2.3 Future Influence of ICT | I.3

This theme focused on understanding decision-makers' perceptions regarding the future influence of ICT on the tourism industry and the intermediation of services in the tourism industry.

A number of decision-makers expressed uncertainty about the path ahead. Interviewee 3 noted, “I do not feel able to assess where the journey is going, so that is still unimaginable for me”. Others expressed that they are not experts on the topic of the future influence of ICT on the tourism industry and do not know how it will develop (Interviewee 6). Interviewee 10 expressed that there is no substantially influential emerging technology.

Others saw the influence growing (Interviewee 4). Interviewee 1 echoed this and anticipated exponential growth. Another added that it will continue to be a decisive game changer in all tourism areas (Interviewee 2).

The future implications of technology within the industry also raised questions from the decision-makers. Interviewee 1 thought about what would happen with websites like Booking.com or hotel websites, and Interviewee 2 pondered whether travel agencies or travel intermediaries would become obsolete with the next technological advances.

A subset foresaw the increasing influence of technology leading to more ways to book, “expanding the way purely from hotel platforms so that I can book all the services I want to use for a trip” (Interviewee 12).

Regarding extended possibilities, others saw future ICT potential for the inspirational phase (Interviewee 4). Others anticipated total automation in the near future (Interviewee 10).

One interviewee also connected the future trajectory of technology with generational shifts, explaining that generational changes will lead to broader engagement with digital options (Interviewee 1).

Despite technological advancements, Interviewee 1 acknowledged that personal communication and traditional methods will not completely disappear.

However, Interviewee 3 asked himself about ICT's growing influence: "This is unstoppable, and the only question is whether we deal with it more consciously?"

Interpretation

Perceptions about the future influence of ICT on the tourism industry varied among decision-makers. Multiple participants expressed uncertainty about the evolution of the technology, either because they lacked a complete understanding or because they did not see any significant impact. Others were more optimistic, highlighting the ever-increasing impact of technology on the industry. They suggested that the impact may potentially grow exponentially, substantially influencing the tourism industry. This range of responses reflects both a general expectation of digital expansion and a lack of shared clarity about what this transformation will look like in practice.

A number of decision-makers thought that technology would continue to influence the booking experience, anticipating full automation and suggesting a potential paradigm shift in service delivery. Additionally, questions arose about the fate of incumbent industry gatekeepers, such as Booking.com, and whether the next wave of technological advances will render traditional travel agents obsolete. This reveals an awareness that future developments may not only influence service

intermediation but also reshape the market structure and challenge established gatekeepers.

It also suggests that future ICTs will potentially influence not only operations but the broader intermediation landscape, aligning with earlier shifts as outlined in this study in Chapter 2.3, triggered by different emerging ICTs.

Generational change is another factor. Younger generations in the workforce and management are driving a shift towards more digital methods, but there is also recognition of the enduring value of face-to-face interactions and traditional means of communication.

The data suggested that the strong influence of ICT on the tourism industry will continue to grow and potentially exert a substantial influence. However, the path remained uncertain, marked by optimistic anticipation and lingering questions. This supports the use of the TOEDI framework, which helps to understand how sector-specific factors for blockchain, such as technology, organisations, and external contexts, all shape innovation adoption and potential disruption.

Consensus – Future Influence of ICT I.3

The strong influence of information technologies on the tourism industry will continue to grow and possibly have a significant impact, but its shape is uncertain.

4.2.4 Influential Emerging Technologies | I.4

After exploring perceptions regarding both the past and future influence of ICT on the tourism industry and comparing the tourism industry to other industries, this sub-theme delved into the potential influence of specific technologies that could impact the intermediation of services. This exploration emerged as the researcher investigated the gap between the academic community, which has been noting since 2016 (SCOPUS, 2023) the potential emergence of blockchain in the tourism industry, and the apparent lack of knowledge about it amongst practitioners.

The central question here was whether decision-makers understood the potential influence of blockchain.

The decision-makers were explicitly asked to identify emerging technologies that have the potential to become central influencers of service intermediation, particularly within the accommodation sector, in the future.

Within this context, only one interviewee (5) identified blockchain as a key technology, articulating that specific blockchain applications are part of a background process that remains concealed unless specifically sought after.

Interviewee 5 further emphasised the disintermediating nature of blockchain, noting the capability of the technology to eliminate the intermediary or "middleman".

In addition, specific platforms that claim to use blockchain were identified by Interviewee 5, including Winding Tree, FlyUS, and Desk-Bell. One was previously unknown to the researcher and subsequently incorporated into the literature review. However, none of them seems connected to a decentralised application as a booking channel, as is under research in this study.

In contrast to the lack of knowledge about blockchain's potentially substantial influence, most interviewees had a clear perception of AI and highlighted the potential for substantial shifts in the related tourism industry.

Interviewee 1 noted that AI is a topic that everyone is currently talking about. Interviewee 3 suggested that new possibilities emerged with the AI-driven language model ChatGPT, as “a door opened”, whose use cases are not foreseeable.

The inevitability of AI's rise was emphasised by Interviewee 11, who noted: "It will come, whether everyone wants it or not and regardless of the way".

One participant perceived AI as a tool that has the potential to replace traditional human staff in hotels, describing it as a “virtual concierge” (Interviewee 1). Interviewee 2 emphasised the potential to disrupt travel intermediaries, as people tell the AI what they want and book it. Interviewee 3 anticipated that AI would revolutionise the ICT landscape and become highly disruptive, particularly in the hotel booking sector.

Interviewee 10 described how AI could ensure customers get the most economical hotel rooms by comparing prices. Apart from pricing, Interviewee 9 also highlighted the ability of AI models to provide tailored offers.

AI was expected to have a pronounced impact on business travellers, as expressed by Interviewee 12. Another participant suggested that automation would eventually take over the industry (Interviewee 10). Interviewee 7 echoed this and described a shift of standard activities towards AI, freeing up space for personal interactions. Interviewee 9 pointed out that it can be used to summarise hotel reviews from guests.

One decision-maker has already implemented AI solutions as practical applications, including touchscreens and digital displays that use AI and cameras. However, this decision-maker (1) switched off an AI-driven touchscreen since he or she felt it might harm tourists' data protection rights. The built-in AI camera was capable of determining the age of the tourist standing in front of the touchscreen to offer targeted offers based on the identified age.

Others were starting to implement AI in their customer communications, and others were even testing AI video bots to personalise answers to customer enquiries. One participant noted: "We are also looking into the topic of video bots to, for example, answer customer inquiries more personally" (Interviewee 4).

Critics have raised concerns about regulations associated with AI, highlighting the potential negative impact on data privacy (Interviewee 10).

Aside from AI, the decision-makers identified other emerging technologies that have the potential to influence the intermediation of services in the tourism industry. Examples included social media (Interviewee 6), personalised marketing with targeted offers (Interviewee 9), Open Data (Interviewees 1 and 2), Google/Apple Maps (Interviewee 6), and digital guest cards (Interviewee 5).

Apart from AI, none of these technologies identified had the potential for a disintermediating or disruptive impact on the intermediation of services. As such,

these were not included in further research. Only the data about AI was interpreted.

Interpretation

All interviewees had quite clear perceptions of the future influence of emerging technologies, e.g. AI. The strong and consistent mention of AI suggests that its perceived impact is already becoming mainstream within tourism management discourse. Only one participant noted that no one is relevant (Interviewee 10). However, the same participant later referred to AI as a “Game Changer,” revealing a tension between initial hesitation and underlying awareness. This was interpreted as indicating that the decision-makers in the sample were aware of emerging technologies and their future influence on the intermediation of services.

However, as the pilot study had already hinted, the potential influence of blockchain was not a topic of interest to practitioners. The fact that only one out of 12 decision-makers spontaneously brought up the subject of blockchain pointed to a substantial gap between practical industry insights and academic research. This reinforces the relevance of this study’s research gap: while extant literature has increasingly discussed blockchain’s potential for disintermediation, awareness and understanding among practitioners remain very limited.

This study has highlighted calls within the extant literature regarding the influence of blockchain as an emerging topic. The study responded to that call, contributing nuanced insights to the existing body of knowledge and to practice. By capturing the absence of blockchain as an influential technology in practitioners' perceptions, this study fills a gap in the existing knowledge.

Furthermore, the perceptions of tourism decision-makers revealed a strong belief in the transformative potential of AI. Participants saw AI not just as a buzzword but as a substantial force that has the potential to unlock opportunities in areas as diverse as hotel bookings, travel intermediation, and personalised offers. Use

cases cited by decision-makers, such as automation, dynamic pricing, virtual assistants, and bots, point to AI's perceived value in improving efficiency, tailoring services, and reducing operational costs.

AI was perceived to play a disruptive role, automating tasks traditionally performed by human staff and enhancing personal interactions with guests. Despite the positive outlook, multiple decision-makers raised legitimate concerns about ethical issues, including potential privacy violations and data protection rights. This shows that innovation adoption, like AI or blockchain, is not only about technical feasibility but is also shaped by organisational knowledge and regulatory frameworks. Therefore, the TOEDI framework is helpful, as it captures how the interplay of different actors, like technology, organisational knowledge, and external contexts such as regulations, all influence adoption decisions.

Consensus – Influence Emerging Technologies I.4

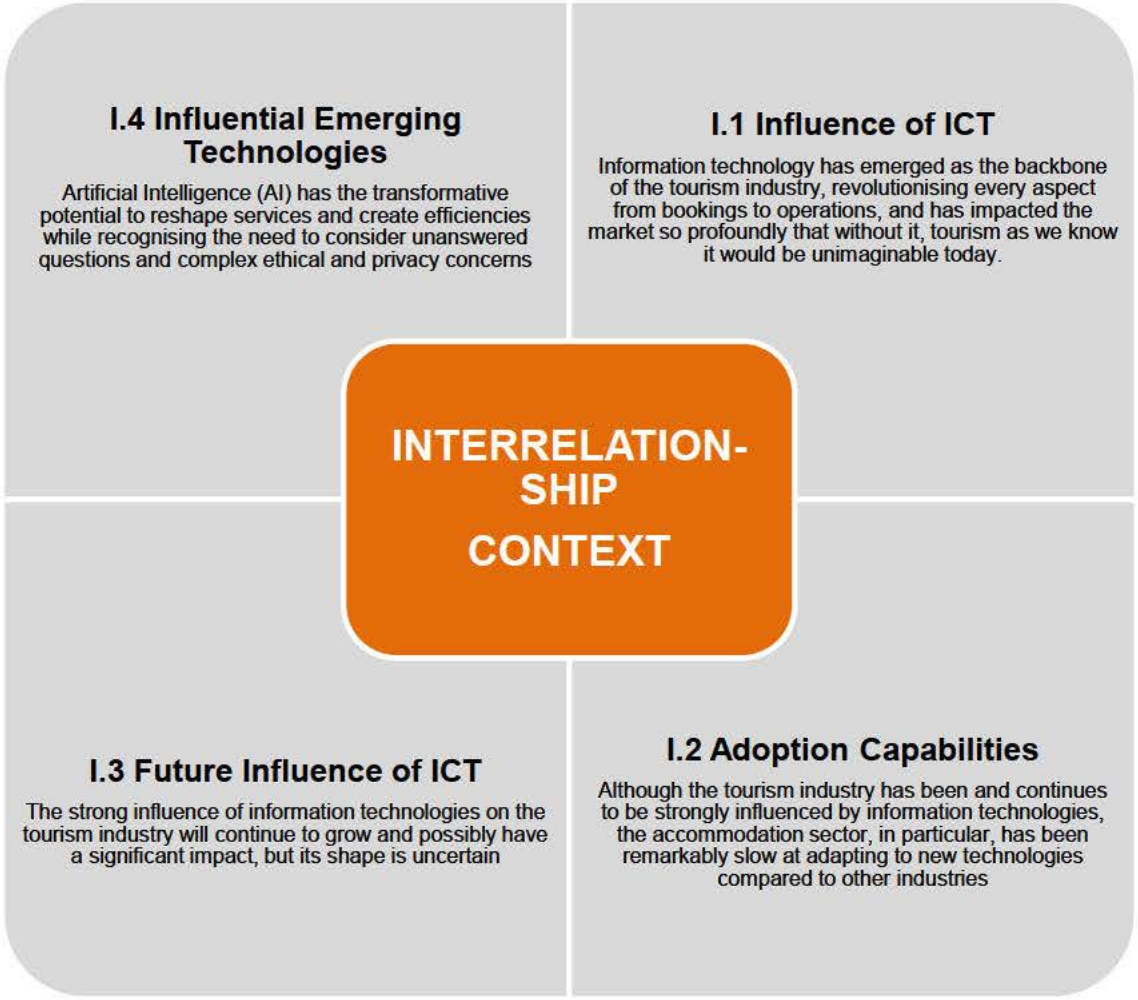
Artificial Intelligence (AI) has the transformative potential to reshape services and create efficiencies while recognising the need to consider unanswered questions and complex ethical and privacy concerns.

4.2.4 Thematic Network Diagram: Interrelationship Context

Each sub-theme was condensed into a consensus statement. These statements will be further evaluated in the second Delphi round, as presented in Chapter 4.7. Once a consensus on a statement is reached, this statement will become a contextual factor within the interrelationship context in the novel framework TOEDI.

The following network diagram displays the major theme interrelationship context as an extended context to the primary TOE framework with the identified sub-themes I.1–I.4.

Figure 3 Thematic Network Interrelationship Context (Ribes Vicente, 2023)



4.3 Theme Organisational Context

This major theme explored the internal attributes of organisations that potentially influence the acceptance, adoption, and use of technological innovations. It was derived from the organisational context variable from the traditional TOE framework. These internal attributes included the organisation's structure, size, resources, and capabilities (Tornatzky & Fleischer, 1991).

4.3.1 Intangibility and Human Interaction | O.1

One interviewee highlighted the fact that information technology makes work easier and allows them to focus more on human interactions (Interviewee 11).

Participants stressed the need to combine the analogue world with increasing digitalisation, believing personal conversations and materials like flyers will not disappear entirely. One decision-maker stated that, in the future, they must combine the analogue world on-site with increasing digitalisation (Interviewee 1).

Interviewee 5 emphasised the tourism industry's uniqueness in valuing personal relationships and personal consulting.

Interviewees voiced concerns about the potential loss of human interactions due to increasing digitalisation and how these can be recovered. Interviewee 3 asked, "How do we get the human component back in?" and added that he wanted more human interaction promoted.

Interviewee 11 affirmed that the human aspect of tourism services will never disappear, and he or she noted: “Services consist of people, and even if it might not be so present, this part will never go away”. Interviewee 4 added that personal contact points should not be completely missing.

This remark resonated with the prevailing sentiment that technology should supplement, rather than replace, human interactions.

Interpretation

The intangible nature of services and human interactions between guests and service staff were key factors to consider. Unlike physical products, the quality of

service in hotels is predominantly experiential and depends primarily on the dynamic interaction between guests and hotel staff (Solnet et al., 2019). This makes the tourism industry especially sensitive to how digital transformation by emerging ICT influences guest perceptions and the overall experience.

The intangible nature of service requires the different organisational practices, cultures, and structures that prioritise staff training, motivation, and empowerment to deliver personalised and exceptional service. It also requires a more nuanced understanding of customer needs and preferences. The decision-makers reinforced this by consistently linking, in their perceptions, the value of digital tools to their ability to free up time and resources for more meaningful, human contact.

Despite the rise of digitalisation in the intermediation of services, the interviewees' answers were interpreted as indicating the continued relevance of interpersonal relationships and personal consultation in service provision. This perception was repeated across different decision-makers, indicating a consensus that human connection remains a central component of quality.

It was argued that the accommodation sector needs a balanced approach incorporating technological advancements while maintaining the personal touch and human relationships. The importance of this theme surfaced inductively as a pattern, and almost all decision-makers emphasised the importance of intangible and human interactions. This also signals a cultural characteristic within the accommodation sector that resists full automation.

These sector-specific organisational characteristics implied a range of other factors, and technology adaptation must support training, motivation, and the empowerment of staff to deliver personalised and exceptional service, assisted by technology. It further suggests that the success of technological change in this context depends on its ability to enhance the guest experience.

This sub-theme underlined the need to bridge the academic gap by introducing a sector-specific, adapted TOE framework based on the findings.

Consensus – Intangible Human Interaction O.1

Personal guidance and human relations remain indispensable in the tourism industry despite advancing digitalisation and are key aspects that must be maintained in balance with technology.

4.3.2 Structure and Adoption | O.2

This sub-theme captured the perceptions of accommodation decision-makers towards the role of technology. It explored how generalisable organisational differences in size, location, employee structure, and other factors contribute to digitalisation and the adoption of ICT.

Interviewee 1 observed that digitalisation has not yet thoroughly permeated small local providers in Germany. Furthermore, Interviewee 11 emphasised the complex challenges of adapting to emerging technology in Germany.

A number of interviewees discussed the centrality of the organisation's size, which plays a pivotal role in promoting technological openness. According to Interviewee 1, large businesses tend to show a greater interest in technology. Nevertheless, Interviewee 12 acknowledged exceptions, noting that smaller providers have undergone significant transitions. However, everything is handled manually in private, small hotels (Interviewee 11).

Specific challenges arose within certain fields in the accommodation sector, such as SPA, as Interviewee 7 reported his or her perception about reluctance towards automation.

A prominent theme was the influence of employees on organisational structure and the extent to which they embraced emerging technologies. Interviewee 12 spoke of resistance from individuals in the industry, whom he had been working with for many years and who were not open to emerging technologies or were sceptical. The trend towards digital methods, driven by a generational shift, was also emphasised by Interviewee 1. There is an expectation that younger individuals will drive change, as expressed by Interviewee 12, who hopes that young

people starting in the industry will also push it forward and thus make the entire industry more open.

On the other hand, interviewees were aware of a lack of skilled labour and a subsequent need to embrace emerging technologies. One noted that traditional processes with fewer employees could not be easily managed (Interviewee 12).

Interpretation

Descriptive data from the decision-makers' perceptions revealed an interplay between organisational factors. One was size; small local service providers seem to lag in technological adoption. This was a critical insight that suggested a need for targeted strategies. Smaller accommodation service providers potentially face resource constraints, a lack of technical staff, or organisational resistance, which limits their ability to adopt emerging ICT at the same pace as larger firms.

The size of the business also surfaced as a determinant, with larger organisations being more receptive to technology. However, exceptions existed where smaller providers have innovatively embraced change. This highlights that while size is influential, it is not the only factor in embracing emerging ICTs like blockchain; organisational mindset and leadership also play a key role.

Employee perspectives further emphasised this shift, portraying a generational change as a driving force for embracing emerging technologies, where resistance from older generations gives way to a new wave of digital acceptance driven by the younger workforce and managers. These findings indicate that technology adoption in the accommodation sector is influenced by both the organisation's structure and the individuals working within it. Factors such as company size, staff attitudes, and generational shifts all play a role.

This supports the use of the extended TOE framework, TOEDI, which helps examine the interdependencies between technology, organisation, and external contexts that affect the adoption of decentralised blockchain-based booking systems.

Consensus – Structure and Adaptation O.2

In the German accommodation sector, various organisational factors promote or hinder the adaptation of technologies, such as local and global perspectives, company size, financial resources, and generational change, whereby generational change is seen as the key to success but is hindered by the shortage of skilled workers.

4.3.3 Capabilities and Readiness | O.3

After exploring perceptions regarding organisational structures, which temper the acceptance of technological innovations, this theme emerged after asking the decision-makers, “Why do you think guests book with intermediaries and not with service providers directly?”

Almost all decision-makers emphasised that guests' decisions are regularly connected to the lack of capabilities of service providers in the accommodation industry and the development of user-friendly hotel websites.

Interviewee 7 highlighted the ability of search engines and social media to condition guests' expectations for quick information retrieval and price comparison purposes, stating that “guests were spoiled” by these features. Contrasting the features and usability of hotel websites with gatekeepers like Google and Booking.com, interviewees expressed self-criticism about their websites. For instance, Interviewee 11 noted, “Even our homepage is not the easiest and friendliest customer type", adding that they are improving the website.

Furthermore, Interviewee 7 made a critical observation about the state of some websites and expressed frustration. He noted, literally translated, “You still see websites occasionally where you clap your hands together over your head”, which would translate to “You still come across websites that make you shake your head in disbelief”. Interviewee 4 agreed, stating that many hotel websites are not functioning properly. Adding specific functionalities often lacking in hotel websites, such as free cancellation, he or she noted, “You are usually out of luck when dealing directly with the hotel”.

Interviewee 2 emphasised the lack of standards: “The small ones often have very poorly functioning websites”.

However, the navigation and user experience of large hotel chain websites such as Marriott and Steigenberger were described by Interviewee 2 as terribly complex and confusing. These require multiple clicks to navigate to specific cities and hotels. Even though the websites can be professionally managed with payment systems, finding options, including discounts and special offers, was described as overly complicated and off-putting.

Furthermore, multiple respondents expressed the perception that small hotels have poorly functioning websites; one respondent also noted that guests may feel insecure about providing credit card details to these hotels. Interviewee 2 was sceptical of the ability of such businesses to handle credit card details. He conveyed uncertainty about whether transactions had even occurred.

The level of trust in direct booking transactions on hotel websites is influenced by the geographical regions where the hotel is situated. According to Interviewee 7, hotels in Germany, Austria, and Switzerland tend to garner higher levels of trust than more distant destinations.

Interviewee 8 felt that trust in legal security might be higher through portals like Booking.com, “Yes, I do believe that many people think that the legal security on these portals is much higher, even though they are the same contracts”.

Interviewee 4 believed that some hotels still are not ready to offer a convenient booking option, making portals like Booking.com more appealing.

Despite a consensus amongst critics at the organisation level (regardless of big chains or small private hotels) and the lack of trust in their ability to attract direct bookings, one interviewee (7) acknowledged some positive developments in the area. These included better website integration and functionalities, such as mouseover price comparisons with gatekeepers. He or she noted: "wenn man mit der Maus drüber geht, das dann steht hier kriegen sie den besten Preis oder auch so kleine Preisvergleich Tools”.

Interpretation

In the increasingly digitalised world, the quality of the user experience (UX) on websites, especially in e-commerce, has become crucial. The perceptions of stakeholders in the accommodation sector suggested that they were aware of the gap between customer expectations and the current state of hotel websites. The decision-makers acknowledged that guests are accustomed to fast, convenient platforms and now expect the same from direct hotel websites, which need to be accounted for in the framework aimed by this study.

A recurring theme was dissatisfaction with the quality and functionality of booking forms used by both large chains and small providers. Frustrations were expressed not only with navigation but also with their overall booking capabilities.

Decision-makers' perception of direct booking channels was that they fell short of what guests expect in terms of ease, speed, and control. This gap makes intermediaries more attractive, not just for their reach, but also for their reliability and trustworthiness.

These are standard features of search engines like Google and intermediaries like Booking.com. This suggests that guests have redefined their expectations of what a ‘normal’ booking experience looks like, not based on hotel websites, but on intermediary platforms from gatekeepers.

This deficiency in UX extended to concerns about trust and security. Because booking accommodations is an intangible process that involves sensitive data, trust becomes a central factor. It can be interpreted that guests potentially feel safer using intermediaries due to better-known systems and payment flows.

The uncertainty and perceived insecurity in the booking process, particularly with credit card transactions, emerged as a concern among decision-makers. This lack of trust undermines efforts to encourage direct booking, especially for smaller or unfamiliar accommodation service providers.

Perceptions of legal security, regional differences in trust, and the complexity of large chain websites also added to the multifaceted challenges faced by the accommodation sector in attracting direct bookings. These issues point to more than technical deficits; they reflect a wider readiness gap in the sector's ability to offer a trustworthy and competitive digital alternative. This finding shows that, in addition to technology itself, the actual organisational capabilities of service providers are a central element within the organisational context of an adapted TOE framework.

Consensus – Capabilities and Organisational Readiness O.3

The strong challenge for the accommodation sector is to encourage direct bookings by improving the usability and functionality of their websites, especially concerning payment procedures and legal issues, with both large chains and small operators experiencing similar challenges.

4.3.4 Strategy and Finance | O.4

The above consensus regarding the lack of capability to adapt even basic ICTs to improve the UX and professionally manage one's own booking channels is directly connected to dependency on intermediaries. Using intermediaries and negotiating commission rates is an important organisational factor.

However, the payment of commission to intermediaries could be interpreted as an external market factor in a traditional TOE framework. This study's findings adopt the factor in the organisational context because deciding whether to use intermediaries and paying the commission remains fundamentally organisational.

Regarding financial structures and the use of intermediaries, most decision-makers agreed on similar commission rates paid on the turnover generated.

One interviewee (7) stated, "from 7 to 10–12%, and if the intermediary is a tour operator, between 20%–25%". Other participants suggested a range of between 15% to 30% commission paid on the turnover, with varying experiences. Interviewee 8 noted from personal experience, "between 12 and 16%," Interviewee 10 stated "15%" and Interviewee 12 "10–20%".

The dominant position of specific booking platforms, like Booking.com, was recognised. They were said to dictate terms, with some charging as much as 25% or 30% commission: "Booking.com is the highest” (Interviewee 11).

Interviewee 7 remarked that specialised intermediaries are running special promotions and potentially charging up to 40% commission. This interviewee also added that, sometimes, that percentage might be exaggerated.

Conflicting opinions emerged regarding hotels' obligation to provide the lowest prices on third-party platforms, such as a "Best Price Guarantee" that could offer even more competitive rates than those available on their websites.

One participant noted, "Unfortunately, it is still often the rule to be able to offer, and sometimes even have to offer, the lowest price on booking platforms. Cheaper than on one's website” (Interviewee 12), while others opposed this, saying that this rule is not in place anymore.

Interviewee 1 highlighted an interesting point about the rise of commissions when specific interfaces, such as Feratel Deskline, connect different intermediaries, leading to higher commissions.

Another interviewee (6) said that with a 15% commission and a 100€ net turnover, around 12% to 13 - 14% operator profit remains. One interviewee (4) noted a lack of awareness among customers regarding such commissions and observed how platforms strive to conceal profits made from commissions of intermediaries.

One interviewee (11) avoided intermediaries, emphasising that this decision was not solely based on financial factors but was deeply embedded in the organisational mindset. The interviewee stressed the independent nature of their chain.

Interpretation

Within the TOE framework, organisational factors play a significant role in driving the adoption of technology. The data regarding the high commissions paid to intermediaries was interpreted as follows:

The range of commission percentages paid on the turnover varied slightly when the decision-makers were asked about the commission percentages that must be paid to intermediaries. The financial pressure created by commission rates ranging on average from 12% to 25% was interpreted as a significant motivator for organisations in the accommodation sector to explore alternative, cost-effective solutions.

Consensus – Organisational Strategy and Finance O.4

The accommodation sector pays commissions of 12–25%, and often more when using intermediary platforms, underscoring the motivation of the hotel industry to become independent from intermediaries to improve margins on the one hand and to regain direct contact with guests on the other.

4.3.5 Thematic Network Diagram Organisational Context

Each sub-theme of the organisational context was condensed into a consensus statement. These statements will be further evaluated in the second Delphi round in Chapter 4.7. When a consensus on a statement is reached, it will become a contextual factor within the organisational context in the novel framework TOEDI. The following network diagram displays the major theme organisational context from the traditional triad of the primary TOE framework, with the identified sub-themes and consensus statements O.1–O.4.

Figure 4 Thematic Network Organisational Context (Ribes Vicente, 2023)

4.4 Theme Disintermediation Context

Within the scope of the study, which addresses the blockchain-specific disintermediation context posed in the research problem at the beginning of this study, a significant emphasis was placed on understanding the nuances of decision-makers' perceptions and knowledge of the technology under consideration. By exploring this perception, the study aims to reveal the extent to which these decision-makers are familiar with the concept of decentralised blockchain-based booking systems and their potential integration of such systems into their organisational structures in the foreseeable future.

As the feasibility pilot study in Section 3.6 has already indicated, there is a potential disconnect between academic discourse and the perceptions of decision-makers regarding the influence of blockchain on the intermediation of accommodation services. The methodology chapter and interview design justified the use of an organisational chart to illustrate the core concept of disintermediation in blockchain contexts, as conceptualised initially by Nakamoto (2008).

Under the social constructivist paradigm of this study, this method was justified and enhanced the discussion to ensure that decision-makers express their perceptions towards a technology, so that they clearly understand the core functions designed to bypass centralised intermediaries. In the case of the accommodation sector, intermediaries like OTAs and booking portals play a significant role.

Furthermore, the literature review in Section 2.4 outlines that, drawing on Christensen’s (1997) theory of Disruptive Innovation and its extension for future researchers by Christensen et al. (2018), blockchain’s disintermediating potential could exert a disruptive influence in traditionally centralised markets, such as the intermediation of accommodation services.

Guided by Braun and Clarke’s (2006) thematic analysis approach, the findings in the subthemes are condensed to statements for a further Delphi Consensus technique. These findings form key factors in the disintermediation context of TOEDI, reflecting a combined knowledge from academic discourse and practical realities about the potential influence of blockchains on the accommodation sector.

This study, as outlined in the identified academic gap, is the first to adopt a social constructivist paradigm to examine the potential disconnect between academic discourse and practical application regarding blockchain in the accommodation sector. By integrating this perspective into an extended innovation adoption framework, the study contributes to a deeper understanding of how emerging technologies are adopted, particularly when key end-users are unfamiliar with the technology, which may lead to alternative adoption trajectories.

4.4.1 General Knowledge | D.1

This sub-theme is closely connected to the critical literature review, where it was revealed that the keywords "Tourism" and "blockchain" had been partly growing exponentially in terms of being retained as search results when sourcing academic papers (SCOPUS, 2023). However, this study highlighted a gap between academic discourse and awareness among practitioners:

Only one respondent, interviewee (5), identified blockchain directly as an emerging technology that could potentially influence the tourism industry in the future. No other participant used the keyword "blockchain" when asked.

The knowledge of the decision-makers was diverse. A subset connected it to the field of finance, where the technology was scaled and adapted successfully for the first time. Interviewee 4, who works in the finance sector in business travel management, said that their transactions run on blockchain technology. He or she emphasised the importance of encryption and security, noting that only specific individuals can access data and content.

Aside from Interviewee 4's experience in finance, other decision-makers also identified applications in the financial sector. Interviewee 3 associated blockchain with a sense of liberation from conventional financial systems. Interviewee 9 added to this by stating that transactions occur without the bank's involvement as an intermediary.

On a related note, Interviewee 10 identified Bitcoin as a valid payment method, with a focus on potential tax-related challenges. He or she illustrated a scenario

where using Bitcoin might lead to sales tax issues if the booking's value decreases.

To develop the specific use of blockchain in finance, another subset of participants had a broad understanding of the technology's decentralised nature without connecting it to tourism or intermediation services.

Interviewee 5 discussed the functionality of blockchain, stating that it cannot be overwritten, resulting in no loss of information. The entire decentralisation behind blockchain ensures that everyone is treated equally and that all participants always have the most current version. Additionally, there is no intermediary, so transactions are direct, as noted by Interviewee 5.

Expanding on the theme of decentralisation, Interviewee 2 highlighted the absence of intermediaries in the marketplace, explaining that thousands of people can simultaneously negotiate, offer, and buy from each other.

One participant acknowledged the untapped potential of blockchain (Interviewee 7). Multiple interviewees were unsure about blockchain; for example, Interviewee 9 felt easily overwhelmed by the topic, while Interviewee 1 found it hard to engage with the concept.

Interviewee 2 struggled to comprehend the potential: "I am trying to understand what the potential is; I do not get it, so just to be clear, one knows it from logistics or production or other areas of focus". A number of respondents expressed a complete lack of familiarity with blockchain technology. Interviewees 8 and 11 stated "No", while Interviewee 12 confirmed a lack of personal engagement.

Interpretation

The participants' insights reveal a limited understanding of blockchain technology. While acknowledging potential in decentralisation and applications in sectors like finance and supply chain, others admitted to perceiving complexities and challenges in grasping the technology's full extent. This reflects a pattern of low awareness, where blockchain is vaguely understood as a financial or technical tool, but its relevance to accommodation services is unclear to almost all. Notably,

only one decision-maker (5) was able to name direct applications of blockchain within the tourism context. The others associated blockchain mainly with crypto-currency, decentralised finance, or general IT infrastructure.

The data suggest that, although there is general knowledge among decision-makers, the potentially disruptive influence of blockchain on the intermediation of services in the tourism industry is widely unknown. This lack of knowledge aligns with pilot inquiries of this study made to other tourism experts prior to this empirical research. This disconnect between academic discourse and practitioners' awareness reinforces the research gap of this study: while academic publications increasingly explore blockchain's influential role in tourism, decision-makers have limited or no exposure to these developments. Without this, the adoption of blockchain-based booking systems is unlikely, even if initial real-world applications have been presented, such as Winding Tree (2023), as discussed in Section 2.3.3 of this study. This sub-theme supports the need to expand the traditional TOE framework into a TOEDI model. The addition of 'D' for Disintermediation reflects the importance of addressing sector-specific challenges, particularly the lack of knowledge about a technology and its adoption.

Consensus – General Knowledge D.1

General understanding of blockchain technology varies widely in the tourism industry, from a detailed understanding of the decentralisation and security aspects and specific applications in the financial world to the fact that it is fundamentally a technology with potential without *specifying it*, and finally, to unawareness.

4.4.2 Intermediation Tourism | D.2

A number of respondents recognised blockchain's general potential, but almost all lacked a specific understanding of its application, particularly in tourism service intermediation.

For example, Interviewee 7 acknowledged the potential relevance of blockchain but had not yet engaged with it. A similar sentiment was echoed by Interviewee 2, who had attempted to understand the potential but did not yet fully grasp it.

Interviewee 6 speculated about a decentralised accommodation-sharing community where all providers and customers have access, and customers and products are brought together.

The connection between blockchain and the tourism industry appears elusive to the participants. While a limited number possessed tangential knowledge of blockchain in contexts such as finance, as with Interviewee 4, most indicated that they had not specifically contemplated or encountered the application in tourism (Interviewee 1), stating "on the subject of blockchain and tourism not yet actually" (Interviewee 4), "Not in Detail" (Interviewee 3), and "I have not dealt with it" (Interviewee 12).

As outlined in this study, only Interviewee 5 directly pointed to practical applications of blockchain in the intermediation of services in the tourism industry.

Interpretation

This sub-theme builds on the previous one by demonstrating that the limited general knowledge of blockchain among decision-makers is, perhaps unsurprisingly, accompanied by an even more limited understanding of its potential application in the tourism industry, especially in the context of accommodation service intermediation. While a limited number of respondents showed superficial knowledge, there was little substance to their knowledge. It was interpreted that, despite the topic raising academic interest, decision-makers had a minimal understanding of blockchain's potential for a decentralised booking channel in the accommodation sector. This suggests a further disconnect between academic discourse and the practical awareness of these innovations.

The absence of knowledge in this context could allow for several interpretations. It suggests that blockchain integration in the tourism industry was not widely publicised in non-academic industry-specific publications. Alternatively, it potentially reflects a broader lack of understanding or engagement with emerging technologies.

Consensus – Intermediation Tourism D.2

In the tourism industry, the potentially substantial impact of blockchain in the intermediation of hotel bookings, which has been intensively researched and published in tourism research for years, is largely unknown.

4.4.3 Disintermediation and Disruption | D.3

After exploring the general characteristics of blockchain technology and its potential impact on the intermediation of accommodation services, a discrepancy was observed: while academic interest in the topic is growing, decision-makers in the accommodation sector are not as engaged. This observation aligns with the results of a pilot study and supports the use of organisational charts, as justified in the methodological design of this study. The chart can be found in Appendix 5, which depicts the blockchain technology smart contracts, the status quo of the oligopoly of intermediaries, and the potential influence of a decentralised blockchain-based booking system that displaces OTAs and booking platforms to a niche.

This methodology aligns with social constructivism, which posits that meaning is constructed through interaction and dialogue. The aim was not to find a definitive technological answer from the decision-makers but to understand their perceptions of potential adoption.

After verbally explaining the theoretical idea of blockchain as a decentralised system for direct booking to all decision-makers, they were shown a visual representation.

Almost all decision-makers immediately understood the visualised concept of a decentralised blockchain-based booking system. Interviewee 1 responded: "It is an addition to the existing channels, so to speak". The perception of the visualised proposed impact on intermediation was confirmed with "Clearly yes" (Interviewee 8), "Definitely" (Interviewee 6), and Interviewee 12 expressed enthusiasm for a change in the intermediation market.

Furthermore, participants contemplated the potential of blockchain to displace traditional intermediaries. Interviewee 9 suggested that intermediaries might entirely disappear from the marketplace. Interviewee 11 also felt that some booking platforms could be displaced entirely. This sentiment was supported by Interviewee 2, who wondered whether intermediaries might disappear with a straightforward question. He asked, “Yes, why not?”

Interviewee 8 reflected on how emerging technologies in the tourism industry have shaped the intermediation market in the past, such as Booking.com, HRS, and the emergence of the WWW. He/She stated further that new technologies may enable possibilities that we may not yet fully comprehend or be involved in.

The conversation extended to the implications for other platforms, as Interviewee 8 stated that review aggregating platforms could be disintermediated. Interviewee 7 considered that systems, such as yielding systems, could become obsolete, stating: "Rate Tiger and others, all these things might also become obsolete".

Interviewee 6, for instance, affirmed that blockchain could displace those who now possess market power to a niche, as displayed in the visualisation.

This sentiment was echoed by Interviewee 1, who stated that market power could diminish, and the tables could turn. In alignment with this view, Interviewee 7 mentioned that big intermediaries could lose their market power. Further reflecting on market power, one decision-maker added that the whole market logic would turn around (Interviewee 3).

These perspectives culminated in Interviewee 2's insights, which pointed out that the idea of intermediaries as central authorities could be theoretically old-fashioned and outdated by the advent of technology. Furthermore, Interviewee 2 argued that intermediaries such as travel agents would be unnecessary if the technology emerged.

The dialogue concluded with a strong consensus among decision-makers that blockchain-based booking systems could theoretically displace intermediaries by

introducing a direct and trusted relationship between service providers and consumers.

Only one (Interviewee 10) did not see it as a “game-changer”, but later added that he could imagine it could become a game-changer when combined with AI.

Interpretation

This sub-theme reveals a notable shift: once the decision-makers, who were previously unfamiliar with blockchain technology (as shown in D.1 and D.2), were exposed to the concept of a decentralised blockchain-based booking system through visualisation and explanation, several quickly recognised its disruptive potential. This suggests that potential barriers to adopting such a decentralised system are not rooted in resistance, but rather in a lack of prior exposure to the academic discourse, outlined in the literature review of this study.

The decision-makers, after understanding blockchain's inherent architecture for disintermediation, perceived the technology as capable of entirely replacing dominant intermediaries. This suggests that the perceived dominance of OTAs may be more fragile than previously assumed.

Several respondents underscore the perceived disruption, from Interviewee 9's projection of the potential disappearance of intermediaries to Interviewee 11's similar assertion. Their insights align with the broader academic discourse, suggesting a fundamental reshaping of market dynamics.

This consensus suggests that the idea of intermediation itself is being reconsidered, aligning with literature that positions blockchain as a tool to restructure platform-based market power.

Reflecting on the historical influence of emerging technologies, Interviewee 8 parallels the transformative impact of platforms such as Booking.com and Hotel Reservation Service (HRS) in the advent of the WWW. ICT and tourism have been historically interrelated, and emerging technologies have consistently reshaped the tourism industry landscape.

The dominance of large intermediation platforms could be significantly challenged, as suggested in the literature and echoed by Interviewees 6 and 7.

This broader theme of power redistribution is encapsulated in the insights of Interviewee 2, who questions the conceptual basis of intermediaries as central authorities, suggesting that, as technology advances, this notion will potentially become obsolete soon.

Another pertinent observation is the potential obsolescence of other systems, such as review aggregation platforms and yield systems. This extends the disruption narrative beyond intermediation, suggesting a broader overhaul of tools and platforms currently considered essential.

These insights into the perceptions of decision-makers, once informed about the academic discourse on blockchain's disruptive potential, confirm the relevance of expanding the TOE framework into the TOEDI framework.

The inclusion of 'D' for Disintermediation reflects blockchain's inherent potential for disintermediation and disruption, which directly addresses the research gap and the blockchain-specific research problem formulated at the beginning of this study.

Consensus – Disintermediation and Disruption D.3

Blockchain technology theoretically has the potential to fundamentally impact booking processes by creating a new, direct, and trustworthy relationship between service providers and consumers, displacing traditional intermediaries and thus redistributing market power.

4.4.4 Scepticism and Practicality | D.4

The overall sentiment of the decision-makers was positive towards the theoretical idea of adopting a decentralised blockchain-based booking system. Interviewee 8 felt it could be changed or eliminated if it did not work.

Despite this, some sceptical statements have been made about the industry-specific practicality of adopting the technology and its operational. Interviewee 2 stated, “Yes, I can imagine that, but at the moment, it is incredibly abstract; it is really abstract”. Interviewee 5 added that he agrees if the technical application is not considered.

Interviewee 7 felt that the technology offers all the features that other booking technologies offer.

Despite scepticism about the practical adoption of blockchain, Interviewee 6 spoke about the technological progress made with AI, which could indicate a positive trajectory for blockchain. Interviewee 10 noted sceptically: “Not yet a game changer at the moment”. However, later, he could see that, in combination with AI, it could be a game-changer.

Regarding practicality, Interviewee 1 asked how stakeholders gain access to this market. Interviewee 8 voiced concerns about reactions from existing market players like Google, noting: “I think Google will not be happy, however, and the other market participants will be”.

Interviewee 6 was concerned about what might happen if hotels adopt this technological solution; something more powerful is created than traditional intermediaries like Booking, Airbnb, and others.

Interpretation

Overall, the data can be interpreted as a complex landscape of attitudes, balancing conceptual acceptance with a realistic assessment of the challenges ahead in adopting blockchain-based booking systems.

Sceptical considerations also extend to market dynamics. Interviewees raised structural concerns about how decentralised systems would be accessed and governed, pointing to questions of dominant gatekeepers and integration with existing structures.

There was also a clear recognition of potential resistance from incumbents. Respondent 8's mention of Google illustrates concerns about how dominant companies might potentially respond to a decentralised framework, suggesting potential power struggles and resistance. This suggests that technological feasibility alone will not determine adoption. Market power and dynamics in the intermediation sector remain key factors, which are reviewed in the external context of TOEDI in subchapter 4.6.

Finally, regarding the potential impact of hotels adopting this technology, Respondent 6 raised a poignant point, suggesting that adopting blockchain could inadvertently create entities that are even more influential than current intermediaries such as Booking or Airbnb. This perspective highlighted the unintended consequences and the potential for the technology to reshape power dynamics unexpectedly.

It is crucial to note the nuanced perspective of Interviewee 10, who, initially sceptical, acknowledged the synergistic potential of combining blockchain with other technologies such as AI. This highlights the crucial perception that blockchain's integration with other emerging technologies, such as AI, has the potential to significantly influence its adoption, particularly by enhancing its practical applicability. This connection was discussed in the literature review under the emerging concept of Blockchain 4.0, especially concerning the role of information aggregation in decentralised booking systems.

Consensus – Scepticism and Practicality D.4

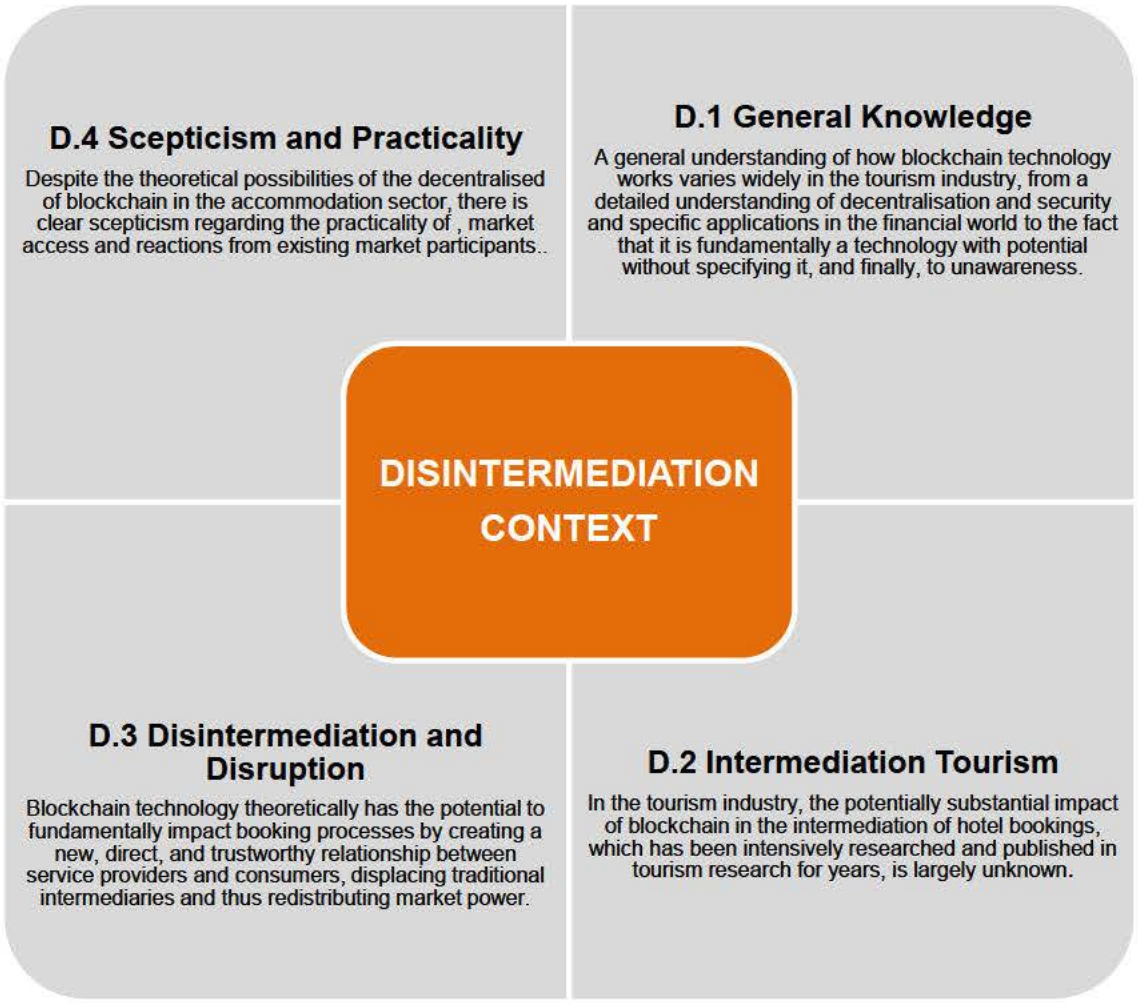
Despite the theoretical possibilities of the decentralised of blockchain in the accommodation sector, there is clear scepticism regarding the practicality of blockchain, market access, and reactions from existing market participants.

4.4.5. Thematic Network Diagram – Disintermediation Context

The major theme of the disintermediation context is an extension of the primary TOE framework to address the specific research problem of this study, which concerns the disruptive potential that blockchain can develop. Within the major

theme of disintermediation, four subthemes were identified: D.1–D.4, each condensed into a consensus statement. These statements are evaluated in the second Delphi round in Chapter 4.7. When consensus on a statement is reached, it will become a contextual factor within the disintermediation context in the novel framework TOEDI, as illustrated in the consensus statements D.1–D.4 in the thematic network diagram below.

Figure 5 Thematic Network Disintermediation Context (Ribes Vicente, 2023)



4.5 Theme – Technological Context

The last major theme captured perceptions of blockchain technology in general and its potential adoption by decision-makers as an additional booking channel. The interpretation of the data revealed that no decision-maker knew that this technological possibility had the potential to emerge. However, this potential is widely discussed in the academic community, suggesting a disconnect between academic discourse and practical application.

Despite the disconnect, several sceptics have been raised about the practical application following the revelation of its academically disputed potential.

The overall interpretation sheds light, for the first time empirically, on the potential adoption of blockchain-based booking systems and the subsequently emerging disruptive forces capable of displacing traditional intermediaries, such as Booking.com, as described in the extant literature.

This sub-theme explored the perception of the sector-specific challenges, benefits, and responses to data interchange and security.

4.5.1 Perceived Technological Challenges | T.1

Integration compatibility is a critical factor that impacts the adoption of new technologies. In most TOE frameworks, the complexity of integration and interoperability, as well as sector-specific operational demands, reveals potential barriers.

Asked about the main challenges to integrating blockchain-based booking channels, one interviewee (9) highlighted the lack of competence as a significant challenge. This corresponds to the major theme of the organisational context of this study, which highlighted the lack of capabilities in adapting technologies.

Several interviewees discussed the tourism sector-specific challenges associated with integrating new technologies, such as blockchain, into existing systems. Interviewee 7 emphasised the importance of matching interfaces or replacing traditional systems. Interviewee 6 saw it as a disadvantage that systems must be

adapted and changed, and sector-specific interfaces must be programmed. Interviewee 7 suggested, "… to interconnect data from old systems with new ones, and that is, of course, also a huge challenge".

The sector-specific systems that contribute to the challenges were identified as price-yielding systems and Property Management Systems (PMS). A PMS in a hotel is a comprehensive software solution that manages all operational tasks such as bookings, guest check-ins/check-outs, room rates, and billing, and enhances efficiency (ORACLE, 2023).

Interviewee 7 saw several challenges for software developers, not hotels. The developers must find innovative solutions for the PMS that handles the data, which is more important than the hotels.

Interviewee 7 brought yield systems into the discussion. A yield management system in the hotel sector is a pricing strategy that employs algorithms and data analysis to dynamically adjust room rates based on factors such as demand and market conditions, aiming to maximise occupancy and revenue (Vinod, 2016). Interviewee 7 stated that the accommodation sector needs matching interfaces for blockchain.

Several interviewees raised concerns about integrating complex service packages, like bespoke travel tours or hotel packages. Blockchain technology may potentially be less effective in dealing with specialised tasks, adding complexity (Interviewee 7). He/she adds that blockchain probably cannot offer solutions, and automation fails.

Other interviewees stressed that the growing influence of technology had created new jobs, but there were not enough skilled people to fill them. This problem is particularly acute in the accommodation sector, where technological knowledge is often lacking (Interviewee 5).

Implementing blockchain-based booking channels may involve significant costs and time, particularly in terms of training and adaptation. Some also pondered

whether it would reduce workload or add additional complexity before automating processes in all channels (Interviewee 7).

Besides HR resources, one interviewee (3) emphasised that energy resources are crucial in integrating blockchain and that its “unhuman/extremely high” server capacities need energy.

Interviewee 6 discussed risk management and considered an electrical blackout, suggesting that pen-and-paper methods, such as telephone reservations, are effective if booking platforms are unavailable.

Interviewee 10 considered legal integration problems and terms and conditions that must be signed everywhere beforehand.

Interpretation

This sub-theme revealed nuanced perceptions of the industry-specific integration challenges associated with blockchain-based booking systems.

Firstly, decision-makers identified the complexity of integration as a key challenge amplified by a perceived lack of competence. This aligns with the organisational capability issues noted in previous sub-themes in 4.4.

The interviewees expressed strong concerns about managing interfaces and data systems, noting the expertise required to adapt to these challenges.

These perceptions were reinforced in tourism industry-specific contexts, such as the accommodation sector, where PMS systems connect all touchpoints with the consumer throughout all phases of their stay. This implies that integration failures within PMS systems potentially directly affect guest experience, making the successful adoption of decentralised booking systems particularly challenging in the accommodation sector.

Decision-makers viewed the issue of human resources and skills development as integral parts of the process. They recognised the growing gap between technological growth in Germany and the availability of skilled personnel (in German,

“Fachkräftemangel”). This reinforces the need for sector-specific upskilling strategies, especially where digital transformation lags the adoption of innovation.

Economic considerations, including the expected cost of adoption and energy consumption associated with blockchain, were also discussed by decision-makers.

In addition, these decision-makers perceived limitations in blockchain's ability to integrate specialised, tourism-specific bundles of services across different service providers in one journey.

While these integration challenges were perceived as significant, several saw them as solvable, especially with the potential of technological advances, particularly in combination with AI. This relates to the sub-theme about emerging technologies in 4.3, where the decision-makers noted the future influential role of AI in tourism.

The decision-makers’ general perception was interpreted as a belief that integrating new booking channels based on blockchain in their respective organisations can be achieved with thoughtful planning and innovation.

These insights underscore the importance of addressing both the technological and organisational contexts through a network innovation adoption framework, such as TOEDI, as justified in the literature review in Section 2.4.4.

Consensus – Perceived Technological Challenges T.1

Integrating blockchain technology in tourism, particularly in the accommodation sector, creates several industry-specific challenges, ranging from the complexity of service bundles, staff development and skills shortages, to compatible interfaces with PMS and other systems.

4.5.2 Perceived Technological Benefits | T.2

After exploring the perceived challenges, this study identified recurring patterns around the perceived benefits of blockchain-based booking systems. A salient point was the cost savings that would result from emphasising direct bookings,

and the paid commission and dependency on traditional gatekeepers, such as Booking.com or Airbnb, would be reduced. Interviewee 5 states, "The motivation to get away from the big market power is, of course, massive among hoteliers".

Interviewee 11 emphasised that cost is always integral and weighed according to a cost-benefit ratio. Interviewee 7 noted that lowering the commission would likely reflect better results for hotels rather than lower prices for the customers.

Interviewee 10 noted that if value creation remains with the hotel owner, it becomes an interesting solution. Interviewee 6 noted that the displacement of intermediaries would double the portion of the profit “pie”.

The decision-makers emphasised the perceived benefit of cost-saving, although consumers may not perceive it as a benefit. Interviewee 4 noted that customers may not be aware that platforms like Booking.com charge commissions.

Interviewee 2 summarised that such blockchain-based booking systems would make sense if they were more economical, easier, and safer.

The perceived cost-saving benefit also reflects that service providers need not invest heavily in marketing. Interviewee 6 noted that this approach could pave the way for smaller businesses to challenge major market players through effective, budget-friendly marketing strategies.

As this study suggests the major theme of disintermediation highlights that blockchain technology and its adaptation in the tourism industry are largely unknown. However, the apparent disconnect between academic discourse and practical application suggests that examining how decision-makers perceive benefits bridges an overlooked research field.

Blockchain's unique attributes, such as enhanced security, transparency, and decentralisation, are increasingly recognised as key advantages. However, Interviewee 2 highlights that the term 'blockchain' carries a negative connotation in the tourism industry, linked to its association with Bitcoin and a perceived sense of complexity and insecurity. Furthermore, Interviewee 9 stated that it is all about marketing and shaping a positive image. Moreover, the success of marketing the

perceived benefits is closely tied to the image, as reflected in Interviewee 7's statement regarding the acceptance of blockchain compared to the brand image of Google, which is reflected in “correct answers to search inquiries”. Then it would be accepted according to Interviewee 7.

Interviewee 2 pointed out the need for practical examples and tangible benefits to engage the masses. Interviewee 2 believed that a strong marketplace with clear, tangible benefits is necessary to make the technology work and engage mainstream adoption.

Moreover, Interviewee 2 recognised the importance of identifying the target audience, noting that there may be varying demands across areas like business travel, leisure, and tourism. These varying demands could attract different first-movers.

The integration of blockchain as a network that could enhance visibility and the ability to stand out among competitors was perceived as beneficial (Interviewee 1).

Although there were several contemplations of perceived benefits, when asked what could potentially hinder the development of blockchain, Interviewee 7 saw no reason why this technology could not simply replace the others if it could do everything that other systems can.

Besides the potential perceived benefits, Interviewee 6 felt that the younger generation could be more familiar with booking with such a new system than the older generation.

Another interviewee (5) questioned the perceived benefit of excluding intermediaries as contacts, suggesting it could be a disadvantage if guest services are automated.

Finally, an interesting point for future research surfaced. While acknowledging cost-cutting as a benefit, Interviewee 11 asks how such a decentralised system could make profits.

Interpretation

A key pattern in this sub-theme is the perceived benefit of cost savings. Several decision-makers recognise that blockchain has the potential to offer significant cost benefits for service providers by reducing commission and facilitating budget-friendly marketing strategies.

The prospect of bypassing traditional intermediaries such as Booking.com or Airbnb and reducing commission costs was perceived as a significant benefit. As expressed by respondents 5 and 7, this sentiment underlined a widespread desire among hoteliers to reduce their dependence on dominant market players. As explained by Interviewee 6, the numbers game demonstrates the potential doubling of profit margins, highlighting the tangible monetary benefits that blockchain potentially offers. However, this cost-saving benefit had a double edge: while service providers recognise the financial benefit, consumers may not be aware of the commission structures behind the intermediation platforms they frequently use, as noted by Interviewee 4.

However, concerns about consumer perception towards the technology offset these potential benefits. Several interviewees perceived that the potential benefits of blockchain-based direct booking systems do not resonate with the average consumer. The association between blockchain and Bitcoin, as well as the perceived complexity of these, were seen as barriers to public acceptance, requiring effective marketing to communicate the benefits and overcome negative connotations. The need for effective marketing and image building to communicate the benefits was evident, with several interviewees emphasising the importance of presenting blockchain positively.

The challenge lies not only in promoting the technology but also in creating an image that demonstrates its user-relevant, tangible benefits, as suggested by Interviewee 2.

An interesting research topic for future researchers, as suggested by Interviewee 11, is how this blockchain-based booking system would sustain itself financially.

The findings in this sub-theme highlight that the perceived technological benefits of blockchain must also be understood concerning both organisational and external contexts, such as guest dynamics, underscoring the need for a TOEDI framework that includes different actors.

Consensus – Perceived Technological Benefits T.2

The perceived benefits of blockchain include cost savings and reducing the market dominance of large intermediaries, although communicating these benefits to hotels and guests is seen as a challenge.

4.5.3 Data Access and Security | T.3

Alongside the above-perceived benefits and how they can be communicated, another sub-theme emerged about security and direct data interchange without intermediaries.

Interviewees emphasised that trust in the technology was a prerequisite to adopting a new technology (Interviewee 12). He/she felt that this was more likely to happen in the international market than in Germany.

The interviewees perceived blockchain as a secure technology that could foster trust, akin to established platforms like PayPal. Interviewee 7 saw blockchain possibly taking on a similar role in guaranteeing customer security.

Another interviewee (4) did not see data security and interchange as critical, as many customers give little thought to what happens to their data. However, he/she perceived blockchain and its universal accessibility of complete data as a valuable tool to improve data quality and reduce overbooking when service providers, such as hotels, use different systems.

Data interchanges through blockchain were noted by Interviewee 4 and could be helpful to reduce the need to provide the same information repeatedly across different platforms, noting “one customer number and use it on all possible platforms”.

The advantage of direct and precise interchange of customer data, without an intermediary, was also underscored by Interviewee 12 as a step towards establishing more efficient systems.

This notion opened the possibility of a more targeted approach to data usage, which is integral to tailoring services to individual preferences.

One interviewee reflected on the ongoing shift from packaged to individualised travel experiences (Interviewee 12). Another interviewee (2) emphasised the tourism industry-specific characteristic of service bundles that an emerging technology like blockchain must interconnect for the consumer.

During the interviews, several decision-makers discussed data access and interchanges from a customer perspective. For most interviewees, the concept of a digital wallet for blockchain users, such as storing Bitcoin, was unknown.

Besides bundling different service providers, the ability to specify quality criteria and personal preferences in the personal data was also significant for blockchain adoption. Interviewee 10 emphasised the technological combination of blockchain and AI, suggesting that when customers could save their preferences, this would be a game-changer. Interviewee 2 agreed that consumers should be able to save preferences in the blockchain wallet, such as quality, sustainability, child-friendliness, accessibility for seniors, or disability access.

Interviewee 12 noted that continuous learning from the customer data could make the user experience simpler by knowing “everything” once they have booked, as the service provider can access data about the customer's previous experiences.

Interpretation

The interviews revealed multifaceted perceptions of the role of blockchain technology in accommodation, with a particular focus on data security, data exchange, and user experiences through a personal blockchain wallet. While there was consensus on the technology's potential to foster trust and streamline data exchange, opinions varied regarding its practicality and how it could be effectively adopted.

The disintermediating context and the technology's ability to deal directly with guests' data were seen as key benefits.

The need for a more streamlined data exchange system to avoid data redundancy was discussed, pointing to the potential to improve the UX through features such as a blockchain wallet. This reflects growing demand for frictionless digital infrastructure that adapts to personal needs.

The integration of blockchain with other technologies, such as AI, was seen as a potential game-changer, offering more customised and efficient services.

The thematic analysis suggested that a decentralised booking system, based on blockchain with a personal wallet that connects directly with the service provider, could have the potential to offer a consistent booking process for guests. This directly addresses existing gaps in a trustworthy and smooth booking experience, as identified in earlier sub-themes within the organisational context of TOEDI in Section 4.3. This potential resonates with the findings of this study, which suggest that service providers in the accommodation sector often lack consistent, user-friendly, and trustworthy booking processes. Adopting blockchain-based booking systems potentially offers a way to bridge this lack and foster direct booking.

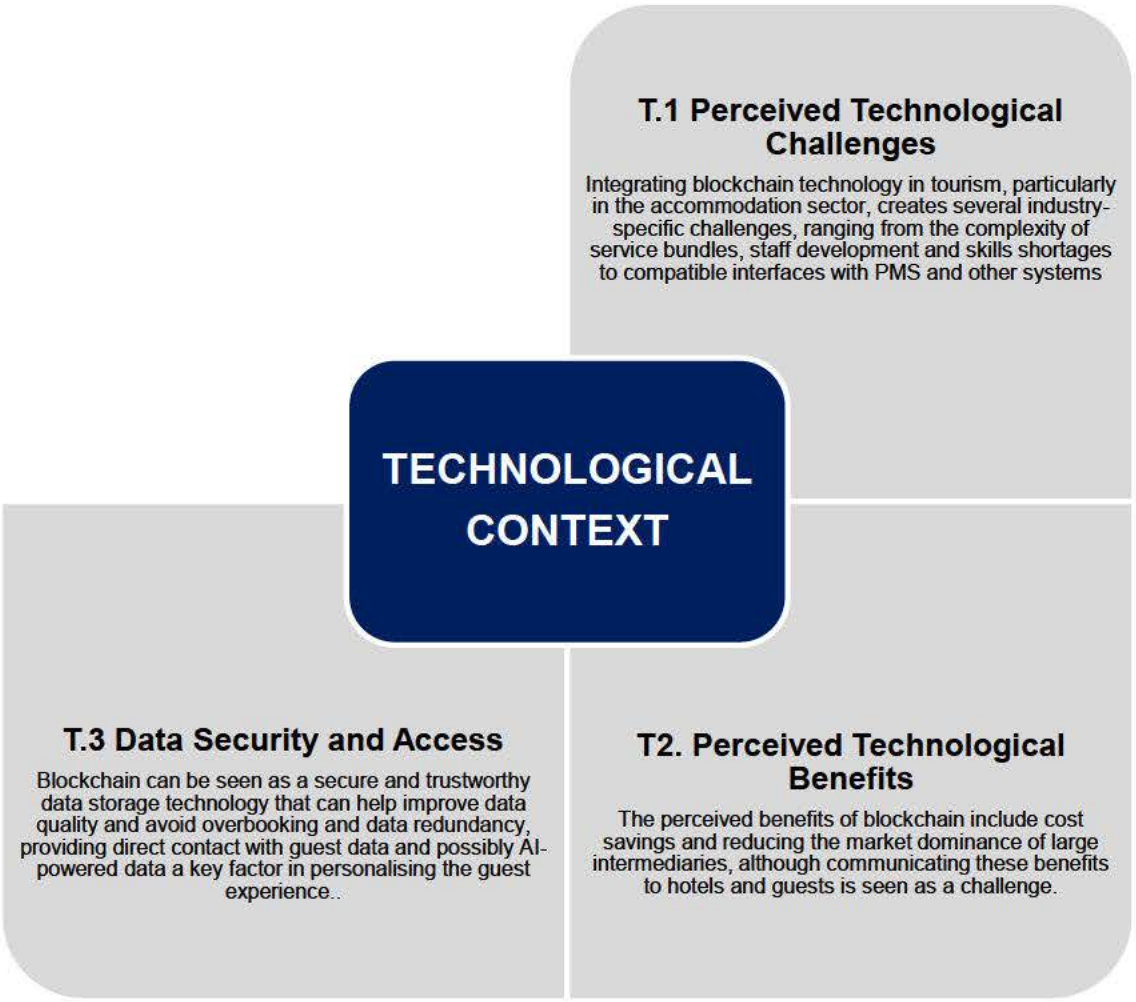
Consensus – Data Security and Interchange T.3

Blockchain can be seen as a secure and trustworthy data storage technology that can help improve data quality and avoid overbooking and data redundancy, providing direct contact with guest data and possibly AI-powered data as a key factor in personalising the guest experience.

4.5.4 Thematic Network Diagram – Technological Context

Each sub-theme of the major theme, Technological Context, was condensed into a consensus statement. These statements will be evaluated in the second Delphi round of this study, as presented in Chapter 4.7. Once a consensus is reached, they are integrated as the contextual factors within the technological context in the novel framework TOEDI. The following table shows a network diagram of the identified sub-themes and their consensus statements, T.1–T.3.

Figure 6 Thematic Network Technological Context (Ribes Vicente, 2023)



4.6 Theme – External Context

The last major theme explored the technological context, uncovering factors regarding integration challenges, perceived benefits, and data interchange. These factors are described as potentially influencing the adoption of blockchain technology. Blockchain's inherent disintermediating characteristics can potentially create disruptive forces to reshape the entire external market environment for service providers. Therefore, this major theme focuses on understanding the perceptions of decision-makers in the accommodation sector towards the intermediation market as an external market environment.

4.6.1 Market Dominance of Intermediaries | E.1

This sub-theme highlights participants' perceptions of the power of intermediaries.

One respondent noted that: "Booking.com has power" (Interviewee 11) and "wields immense power" (Interviewee 1). Another participant stated that the power of booking platforms is unaffected (Interviewee 9).

Another participant described the immense market power of intermediaries, with one describing it as "Damn market power, that is brutal" (Interviewee 5).

Interviewee 7's perceptions of the market dominance that they wanted to escape from, what he described as ‘gagging’ contracts in the German original: “Knebelverträgen”, which could be translated as "predatory contracts". Interviewee 8 echoed the word “gagging” contracts. Both expressions have an extreme negative connotation in German. This sentiment was echoed by Interviewee 7, who stated, in the German original, “aus dieser Kralle entfliehen,” meaning to escape from the ‘claws’ of the intermediaries.

Moreover, this market power enables intermediaries to set the rules (Interviewee 1), and their market power was often exploited (Interviewee 3). Interviewee 2 felt that the booking platforms, with their market dominance, put pressure on the service provider. Interviewee 3 states they “were at the mercy of intermediaries”.

Interviewee 11 felt that the entire German hotel market had to battle intermediaries since the platforms were so dominant.

To quantify the dominance of the intermediaries, Interviewee 8 estimated that 70% of his business came from booking platforms. Interviewee 10 echoes the exact same percentage.

Interpretation

There was consensus among the participants about the external market environment. The dominance of intermediaries such as Booking.com and Airbnb illustrates immense control over the market, shaping the rules, exerting influence, and putting pressure on service providers in the accommodation sector.

Their dominance was described as immense and brutal, mirroring the struggle faced by service providers. This has led to strong sentiments among service providers, with some comparing the situation to a battle. The use of emotionally charged language reflected their feelings of frustration, vulnerability, and dependency.

The fact that around most bookings come through these platforms underlines the oligopolistic market dominance in the accommodation sector. This structural concentration is a symbol of the power imbalance and significantly influences the strategic decisions of service providers.

These findings suggest that external market pressure from dominant gatekeepers acting as intermediaries may catalyse the adoption of emerging technologies in response to their market dominance. This accommodation sector–specific market structure, characterised by oligopolistic control, underlines the aim of this study to conceptualise an extended, accommodation sector-specific framework, like the TOEDI.

Consensus – Market Dominance of Intermediaries E.1

Booking platforms are described as dominant market powers, often with negative connotations such as “brute” market power, their enforcement of rules, their exploiting of market power and the pressure they put on suppliers; however, it is estimated that for many hotels, 70% of business is done through these booking platforms, although the advantages of being listed on these are recognised.

4.6.2 Relationship and Dependency | E.2

Following the findings above regarding the oligopoly status of intermediaries, this sub-theme aimed to interpret accommodation-specific relationships and explore the level of dependence on these intermediaries.

Several interviewees noted that service providers depend on high visibility and market penetration, which hoteliers cannot achieve independently. This was emphasised by Interviewee 1, who noted the importance of being visible via intermediaries: “They are more visible than the service providers”.

Moreover, Interviewee 3 noted the considerable influence of ranking in search engines; other interviewees acknowledged that the enhanced technology used by intermediaries gives priority to booking portals in search engine results. One noted: “Then the booking portals are the very first thing on top, not the hotel names” (Interviewee 8).

Interviewee 9 explained the dominance of platforms like Booking.com in search results, indicating, “That is why you rarely find a hotel when you type it in, directly under the ads, but first there are all these Booking.com and Swoodoo, and I do not know which platforms contain the hotel and show it to me”. Interviewee 9 explained that the gatekeepers have the budget to develop this visibility.

For most hoteliers, it has become almost impossible to cut out intermediaries. Interviewee 6 felt compelled to link up with platforms like Booking.com, stating, “It means I am actually almost forced”. Interviewee 3 echoes this and hints at pathways to reduce dependency to be very good, “That means that if you exclude that, you are no longer, shall I say, marketable”.

Interviewee 7 felt that the more individual and unique the hotel is, the more able it is to attract regular guests, and the less dependent it becomes on large intermediaries. Interviewee 3 echoes to be less dependent: “You have to be really good”.

Interviewee 7 also identified location as a factor that could increase independence and escape the dependency on intermediaries.

However, the fight for autonomy from large intermediaries remains tough and is seen principally as a unilateral battle with Booking.com (Interviewee 11).

Another participant was not listed on Booking.com and supplied services independently, rejecting the role of booking platforms. This participant noted: “For example, we are not on Booking.com... we are completely self-distributors... not dependent on Booking.com or any other booking portals... in their business objective and philosophy... as an independent chain” (Interviewee 11).

Interpretation

The interview data portrayed an external market environment that is multifaceted and defined by a strong dependence on intermediaries amongst accommodation providers.

This dependency arises from the existence of an oligopolistic market structure, where visibility through Search Engine Optimisation (SEO) and Search Engine Advertisement (SEA) is dominated by intermediaries with substantial marketing budgets.

However, the data also hints at potential routes to independence, especially for unique and individualised hotels that can leverage their distinct characteristics.

The use of emotionally charged expressions, such as “almost forced” and “no longer marketable”, and the framing of a “unilateral battle” with platforms like Booking.com reveal a deeper emotional tension in the relationship between service providers and intermediaries. The relationships with intermediaries can be

interpreted as a reflection of the emotional and structural dependency of the service providers' experience. Several felt constrained by their relationship with intermediaries and were motivated to embrace solutions that promise to bypass current platform dependencies, describing self-distribution not just as a strategy but as an integral part of their business identity and philosophy.

The external environment context, as a major theme, reveals a picture of perceived strong market dominance in the first sub-theme E.1. This sub-theme emphasised the level of dependency on large intermediaries, which is not only defined by practical necessity but also by emotional and strategic conflict, as well as a desire to reduce their market dominance and the level of dependency.

These insights underline the importance of addressing the relationship and perceived dependency in the external market context within an accommodation sector-specific adaptation of the TOEDI framework.

Consensus – Relationship and Dependency E.2

The dependency of hoteliers on intermediary platforms is determined by their visibility in search engines and budgets, whereby the desire for independence exists, but is considered difficult to achieve for some smaller, less unique hotels.

4.6.3 Guest Dynamics | E.3

This sub-theme explored how guest dynamics influenced intermediaries' market dominance and clarified the decision-makers' perception of why consumers book with intermediaries. Guest dynamics significantly influence the context of the external environment, especially in industries like tourism, which are interrelated with ICT and subject to significant shifts in market and guest dynamics.

The interviews with the 12 decision-makers shed light on specific factors that drive consumers to book hotel rooms through booking portals rather than directly with the hotel.

Booking through a familiar platform was described as easier for many users. For example, Interviewee 7 noted that, at first, it is about saving time and having transparency to see where the best prices can be found. The idea that booking with intermediaries is "easier" was acknowledged and cited by many participants. They were adding the exceptional usability and functionality of the booking platforms. Interviewee 4 stated that usability is appealing, and Interviewee 6 used words like "simple" and "much easier" to describe the process.

This resonates with Interviewee 2's statement about the simplicity of these platforms, making them exceptionally practical. Guests become accustomed to using one system, or at most two or three, which enhances their ease of use. Interviewee 3 recognised the advantages of online booking platforms. Interviewee 4 described their booking process as very convenient, making portals like Booking.com appealing.

The ability to compare prices, conditions, and sustainability ratings across accommodation options was frequently acknowledged. Interviewee 2 talked about the "comparability" and “standardised information”, while Interviewee 12 emphasised the "speed" and “overview” that booking portals provide.

Booking portals offer a transparent view of available options, including cancellation policies such as free cancellation, as Interviewee 4 stated. Trust in large, well-known booking portals was another recurring theme. Interviewee 7 noted that some consumers might trust larger portals due to the immediate visibility of reviews and feedback from other guests, whereas others, such as Holidaycheck, were favoured for their reliability and perceived security.

This notion of trust was also mentioned by Interviewee 12, who referred to a somehow naive trust that consumers place in platforms. He/she also noted that for the user, providing personal data to one trusted platform instead of several individual hotel websites is perceived as a safer option for protecting personal data.

Another decision-maker points out that it is easier to complain about recompensation to intermediaries than to hotels (Interviewee 8).

A limited number of interviewees noted the appeal of customer loyalty programmes and special offers on booking portals (Interviewee 9). Similarly, another interviewee noted that platforms allow for financial comparisons and provide certain bonuses, as pointed out by Interviewee 12, who mentioned "certain discounts" that come with bookings.

Interviewee 5 noted an ongoing trend away from stationary travel agencies to online booking providers for hotels, airlines, and cruises.

Interpretation

At the centre of this sub-theme, Guest Dynamics, is the lure of convenience. The interviews consistently reveal a sentiment: booking portals are perceived as user-friendly, time-saving, and transparent. The repeated mentions of 'easier', 'simple', and 'convenient' by several respondents highlight the superior usability and functionality of portals.

The comparative features of the platforms reinforce this sense of convenience. The ability to quickly compare prices, conditions, and other parameters, such as sustainability ratings, is not only functional but also perceived as empowering, giving users control and reducing perceived risk.

Another key factor driving consumers to large, reputable booking portals is trust, as discussed in the literature review. The immediate visibility of these platforms' reviews, feedback, and ratings gives users confidence. Interviewee 7's mention of trust and Interviewee 12's observation of consumers' 'naive trust' underscore the significant role of trust in shaping booking preferences. Participants' emphasis on trust reflects more than just platform reliability, it shows how intermediaries have positioned themselves as the default standard of digital booking security. This suggests that trust is not only a functional evaluation but a psychological and brand-driven perception, which acts as a barrier for new technologies like blockchain that lack this user familiarity.

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This emotional trust is further reinforced by perceptions related to security. Entrusting personal data to a consolidated gatekeeper with a reputable booking platform, as opposed to several individual accommodation service providers, reinforces the narrative of perceived security. Interviewees 9 and 12 mention loyalty programmes and special offers, highlighting the multifaceted appeal of portals, which underlines that multifaceted guest dynamics drive the adoption of a decentralised blockchain-based booking platform as a factor in the external context of TOEDI.

These sub-theme findings about guest dynamics are also closely tied to Christensen's theory of Disruptive Innovation. Driven by unmet consumer needs or demands for more affordable solutions, disruptive technologies can emerge, initially serving niche markets but eventually challenging dominant incumbents. Grasping these guest dynamics helps explore whether blockchain can harness them to develop substantial disruptive forces within the aimed framework.

Consensus – Guest Dynamics E.3

In addition to the visibility of booking platforms in search engines, the following factors are crucial from the guests' point of view: simplicity and familiarity with the system, combined with comparability and quick information retrieval, as well as trust in payment and booking processes, and attractive customer loyalty programmes.

4.6.4 Societal Dynamics | E.4

This sub-theme captures recurring insights from the responses of decision-makers regarding societal dynamics and social influence in the context of emerging technologies, such as blockchain and AI.

Interviewee 11 emphasised the interrelationship between technology and societal change, underscoring how AI’s advancement could profoundly influence social structures.

Several interviewees expressed further aspects of societal dynamics, touching upon people's acceptance or rejection of central global intermediaries and gatekeepers that can dictate fees and control the market for the accommodation sector.

The societal dynamics about gatekeepers, market dominance, and oligopoly were emphasised by Interviewee 2, reflecting on whether consumers continue to accept the oligopoly of gatekeepers. Noting that, in his/her belief, many people are looking for alternatives to the existing structure of market power. This notion was not shared to this extent by other interviewees.

Interviewee 4, from the field of finance and travel management, felt that reducing the market power of intermediaries and fostering direct booking with the service provider was “doing something good” (for society).

Interviewee 3 was fascinated with the peer-to-peer approach connecting consumers and service providers, stating, "You trust me, I trust you". He/she adds that this represents a democratic idea that opposes traditional market power, describing it as a “small revolution”.

Interviewee 4 reflected on social sustainability, stating that disintermediation technologies could be used to retain more revenue in tourist destinations.

Interviewee 5 stated that the emergence of technologies under the lens of societal dynamics was a topic discussed in a workshop he/she attended about tourism information offices. However, he/she questioned whether the adoption of blockchain in the intermediation of accommodation services would be perceived as a significant societal shift. He/she felt that it would probably not be perceived as a positive societal change because, for the consumer, there would be no significant difference, as it is a technology in the background. This viewpoint of the interviewee is opposed by Interviewee 2, who argues that people are searching for alternatives within the existing structure of market power. However, he/she noted that societal acceptance of data collection practices could become a significant issue in the adoption of technology.

Interviewee 8 remarked on a societal trend where individuals ‘have less backbone’ (weniger Rückgrat haben), a metaphorical way of describing someone lacking courage, determination, or the ability to stand up for themselves. This perception implies that guests prefer to raise complaints with intermediaries rather than confront service providers directly.

Interpretation

The perceptions stated in the interviews reflected diverse and opposing views on the societal dynamics of blockchain adoption in the accommodation sector, enriching the sub-theme about societal dynamics. While participants perceived the inherent disintermediating nature of blockchain as democratising and socially valuable, calling it a "small revolution" (Interviewee 3), others questioned whether such technology would be noticed at all by guests, as it operates in the background and is not perceived as a visible societal change.

These contrasting perceptions reveal a key insight: on the one hand, the idea of reducing oligopolistic power resonates with values like fairness and transparency. On the other hand, there is doubt that these values will translate into behavioural change or influence guests' booking habits. One interviewee perceived that guests seek change; others perceived that they are comfortable with the status quo of a centralised intermediary they can complain to.

These contradictions enrich this sub-theme. They show that societal dynamics around innovation are not consistent but are shaped by competing perceptions, assumptions, expectations, and behaviours.

The participants of this Delphi interview round, as decision-makers within the accommodation sector, perceive these societal dynamics through their practitioner lens. Their perceptions reflect both their role in an oligopolistic market and their assumptions about guest behaviour, which potentially do not align with the views of the guests themselves.

For the TOEDI framework, this sub-theme about societal dynamics strengthens the theme of external context. It integrates, for the first time, the idea that the

adoption of blockchain-based booking systems can be linked to shifting societal attitudes towards platform gatekeepers, suggesting that innovation adoption around a peer-to-peer technology is connected to broader societal debates about fairness, control, and digital power structures.

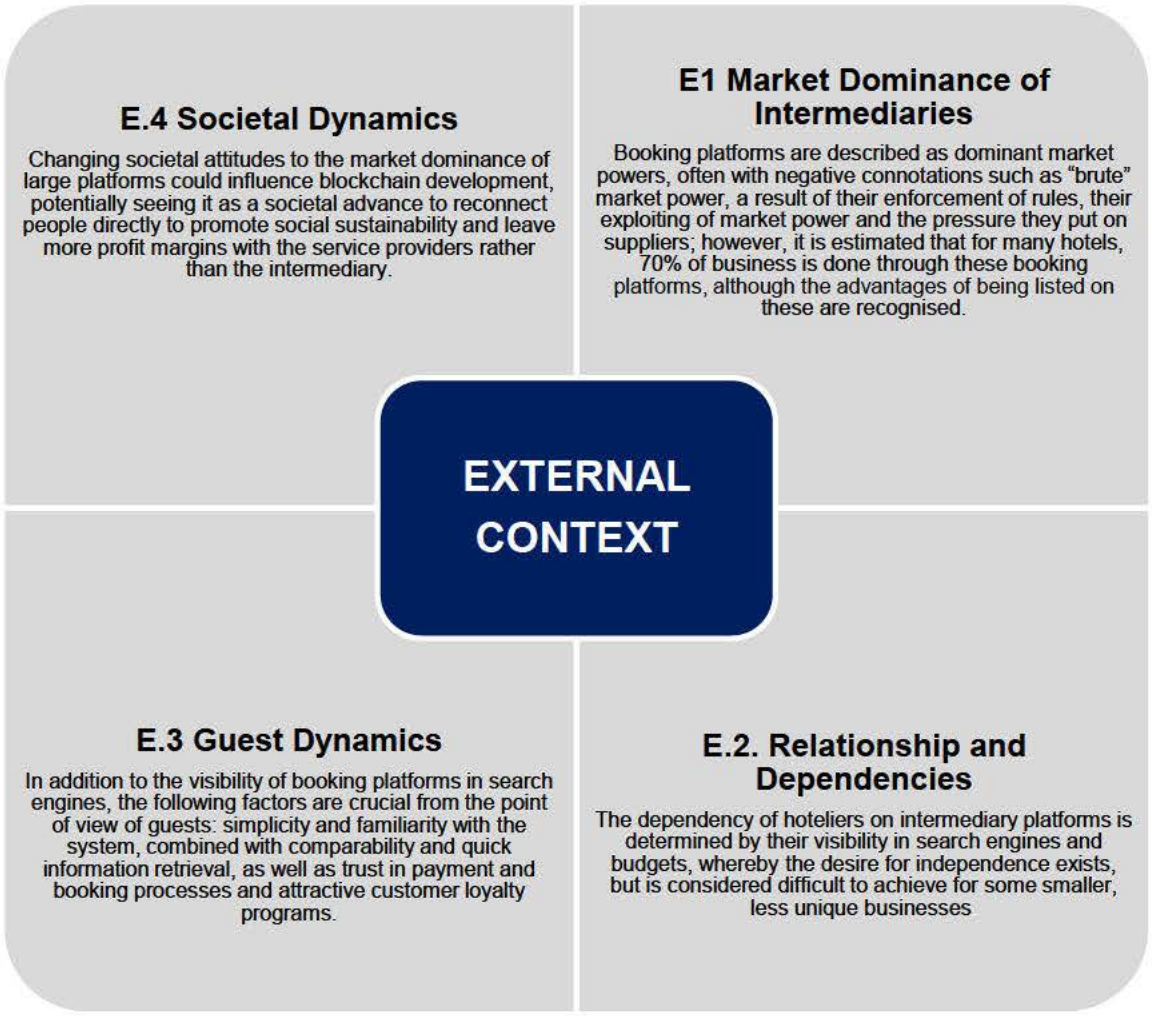
Consensus – Societal Dynamics E.4

Changing societal attitudes to the market dominance of large platforms could influence blockchain development, potentially seeing it as a societal advance to reconnect people directly to promote social sustainability and leave more profit margins with the service providers rather than the intermediary.

4.6.5 Thematic Network Diagram External Context

Each sub-theme in the external contexts was condensed into a consensus statement. These statements will be further evaluated in the second Delphi round in Chapter 4.7. Once a consensus is reached, they form the contextual factors in the novel framework TOEDI. The following table presents a thematic network diagram of the major theme 'external context', along with the identified sub-themes and consensus statements E.1–E.4.

Figure 7 Thematic Network External Context (Ribes Vicente, 2023)



4.7 Second Delphi Consensus Round

4.7.1 Consensus Development

In the last section, 19 consensus statements were developed in the first Delphi round to create a coherent and systematic approach that provides valuable insights from the perception of decision-makers towards the potential influence of blockchain-based booking systems on the intermediation of accommodation services.

The 19 consensus statements that will be integrated into the 2nd Delphi consensus round are displayed in the table below:

Table 8 Consensus Statements First Delphi Round (Ribes Vicente, 2023)

Findings First Delphi Consensus Round	
Interrelationship Context	
I.1	**Influence of ICT** Information technology has emerged as the backbone of the tourism industry, revolutionising every aspect from bookings to operations, and has impacted the market so profoundly that without it, tourism as we know it would be unimaginable today.
I.2	**Adoption Capabilities** Although the accommodation sector has been and continues to be strongly influenced by information technologies, the accommodation sector, in particular, has been remarkably slow *at* adapting to new technologies compared to other industries.
I.3	**Future Influence of ICT** The strong influence of information technologies on the accommodation sector will continue to grow and possibly have a significant impact, but its shape is uncertain.
I.4	**Influential Emerging Technologies** Artificial Intelligence (AI) has the transformative potential to reshape services and create efficiencies while recognising the need to consider unanswered questions and complex ethical and privacy concerns.
Organisational Context	
O.1	**Intangibility and Human Interaction** Personal guidance and human relations remain indispensable in the accommodation sector despite advancing digitalisation and are key aspects that must be maintained in balance with technology.
O.2	**Structure and Adaptation**

	In the German accommodation sector, various organisational factors promote or hinder the adaptation of technologies, such as local and global perspectives, company size, financial resources and generational change, whereby generational change is seen as the key to success but is hindered by the shortage of skilled workers.
O.3	**Capabilities and Readiness** The strong challenge for the accommodation sector is to encourage direct bookings by improving the usability and functionality of their websites, especially concerning payment procedures and legal issues, with both large chains and small operators experiencing similar challenges.
O.4	**Strategy and Finance** The accommodation sector pays commissions of 12–25%, and often more when using intermediary platforms, underscoring the motivation of the hotel industry to become independent from intermediaries to improve margins on the one hand and to regain direct contact with guests on the other.
Disintermediation Context	
D.1	**General Knowledge** A general understanding of how blockchain technology works varies widely in the tourism industry, from a detailed understanding of decentralisation and security and specific applications in the financial world to the fact that it is fundamentally a technology with potential without specifying it, and finally, to unawareness.
D.2	**Intermediation Tourism** In the accommodation sector, the potentially substantial impact of blockchain in the intermediation of hotel bookings, which has been intensively researched and published in tourism research for years, is largely unknown.
D.3	**Disintermediation and Disruption** Blockchain technology theoretically has the potential to fundamentally impact booking processes by creating a new, direct, and trustworthy relationship between service providers and consumers, displacing traditional intermediaries and thus redistributing market power.
D.4	**Scepticism and Practicality** Despite the theoretical possibilities of the decentralised of blockchain in the accommodation sector, there is clear scepticism regarding the practicality of , market access and reactions from existing market participants.
Technological Context	
T.1	***Perceived Technological Challenges*** Integrating blockchain technology in tourism, particularly in the accommodation sector, creates several industry-specific challenges, ranging from the complexity of service bundles, staff development and skills shortages to compatible interfaces with PMS and other systems.
T.2	**Perceived Technological Benefits** The perceived benefits of blockchain include cost savings and reducing the market dominance of large intermediaries, although communicating these benefits to hotels and guests is seen as a challenge.
T.3	**Data Security and Access**

	Blockchain can be seen as a secure and trustworthy data storage technology that can help improve data quality and avoid overbooking and data redundancy, providing direct contact with guest data and possibly AI-powered data *as* a key factor in personalising the guest experience.
External Context	
E.1	**Market Dominance of Intermediaries** Booking platforms are described as dominant market powers, often with negative connotations such as "brute" market power, a result of their enforcement of rules, their exploiting of market power and the pressure they put on suppliers; however, it is estimated that for many hotels, 70% of business is done through these booking platforms, although the advantages of being listed on these are recognised.
E.2	**Relationship and Dependencies** The dependency of hoteliers on intermediary platforms is determined by their visibility in search engines and budgets, whereby the desire for independence exists, but is considered difficult to achieve for some smaller, less unique businesses.
E.3	**Guest Dynamics** In addition to the visibility of booking platforms in search engines, the following factors are crucial from the point of view of guests: simplicity and familiarity with the system, combined with comparability and quick information retrieval, as well as trust in payment and booking processes and attractive customer loyalty programmes.
E.4	**Societal Dynamics** Changing societal attitudes to the market dominance of large platforms could influence blockchain development, potentially seeing it as a societal advance to reconnect people directly to promote social sustainability and leave more profit margins with the service providers rather than the intermediary.

The iterative nature of the Delphi method enables multiple rounds of data collection to achieve convergence and consensus among participants. In the Second round of the Delphi study, the consensus framework was presented to the same sample of decision-makers.

The aim was to identify patterns, commonalities, and divergences in the responses to provide a robust and nuanced understanding of the factors influencing the emergence and impact of blockchain in the intermediation of services.

As described in the methodological approach to the Delphi consensus technique in Chapter Three of the research design, this study employed a 7-point Likert scale. Participants were asked to rate their level of agreement with each consensus statement on a continuum ranging from 1 (strongly disagree with the consensus) to 7 (strongly agree with the consensus). The 19 consensus statements,

developed from the First round of the Delphi process with 12 accommodation sector decision-makers, were sent via email to the participants of the First Delphi round on 31 August 2023. From this group, 10 responded.

4.7.2 Consensus Rate Calculation

As described in the methodology section, this study employs multiple approaches within the consensus calculation process of the Delphi technique:

Agreement Rate

A widely accepted method for assessing agreement in Delphi studies is the calculation of the agreement rate, as justified by Gracht (2012). This study employs a classification system adapted from Seagle (2001), which is explained in detail in Section 3.5.6. The following explanation briefly reiterates the approach used to calculate consensus with an agreement rate.

No Agreement: Agreement Rate ≤ 20%

Low Agreement: 20% < Agreement Rate ≤ 40%

Moderate Agreement: 40% < Agreement Rate ≤ 60%

High Agreement: 60% < Agreement Rate ≤ 80%

Strong Agreement: Agreement Rate > 80%

The following table presents the consensus statements across the five thematic contexts of TOEDI, showing the percentage agreement and its corresponding classification.

Table 9 Consensus Agreement Rate Percentage (Ribes Vicente, 2023)

Statement	Agreement Rate %	Agreement Classification
I.1	60	Moderate Agreement
I.2	80	High Agreement
I.3	100	Strong Agreement
I.4	100	Strong Agreement

O.1	90	Strong Agreement
O.2	60	Moderate Agreement
O.3	80	High Agreement
O.4	100	Strong Agreement
D.1	90	Strong Agreement
D.2	90	Strong Agreement
D.3	90	Strong Agreement
D.4	60	Moderate Agreement
T.1	80	High Agreement
T.2	90	Strong Agreement
T.3	50	Moderate Agreement
E.1	80	High Agreement
E.2	100	Strong Agreement
E.3	100	Strong Agreement
E.4	60	Moderate Agreement

It was observed that most statements received a high to strong level of agreement, with rates exceeding 60%. Statements such as 'I.3' and 'I.4' achieved unanimous agreement, reflecting a strong consensus among the participants. On the other hand, statements such as 'T.3' about data security interchange had a more moderate level of agreement, hovering around the 50% mark. Notably, the lowest score was a 4 (Neutral/Undecided) by decision-maker number 2; no decision-maker disagreed, underlining a robust consensus after the Second round of this Delphi study.

Standard Deviation (SD)

As outlined in Section 3.5.6 of this study's method chapter, the consensus calculation in the Delphi technique, based solely on the agreement rate, is unsuitable. Further statistical tools provide a robust understanding of the phenomenon. A commonly used measure is the standard deviation, which measures the average distance between each expert's response and the mean of all the responses (Gracht, 2012).

This study justified in Section 3.5.6, adopting the specific criterion for consensus proposed by West and Cannon (1988) and Rogers and Lopez (2002): if all the experts' scores fall within the mean ± 1.64 times the standard deviation range, a consensus is present.

The table on the next page displays the 19 consensus statements, along with the calculation of the standard deviation, mean, its lower and upper bounds, and the subsequent category classification.

Table 10 Consensus Calculation Standard Deviation (Ribes Vicente, 2023)

Statement	Standard Deviation	Lower Bound (Mean - 1.64*SD)	Mean	Upper Bound (Mean + 1.64*SD)	Consensus Category Classification
I.1	1,251665557	3,647268	5,7	7,752732	Consensus
I.2	0,788810638	4,506351	5,8	7,093649	Consensus
I.3	0,516397779	5,753108	6,6	7,446892	Consensus
I.4	0,316227766	6,381386	6,9	7,418614	Consensus
O.1	0,674948558	5,593084	6,7	7,806916	Consensus
O.2	1,100504935	4,095172	5,9	7,704828	Consensus
O.3	1,032795559	4,106215	5,8	7,493785	Consensus
O.4	0,421637021	6,108515	6,8	7,491485	Consensus
D.1	0,699205899	5,453302	6,6	7,746698	Consensus
D.2	0,948683298	4,744159	6,3	7,855841	Consensus
D.3	0,948683298	4,744159	6,3	7,855841	Consensus
D.4	1,032795559	4,106215	5,8	7,493785	Consensus
T.1	0,994428926	4,469137	6,1	7,730863	Consensus
T.2	0,948683298	4,744159	6,3	7,855841	Consensus
T.3	0,966091783	4,015609	5,6	7,184391	Consensus
E.1	0,788810638	4,906351	6,2	7,493649	Consensus
E.2	0,516397779	5,753108	6,6	7,446892	Consensus
E.3	0,421637021	6,108515	6,8	7,491485	Consensus
E.4	1,100504935	4,095172	5,9	7,704828	Consensus

Based on the evaluation of 10 out of 12 decision-makers in the Second Delphi round and the applied consensus criterion (mean ± 1.64 times the standard deviation), since all fall within the defined range, it can be determined that there is a consensus among the experts for all 19 statements in the Second round and that a third Delphi round is not required.

Strongest consensus

Statement I.4 (related to Artificial Intelligence) has the strongest consensus among experts, with a standard deviation of 0.316, indicating that expert opinions are closely grouped around the mean.

Weakest Consensus

Statement I.1 (related to the influence of information technology) shows the weakest consensus, with a standard deviation of 1.252. This suggests a broader range of perceptions on this topic.

Notably, decision-maker 4 was the sole participant to rate this statement with a score as low as 3, expressing scepticism towards the consensus statement: Information technology has emerged as the backbone of the accommodation sector, revolutionising every aspect from bookings to operations, and has impacted the market so profoundly that without it, tourism as we know it would be unimaginable today.

Additionally, apart from I.1, which scored three or lower on a 7-point Likert scale, marked as neutral, this score was never given again in any consensus statement from any other decision-maker, underscoring the robustness of this consensus.

Although the results are robust, given the presence of singular statements (such as I.1) with higher standard deviations, there is room for further exploration and discussion about consensus calculation in a Delphi study.

Interquartile Range (IQR)

The third method, previously discussed in Section 3.5.6 of the methodology, for calculating consensus is the interquartile range (IQR), which captures the dispersion of experts' responses. As noted by Latif et al. (2017), the IQR is less sensitive to outliers and is therefore particularly suitable for Delphi studies. In line with this, Murphy et al. (1998) recommend the IQR as a more robust measure than standard deviation. For improved readability and to support the interpretation of the results, the adopted scale, as outlined by Latif et al. (2017) and De Vet et al. (2005) in the methodology, is briefly reiterated below.

- No Consensus: High IQR values indicate a wide spread of responses if the IQR is greater than 2.
- Low Consensus: Moderate IQR values if $1 < IQR \leq 2$.
- High Consensus: Low IQR values indicate most responses are clustered around the median when $IQR \leq 1$.

The following table displays the consensus statements, including their median, the IQR calculation, and consensus category classification.

Table 11 Consensus Calculation IQR (Ribes Vicente, 2023)

Consensus Statement	Median	IQR	Consensus Category Classification
I.1	6	1,75	Low Consensus
I.2	6	0	High Consensus
I.3	7	1	High Consensus
I.4	7	0	High Consensus
O.1	7	1	High Consensus
O.2	6	2	Low Consensus
O.3	6	0	High Consensus
O.4	7	0	High Consensus
D.1	7	0,75	High Consensus
D.2	6,5	1	High Consensus
D.3	6,5	1	High Consensus
D.4	6	1,75	Low Consensus

T.1	6	1	High Consensus
T.2	6,5	1	High Consensus
T.3	5,5	1	High Consensus
E.1	6	1	High Consensus
E.2	7	1	High Consensus
E.3	7	0,75	High Consensus
E.4	6	2	Low Consensus

This calculation shows that four consensus statements have an IQR of 0.00, indicating that 50% of the data for those variables lie within a single value.

Most consensus statements tended to have medians in the higher range (6–7), indicating a general agreement or positive response to the statements presented.

Questions with medians of 6–7, coupled with low standard deviations, showed strong agreement among participants, indicating a clear consensus on these issues.

Consensus statements identified as D.2, D.3, and T.2 had median scores of 6.5, indicating strong agreement, but their standard deviations were close to 1. This means that while there was a tendency towards agreement, there was also noticeable variability.

None of the questions had median scores of under 5.5. This suggests that almost no statements received a neutral to slightly negative consensus from the participants.

Certain statements garnered lower scores from specific decision-makers, revealing areas of contention or reservation.

However, it is important to acknowledge the limitations of statistical tools in the context of the Delphi technique. As Waggoner et al. (2016) note, statistical analysis cannot account for the underlying reasons behind the experts' responses. Specific individuals potentially have biases or hidden agendas that influence their opinions, which statistical tools alone cannot detect.

4.7.3 Comparison Consensus Calculation

In this study, three statistical methods were employed to calculate consensus classification on the consensus statements from the First Delphi round. The accompanying table provides a comprehensive comparison of these methods. The table displays the agreement rate, standard deviation, and IQR for each statement evaluated. The agreement rate provides an insight into the level of consensus among the decision-makers, the standard deviation indicates the variability of their opinions, and the IQR provides a measure of the spread of the middle 50% of the responses.

Table 12 Comparison Calculation Consensus Rates (Ribes Vicente, 2023)

Statement	Agreement Rate	Standard Deviation	IQR
I.1	Moderate	Consensus	Low Consensus
I.2	High	Consensus	High Consensus
I.3	Strong	Consensus	High Consensus
I.4	Strong	Consensus	High Consensus
O.1	Strong	Consensus	High Consensus
O.2	Moderate	Consensus	Low Consensus
O.3	High	Consensus	High Consensus
O.4	Strong	Consensus	High Consensus
D.1	Strong	Consensus	High Consensus
D.2	Strong	Consensus	High Consensus
D.3	Strong	Consensus	High Consensus
D.4	Moderate	Consensus	Low Consensus
T.1	High	Consensus	High Consensus
T.2	Strong	Consensus	High Consensus
T.3	Moderate	Consensus	High Consensus
E.1	High	Consensus	High Consensus
E.2	Strong	Consensus	High Consensus
E.3	Strong	Consensus	High Consensus
E.4	Moderate	Consensus	Low Consensus

This multi-faceted approach not only enhances the robustness of the findings by capturing the nuances of decision-makers' perceptions but also allows for the identification of areas of consensus and divergence, thereby providing directions for future research. After generating the consensus in the next section, the steps toward consensus are briefly outlined, and the final disruptive innovation adoption framework, TOEDI, is presented as the main contribution of the study.

4.8 Summary Findings

Chapter Four introduced the use of thematic analysis, as outlined by Braun and Clarke (2006), for this study to capture decision-makers' perceptions within a social constructivist framework. A hybrid approach was justified for the thematic analysis due to the underexplored nature of this study's area of focus. A semi-structured interview guideline adopted the five TOEDI contexts for twelve semi-structured interviews with decision-makers in the German accommodation sector. The data were transcribed, analysed, and uploaded into MAXQDA software. This study then followed the six steps of thematic analysis by Braun and Clarke (2006).

The first step, 'data familiarisation,' involved collecting and reading the interview transcripts from the decision-makers. The second step, 'generating initial codes,' involved organising the data into several meaningful groups. The third step, 'searching for themes,' involved sorting these codes into potential themes, essentially grouping related codes. The fourth step, 'exploring themes,' was a repetitive process in which the researcher ensured that the themes aligned with the coded extracts and the entire dataset for consistency. The fifth step, 'defining and naming themes,' refined each theme and identified sub-themes.

The sixth and final step, 'major theme report generation,' provided detailed findings for each of the five major themes, encompassing a total of 19 sub-themes. Each sub-theme was condensed to a consensus statement, marking the end of the first phase of the Delphi consensus technique.

This consensus framework was translated into an online questionnaire and sent to the 12 decision-makers for the second round of the Delphi technique. Ten of the 12 respondents provided further refinement and confirmation of the findings.

The findings showed consensus on all statements. The calculation was based on the percentage of agreement, interquartile range, and standard deviation, which are typical methods for calculating consensus (Gracht, 2012). This approach provided a robust measure of the level of agreement or disagreement among decision-makers, thereby strengthening the study's findings.

More than 16 of the 19 contextual factors had strong to high consensus, as indicated by both the agreement rate and the interquartile range consensus calculation, suggesting broad and strong agreement among the decision-makers on these contextual factors.

The contextual factors I.1, O.2, D.4 and E.4 showed 'moderate consensus' and 'low consensus' on the dispersion metrics, suggesting areas where opinions are more diverse or less unanimous.

However, as all consensus statements achieved consensus during the second round, they have been integrated as contextual factors into the corresponding context of TOEDI.

The extension of the TOE framework to TOEDI represents a significant theoretical advancement in understanding sectoral innovation, especially for disruptive technologies such as blockchain. The literature review demonstrated that the generic nature of the TOE allows it to be reconceptualised in new contexts and is also applicable to entire sectors.

The iterative nature of the Delphi method, built on a hybrid thematic analysis, enabled a comprehensive understanding of consent in the accommodation sector. This allows for reconceptualising TOEDI from an organisational adoption framework to a sectoral disruptive innovation for blockchain and its influence on the intermediation of accommodation services.

Following the empirical part of the research, Chapter Five bridges empirical research and theory, providing a thorough discussion of the findings and justifying the reconceptualisation of TOE to TOEDI.

The discussion with the existing body of knowledge sheds light on the interplay between the five different contexts and the nineteen contextual factors generated from the consensus statements. The discussion will also outline how this qualitative approach has contributed to the body of knowledge.

5 Discussion TOEDI Framework

5.1 Introduction

The previous chapter laid the empirical groundwork for the conceptualisation of a novel extended framework, referred to as TOEDI ((Technology, Organisation, External, Disintermediation, Interrelationship)). The framework reconceptualises and extends the innovation adoption framework TOE (Tornatzky & Fleischer, 1991) with its contexts: technological, organisational, and external environment. As outlined in the critical literature review of this study, TOE was identified as suitable from the network stream of innovation adoption frameworks to be extended and adapted to conceptualise a novel framework about the influence of blockchain on the intermediation of accommodation services.

In the traditional TOE framework, the triad of technological, organisational and external environment contexts is understood as mutually constitutive, with each element shaping and being shaped by the others in a dynamic interplay that influences technology adoption (Tornatzky & Fleischer, 1991).

The findings of the thematic analysis reflect the perception of 12 decision-makers in the German accommodation sector. The interviews underwent thematic analysis (Braun & Clarke, 2006), followed by the application of the Delphi consensus technique (Dalkey & Helmer, 1963). Through this methodology, the study yielded 19 consensus statements integrated as contextual factors organised into five major themes. The major themes represent the primary theoretical model of TOE (Tornatzky & Fleischer, 1991), encompassing its technological, organisational, and external environment contexts. The traditional TOE triad context was extended by the blockchain-specific disintermediation context and the accommodation sector-specific interrelationship context. It has been outlined in the critical literature review that it is critical to conceptualise disintermediation as a distinct contextual force rather than a mere feature of the technological or external context. It was outlined that Nakamoto's (2008) disintermediating nature of block-

chain in a highly centralised sector like accommodation, and its disruptive potential as defined by Christensen (1997) and Christensen et al. (2018), does not merely represent a new technology or market pressure; it fundamentally reshapes the market's centralised intermediation structure and commission fees. Furthermore, with the extension of the interrelationship context, it has been outlined that distinct technological drivers related to trust-enhancing mechanisms and information aggregation in the accommodation sector have led to a relationship with ICT that has resulted in an oligopoly. To address these specific research problems within the original framework would be to underestimate the transformative power of blockchain in this specific accommodation sector, which is central to this thesis's argument and further outlined in subchapter 5.2.

The table below displays the agreement rate of the contextual factors condensed from the thematic analysis. All 19 consensus statements have been statistically validated using three methods (percentage of agreement rate, standard deviation, and interquartile range) as outlined in Section 4.7.

Table 13 TOEDI – Contextual Factors (Ribes Vicente, 2023)

Context	Technological	Organisational	External	Disintermediation	Interrelationship
Factors	**T**	**O**	**E**	**D**	**I**
	T.1 High Agreement	O.1 Strong Agreement	E.1 High Agreement	D.1 Strong Agreement	I.1 Moderate Agreement
	T.2 Strong Agreement	O.2 Moderate Agreement	E.2 Strong Agreement	D.2 Strong Agreement	I.2 High Agreement
	T.3 Moderate Agreement	O.3 High Agreement	E.3 Strong Agreement	D.3 Strong Agreement	I.3 Strong Agreement
		O.4 Strong Agreement	E.4 Moderate Agreement	D.4 Moderate Agreement	I.4 Strong Agreement

The new conceptualisation of TOEDI as an extended innovation adoption framework is discussed in detail for each of the five contextual forces, along with an examination of the contextual factors within these contexts.

5.2 Contextual Extensions

As justified in Chapter 2.4.4, the TOE framework was selected as a robust yet flexible foundation for this inquiry. The empirical findings not only validate that initial choice but also underscore its limitations in this specific context, thereby necessitating the critical extensions that constitute the TOEDI framework.

While the TOE framework, with its triad of context, has served as a robust foundation for researchers to adapt and conceptualise innovation adoption models, its application to blockchain reveals a critical limitation: its tendency to treat all technologies within a single context.

However, the disintermediating nature of blockchain, as attributed to Nakamoto (2008), is not merely another technological feature; its core capability is to bypass intermediaries. This function, as introduced in the specific research problems of this study and detailed in the literature review, fundamentally separates it from other technologies and calls for updated innovation adoption frameworks.

This shortcoming of the traditional TOE framework has been addressed in this study with the first extension of the traditional TOE framework, referred to as the disintermediation context, which takes the fundamental strengths of the framework to a new level. While the traditional TOE framework serves as an excellent framework for understanding the adoption of technology, the extended version bridges the academic gap and adds depth to this understanding by extending the blockchain-specific context of disintermediation.

The inherent nature of blockchain for disintermediation is described by Nakamoto (2008) in his seminal paper on the financial sector. In that sector, blockchain applications, such as the cryptocurrency Bitcoin, have shown potential for disinter-

mediation, according to Kulkarni and Patil (2020) and Hanna et al. (2020). Beyond the finance sector, blockchain has the potential to disrupt a plethora of different industries, according to Clohessy and Acton (2019) and Clohessy (2020).

However, earlier research has not adequately taken this disruptive force on intermediation into account. Furthermore, this study answers the call for more nuanced and theory-grounded research on disruptive innovation, adopting Christensen's et al., (2018) research directions based on his seminal theory of disruptive innovation (1997).

The second extension of TOE with an accommodation sector-specific interrelationship context was revealed in detail in the critical literature review of this study in Chapter 2.3. This context addresses one of the two sector-specific research problems outlined earlier: the pronounced interrelationship between ICT and the intermediation of services, which has been observed since the 1960s (Werthner & Klein, 1999, p. 5).

Generic innovation adoption models, such as TOE, often fall short when applied to the accommodation sector, revealing another critical limitation. The 'external environment' in the TOE framework is traditionally treated as a generic source of market pressure. This study has argued, through both its literature review and empirical research, that in a sector whose very structure is defined by an oligopoly of dominant intermediaries, including gatekeepers like OTAs and booking platforms, the 'external environment' is not a passive context but an active, dominant force that necessitates analytical focus. This contextual force serves as a catalyst, underscoring the need for an extended, sector-specific conceptual framework.

The extension of the generic TOE innovation adoption framework with two new contextual forces and empirically researched factors, derived from qualitative interviews with decision-makers within the five contexts, bridges the identified academic gap of this study.

This contribution to knowledge has successfully addressed the research objective of adapting and extending existing innovation adoption frameworks to develop a conceptual framework that examines the influence of decentralised blockchain-based booking systems on the intermediation of accommodation services in Germany, incorporating decision-makers' perceptions.

TOEDI has extended the analytical lens, offering, alongside the original TOE triad, a previously overlooked interplay between the new extended contexts, with the sector's historical dependency on intermediaries (Interrelationship) is directly challenged by a technology designed for independence (Disintermediation).

After introducing and discussing the primary theoretical base of the TOEDI framework and its extension as a unique contribution, the following subchapter delves into the five contextual forces that constitute TOEDI.

5.3 Contextual Discussion Contexts and Forces

This section discusses the findings in the five contextual forces of TOEDI: technological, organisational, external environment, disintermediation, and interrelation. The discussion also delves into the nineteen TOEDI factors derived from the empirically surfaced consensus statements of twelve decision-makers in this study. The empirical findings not only validate the individual factors within the TOEDI framework but also reveal a critical interplay between them. For instance, the lack of organisational capabilities (O.3) in developing user-friendly direct booking channels directly fuels guest preference for intermediaries (E.3), which in turn improves the market dominance of those same intermediaries (E.1). The following discussion provides a detailed breakdown of the empirical findings, illustrating both the individual factors within the TOEDI framework and the critical interplay between them.

5.3.1 Interrelationship Contextual Force

The extensive literature review of this study underpins the extension of the interrelation context as a force in TOEDI. It revealed a pronounced interrelationship

between emerging technologies and the intermediation of accommodation services in the tourism industry. The literature suggests that this interrelationship has been noted since the emergence of the first information technologies (Werthner & Klein, 1999). This interrelationship is based on ICT's inherent characteristic of reducing uncertainty in an asymmetric information market, such as the tourism industry (Fodness & Murray, 1997; Poon, 1993). This was echoed by different interviewees, for example, by no. 2 in the Delphi interviews of this study, who expressed the view that modern tourism would hardly exist without information technology. However, extant research on blockchain in the accommodation sector has not taken this pronounced interrelation into account until now. The extension to the TOE framework with the interrelation context as one of five contextual forces in the new TOEDI framework acknowledges this tourism-industry-specific interrelation.

The empirical findings reveal a central paradox: the accommodation sector has been profoundly shaped and reshaped by emerging information technologies (I.1), yet it simultaneously exhibits remarkably poor internal capabilities for adopting new technologies (I.2). This paradox, where the industry is a passive recipient of technological shifts rather than an active driver, directly explains many of the challenges identified in the organisational context. The following section discusses in detail the four contextual factors within the interrelationship context (I.1, I.2, I.3, and I.4) identified through the Delphi interviews with decision-makers.

Factor I.1: Influence of ICT

This factor builds on the consensus of the decision-makers that ICT has emerged as the backbone of the accommodation sector, revolutionising every aspect, from bookings to operations. ICT has influenced the tourism market so profoundly that, without it, tourism as we know it today would be unimaginable. The pronounced influence is addressed by the research problem posed at the beginning and was examined in the critical literature review of this study in Chapter 2.3, which identified substantial shifts in intermediation processes in several waves over recent decades, such as the mass adoption of ICT and GDS technology redefining tourism in the 1960s, the WWW in the 1990s with the emergence of online booking

platforms and OTAs (Buhalis et al., 2019; Buhalis & Law, 2008; Stangl et al., 2016). Subsequently, search engines and new advertising emerged (London School of Economics, 2016). At the same time, guest review platforms have become essential for improving the sales of accommodation services (Sotiriadis et al., 2015) and have greatly influenced consumer behaviour (Veloso et al., 2019). Lastly, in 2008, a startup (Airbnb) emerged as a new global player in the accommodation sector and was valued at a sum greater than that of the six biggest hotel chains combined (Ponciano, 2020).

Every emerging ICT development has transformed the tourism industry (Zaman et al., 2017). The literature review provides strong support for the empirical findings regarding the pronounced influence of ICT on the intermediation of accommodation services.

However, tourism research on the influence of blockchain has not fully acknowledged the strong influence of ICT until now.

Factor I.2: Adoption Capabilities

This factor builds on the consensus statement that although ICT has strongly influenced the tourism industry, the accommodation sector has been remarkably slow in adapting to new technologies compared to other industries. The empirical part of this study has revealed clear self-criticism, indicating that decision-makers are aware of the sector's lack of capabilities in accommodation. This echoes the critical literature review's finding that although the tourism industry, in general, has been quick to adopt innovations, the slow pace of adaptation of the accommodation sector within the tourism industry stands out (Law et al., 2014).

This resonates with a statement made by Interviewee 9, who joked that the accommodation sector was 10,000 years late. From a research perspective, this finding is well studied. The tourism industry has been found resistant to adapting to technological advances (Buhalis & Law, 2008). The reluctance to adopt is partially attributed to the fragmentation of the tourism industry, according to Fragnière et al. (2022), and partially attributed to managers' attitudes and financial constraints, according to Law et al. (2014).

This reveals a central paradox that defines the accommodation sector's relationship with technology: being simultaneously a pioneer and a laggard. While it was fundamentally reshaped by early ICTs, such as GDS and OTAs, as described in I.1, it now perceives itself as slow in adopting capabilities. This points to a historical path dependency in which the accommodation sector became reliant on external intermediaries for technological advancements rather than developing its internal competencies.

This critical finding, overlooked in generic innovation models, justifies the need for a specific "Interrelationship" context. Extant research has failed to acknowledge the adoption capabilities of the accommodation sector as a crucial factor in research about the adoption of blockchain and its influence.

Factor I.3: Future Influence of ICT

This factor represents the consensus of the Delphi interviews that the strong influence of ICT on the accommodation sector will continue to grow and have a significant impact, although its pathway is uncertain. This was exemplified by Interviewee 7, who noted that ICT is, and will continue to be, a decisive game changer in all areas of tourism. The extant literature suggests a more significant future impact of ICT on the tourism industry. Özgit and Öztüren (2021) argue that emerging ICT can bolster sustainable tourism in the future. Another field of further influence could be Augmented and Virtual Reality (Tussyadiah et al., 2018). Furthermore, the literature discusses real-time crisis management with advanced ICT (Antony & Jacob, 2019).

There is no academic stream that suggests that ICT will have less of an influence on the accommodation sector in future. In the plethora of different ICT developments that potentially exert a substantial influence, this study addresses an exponentially growing stream of researchers highlighting blockchain's potential influence in the future (SCOPUS, 2023). However, only a limited number of studies have been published regarding the transformative influence of blockchain (Filimonau & Naumova, 2020; Parekh, 2021). With the conceptualisation of TOEDI, this study addresses the call for the future influence of blockchain to focus on

anticipating critical issues and determinants before a broader rollout in the tourism industry (Filimonau & Naumova, 2020; Valeri & Baggio, 2021).

Factor I.4: Influential Emerging Technologies

This factor represents the decision-makers' perception that AI has high transformative potential in tourism, enabling it to reshape services and create efficiencies. Subsequently, they recognise the need to address unanswered questions and complex ethical and privacy concerns. Interviewee 3 anticipated that AI would revolutionise the tourism landscape and become highly disruptive, particularly in the booking of accommodation services. This view aligns with the literature on the transformative potential of AI to create new efficiencies (Gursoy et al., 2019). Nazir et al. (2023) highlight that integrating AI into travel booking platforms will transform the user experience by enabling personalised recommendations. Samala et al. (2022) add that AI customisation of travel experiences is based on collecting and analysing vast amounts of data from a wide range of sources. However, it involves complex ethical concerns, including data protection, transparency, and potential biases (Davenport & Ronanki, 2018). The literature review of this study identified that the emergence of AI and blockchain is strongly interconnected. The evolution of blockchain technology can be categorised into four distinct generations. According to Colomo-Palacios et al. (2020) and Baudier et al. (2022), the next generation of Blockchain 4.0 is expected to integrate AI. According to Raja (2021), this integration will extend functionality and aim to usher in a new era where technology can autonomously manage more complex tasks and decisions, thereby reducing the need for human interactions, as echoed by Mukherjee and Pradhan (2021).

Regarding AI, the emergence of OpenAI's ChatGPT is described as a game-changer (Mathew, 2023), and according to Carvalho and Ivanov (2023), applications such as ChatGPT will significantly impact diverse aspects of the tourism industry.

While decision-makers were largely unaware of blockchain and its potential influence on the accommodation sector, their strong focus on AI as an emerging technology is a critical finding. This describes the function that the emerging fourth generation of blockchain, which integrates AI, is designed for.

With the advent of ChatGPT in December 2022, this study argued that the potential emergence of Blockchain 4.0 has accelerated. With the pronounced interrelation of ICT and the intermediation of accommodation services, integrating AI and Blockchain 4.0 as a factor of TOEDI offers a novel approach. For the first time in academic research, this study describes this pivotal factor in the emergence of a decentralised blockchain-based booking system in Germany.

5.3.2 Organisational Contextual Force

The organisational context within the traditional TOE framework is a critical contextual force that plays a key role in understanding the dynamics of technology adoption and its impact on the intermediation of services in the accommodation sector.

By employing purposive sampling, this study adopts a unique perspective on blockchain research. For the first time, German decision-makers with expertise in the accommodation sector have been interviewed about a decentralised blockchain-based booking system. By using the Delphi consensus technique, this study generated consensus statements on the accommodation sector's generalisable organisational factors that influence the adoption of blockchain.

The unique contribution of TOEDI is valuable, as it adds a new crucial layer to the academic discussion. These decision-makers are the stakeholders who will decide or consult about the adoption of a decentralised blockchain-based booking system. However, the in the previous section established lack of adoption capability (I.2) is a critical antecedent to the sector's organisational struggle to develop effective direct booking channels as one key finding, resulting in websites with poor usability and functionality (O.3). This organisational failure to compete

digitally forces service providers into a deep dependency on the dominant intermediaries (as detailed in the external context) that offer user friendly experience. The forthcoming sections will provide a detailed breakdown of the TOEDI factors in the organisational contextual force (O), specifically four factors (O.1, O.2, O.3, and O.4) derived from the consensus statements of decision-makers.

Factor O.1: Intangibility and Human Interaction

This TOEDI factor represents the consensus statement that personal guidance and human interaction remain indispensable in the accommodation sector, despite the advancement of digitalisation. According to the decision-makers, this is an industry-specific key factor that must be maintained in balance with emerging technologies. This aligns with the existing literature; the intangible nature of services underscores the need for a balance between personal advice and human relationships (Mossberg, 2007), particularly in the context of technological advancements in the tourism sector (Neuhofer et al., 2019). This was confirmed by Interviewee 11, who affirmed that the human aspects of tourism services will never disappear. As outlined in the critical literature review of this study, the intangible nature of tourism services requires a high level of trust between consumers and service providers, making the human element a cornerstone in facilitating transactions (Solnet et al., 2019). The concept of "trust" significantly creates a positive guest experience, according to Bharwani and Jauhari (2013). However, in the current market, the accommodation sector's reliance on intermediaries reduces its ability to establish direct relationships with guests (Carroll & Siguaw, 2003).

This TOEDI framework factor not only acknowledges the accommodation sector-specific intangible characteristics but also extends this to a new level of discussion. These findings suggest a strategic dissonance in the sector. At the same time, the decision-makers appreciate the intangible value of human interaction, as the dominant distribution model relies on intermediaries that actively place a digital barrier between the service provider and the guest. Blockchain-specific characteristics, such as bypassing intermediaries like booking platforms, are de-

signed to connect accommodation service providers directly with guests. This regained direct connection enhances human interaction as a tourism industry-specific factor.

This organisational factor has been overlooked by research on the influence of blockchain on the intermediation of accommodation services until now.

Factor O.2: Structure and Adaptation

This TOEDI factor builds on the empirical findings that, in the German accommodation sector, organisational settings promote or hinder the adoption of technologies, including the local or global alignment of service providers, company size, financial resources, and generational employee structures. Specifically, the generational shift in employee structure was perceived by decision-makers as a key factor in successfully adopting technologies. Nevertheless, according to the interviewees, this is hindered by the shortage of skilled workers in Germany, especially in the accommodation sector.

This structure of tourism organisations and their slow adoption of innovative technology is widely discussed in the literature, for example, by Işik et al. (2019). At the same time, others confirm an industry-wide gap in technological expertise (Buhalis & Law, 2008). Filimonau and Naumova (2010) and Sharma et al. (2021) identified obstacles to adopting innovation in the accommodation sector that can be applied to blockchain. According to DiPietro and Wang (2010), one of the obstacles is that the accommodation sector operates in a highly competitive environment, where profit margins are frequently slim and limited financial resources challenge hotels to invest in new technologies and ongoing staff training in technology literacy. According to Lam et al. (2007), hotels that prioritise staff training in technological literacy are better equipped to adapt to new technologies. This is echoed by (Vial, 2019), who believes that leadership and workforce competencies are essential for navigating digital transformation. Regarding leadership competencies, Law et al. (2014) suggest that management's attitudes are a significant obstacle, in addition to financial constraints. This is echoed by Buhalis

and Moldavska (2022), who state that management attitudes hinder hotels' ability to differentiate themselves and provide a superior guest experience.

However, extant literature fails to research organisational structure and adoption capabilities; instead, according to Rejeb et al. (2020), it focuses on consumer adoption.

This study has refined extant literature by providing a more precise analysis of the sector's slow adaptation. While researchers point to general resistance or financial constraints, this study's empirical data suggests the core problem is a human capital deficit, characterised by a generational divide in technological openness and a shortage of skilled workers.

Factor O.3: Capabilities and Readiness

This TOEDI factor addresses the perceived lack of capabilities in the accommodation sector to encourage disintermediation and promote direct bookings by improving the usability and functionality of their websites. The challenges are particularly evident in offering trustworthy payment procedures and addressing legal issues. In the empirical part, it was further revealed that both large hotel chains and small accommodation providers experience similar challenges.

The literature supports the importance of this finding and the lack of capability. According to Díaz and Koutra (2013), hotel websites frequently fail to provide a seamless and intuitive user experience. Lee et al. (2022) highlight that low website quality is associated with poor service quality and a perception of being untrustworthy and unprofessional. As Atiya (2021) noted, the website serves as the primary point of contact for potential customers and must be user-friendly and easy to navigate. Wang et al. (2016) emphasise that intuitive navigation is a key aspect of user-friendly designs. Additionally, according to Romero and Tejada (2020), hotels can attract direct bookings on their websites by offering competitive rates, exclusive promotions, and detailed information about hotel amenities and services. The impact of hotel website quality and its influence on bookings has been conceptualised by Law et al. (2010) and Wang et al. (2015).

However, existing research has overlooked, until now, that blockchain-based booking systems potentially offer a standardised booking interface on the hotel's website, similar to booking platforms. The blockchain booking interface, referred to as "Wallet" by Charles (2022), has the potential to offer a convenient and trustworthy direct booking channel, bridging the technological capabilities gap of accommodation service providers, according to Khanna et al. (2020).

The sector's failure to deliver user-friendly direct booking reflects low technological readiness and reinforces reliance on intermediaries. This study is the first to contribute a TOEDI framework that examines the detailed interplay between organisational and technological challenges influencing the adoption of a decentralised blockchain-based booking system as a solution to overcoming the lack of accommodation-sector-specific technological capabilities that attract direct bookings.

Factor O.4: Strategy and Finance

This TOEDI factor represents the consensus that the accommodation sector typically pays commissions ranging from 12% to 25%, and can increase to up to 30% of the booking value when using intermediary platforms. These substantial fees underscore the motivation factor of the accommodation sector to become independent from intermediaries. This independence aims, on the one hand, to improve profit margins and regain direct contact with guests.

The existing literature indicates that substantial fees, which can account for up to 30% of the booking value, have a significant impact on hotel profit margins (Kim & Park, 2017), particularly for smaller, independent organisations with limited financial resources (Carroll & Siguaw, 2003). Interviewees described that up to 70% of the booking value is generated via intermediaries, representing a very high reliance. This reliance reduces their direct control over the customer experience. According to Andriotisy (2003), the control exerted by major booking platforms limits the bargaining power of individual hotels, leading to increased commission fees and reduced profit margins. The reliance on intermediaries and the

cost of commission has high financial and strategic implications (O'Connor, 2008; Sigala, 2018).

This creates a strategic paradox for the accommodation sector. The significant financial pressure from high commission fees (Factor O.4) provides the primary motivation to seek alternatives that enable disintermediation. However, this same financial drain simultaneously limits the capacity to invest in those very alternatives. This study contributes to the academic discussion about blockchain and tourism, acknowledging in the TOEDI framework the organisational implications behind commissions paid to intermediaries.

This previously overlooked factor, the accommodation sector's desire for independence, may drive the adoption of blockchain-based booking systems and shape the overall adoption dynamics.

5.3.3 Disintermediation Contextual Force

The empirical investigation revealed a profound disconnect between academic discourse and practitioner awareness of blockchain’s disintermediating, potentially even disrupting influence.

Extending the TOE framework with a blockchain-specific disintermediation context provided an empirical, qualitative lens on the influence on the potential disintermediation (Ozdemir et al., 2019), or even elimination of intermediaries (Aghaei et al., 2021).

There is a strong connection between the concepts of disintermediation and disruption, as disintermediation can be a driver of disruption, challenging and transforming established industries, as identified by Maharg (2016). However, the term disruption is criticised as an overused and misused term in today's business jargon (Ignatius, 2015). One of the first authors to describe the effect of disruption, primarily attributed to the concept of Disruptive Innovation, is Christensen (1997). In his revision and call for future research, Christensen et al. (2018) advocates for a more theoretically grounded approach to emerging technologies, regardless of their disruptive nature. This study, therefore, answers the call from Christensen

(2018) to adopt the revised definition of Disruptive Innovation in the disintermediation context of TOEDI.

The empirical findings, unveiled in the disintermediation context (D), suggest four factors (D.1, D.2, D.3, and D.4), which have been integrated into the TOEDI framework and discussed in detail as follows.

Factor D.1: General Knowledge

This TOEDI factor reflects that knowledge about emerging technology influences the adoption of technology. This study revealed that, at the time of the interviews with 12 decision-makers in the summer of 2023, the general understanding and knowledge of blockchain technology varied widely.

A limited number of interviewees had a general understanding of decentralisation and security features, as well as specific applications in the financial world. Extensive knowledge was exemplified only by Interviewee 4, who works in the financial sector, specifically in travel business management. The influence of blockchain in the financial sector, particularly regarding Bitcoin, has been widely researched (Hanna, 2020; Kulkarni, 2020). Blockchain applications for cryptocurrencies, such as Bitcoin, are frequently classified as Blockchain 1.0 (Baudier et al., 2022; Colomo-Palacios et al., 2020). In 2017, the first papers about Bitcoin as a payment option in the tourism industry appeared (Leung & Dickinger, 2017). Since then, research about blockchain and the tourism industry has been dominated by a focus on blockchain applications as a payment or finance option (Bulut, 2021; Jiangen et al., 2021; Leung & Dickinger, 2017; G. Nuryyev et al., 2020; Tham & Sigala, 2020; Treiblmaier et al., 2020; Turkay et al., 2019).

However, the findings of this study suggest that there is a lack of general knowledge about blockchain within the accommodation sector in Germany. These findings reveal a fundamental disconnect between academic discourse, which has been engaging with blockchain in the tourism industry for several years, at times even exponentially, as detailed in the literature review of this study (SCOPUS, 2023), and practitioners' realities. The feasibility pilot study of this

study suggested a general lack of awareness and limited technological understanding among practitioners, lecturers, and students regarding the core functions of blockchain, as described by Nakamoto (2008).

The TOEDI framework addresses this by treating 'knowledge' not as a prerequisite, but as a factor within the disintermediation context itself, where the potential for disruption can exist in different contexts. This finding suggests that in some sectors, a 'knowledge barrier' can completely halt this process before it even begins. The knowledge of decision-makers in the accommodation sector is a decisive contribution of TOEDI to the trajectory of blockchain-based booking systems, as these decision-makers are the stakeholders who are consulted and ultimately decide whether or not to adopt these systems. Without sufficient knowledge among decision-making practitioners, the technology potentially fails to exert a disruptive influence.

Factor D.2: Intermediation Tourism

This study revealed in D.1 a significant lack of general knowledge regarding blockchain technology itself. Building on that, the empirical findings in D.2 demonstrate that the practical application of blockchain to the intermediation of accommodation services, specifically as a decentralised booking system, is therefore also largely unknown to decision-makers. These findings suggest a disconnect between the growing academic discourse on blockchain in general and the lack of research on practical application with practitioners in the tourism industry. This was a central issue outlined in the literature review and the academic gap. Although the number of publications about blockchain and tourism has grown exponentially (SCOPUS, 2023), scholarly acknowledgement of the subject in prominent academic publications remains comparatively limited, given the widespread fascination surrounding blockchain technology in other sectors (Treiblmaier, 2021). Furthermore, the gap between academics and practitioners is further compounded by the fact that the general tourism industry perspective in blockchain research is almost absent (Rejeb et al., 2020). The field of research on blockchain and tourism is understudied (Ampountolas & Chiffer, 2021) and remains an area that has received limited research attention (Filimonau & Naumova, 2020). Only

a limited number of studies have been published on blockchain and its influence on tourism intermediation (Parekh, 2021).

Another potential factor relating to the lack of knowledge is the technology's complexity, which is one of the reasons why practitioners in the tourism industry are unaware of it (Treiblmaier, 2021a). Additionally, only a limited number of investigations of practical blockchain applications in the tourism industry have been published (Ozdemir et al., 2019). Only recently has research into a decentralised booking system without the need for intermediaries started to focus on the real-life application of blockchain (Demirel et al.,2022)

As outlined in the critical literature review in Chapter 2.3.3, at the time of the research, only one application (Winding Tree) has been categorised as a decentralised blockchain-based booking system. Almost all other applications represented centralised internal blockchain databases for secure storage, which does not reflect Nakamoto's (2008) idea of a consensually managed distributed ledger.

The disconnect between the academic discourse, in which the exploration of intermediation, tourism, and blockchain has been growing for years, as revealed in the critical literature review of this study, and the decision-makers' lack of awareness, echoing Factor D.1, is a critical finding.

Furthermore, these findings suggest implications for innovation adoption theory itself. This study used a generic framework, TOE, adapted to the technology under research in the context of disintermediation, including the empirical data gathered "Intermediation Tourism D.2" as its factor. While other frequently used innovation adoption frameworks, like Diffusion of Innovations (DOI), often presume a smoother flow of information from innovators to adopters, this study's findings suggest that for certain disruptive technologies in a specific sector, this flow may not just be slow, but absent.

This study not only reveals a disconnect between the academic discourse and the practitioners who would be making the adoption decisions, but it also reframes the issue. It is not a case of slow diffusion, but of non-diffusion. With this, the TOEDI framework offers an analytical tool to understand that potential

adopters' awareness is not a simple variable, but a central dynamic of the adoption process itself. This factor has been overlooked in recent literature on blockchain in tourism research.

Factor D.3: Disintermediation and Disruption

This factor builds upon the general lack of knowledge of blockchain technology (D.1) and the lack of awareness about its adoption in the intermediation of accommodation services (D.2). Both preceding factors empirically suggest a disconnect between the growing academic discourse and the perceptions of decision-makers. However, this study's use of a visual aid in its constructivist approach acted as a catalyst, transforming this unawareness into a recognition of disruptive potential in Factor D.3.

This recognition mirrors the calls from extant literature that suggest blockchain has the potential to disrupt traditional intermediaries such as online travel agencies, booking portals, and other gatekeepers within the tourism industry (Buhalis et al., 2019; Demirel et al., 2022; Filimonau & Naumova, 2020; Kizildag et al., 2020; Rashideh, 2020).

The empirical findings suggest that the primary barrier to adoption is not resistance to change, but a lack of exposure to the concept. The findings of the Delphi consensus technique revealed that a decentralised blockchain-based booking system would be adopted by decision-makers in the accommodation industry. The interviewees perceive that this has the potential to substantially influence the external market, disrupting traditional intermediaries and redistributing market power. Decision-makers perceive that this would impact booking processes by creating a new, direct, and trustworthy relationship between accommodation service providers and consumers, thereby bypassing intermediaries.

However, the extant literature has failed to conceptualise and adapt an innovation adoption framework that integrates the perspective of professionals to assess the disruptive potential of blockchain in the accommodation sector. With the conceptualisation of TOEDI, this study answers the calls for a more detailed understanding of disruptive effects to anticipate the impacts that potentially influence the

tourism industry, as Önder and Treiblmaier (2018) noted, and echoed by Valeri and Baggio (2021).

Furthermore, literature in tourism research has also failed to embed Nakamoto's (2008) original whitepaper and the disintermediation characteristics of blockchain with a foundational theory of disruption. Extending the generic TOE with disruptive context, as described in the theory of Disruptive Innovation by Christensen (1997) and his recommendation for further research by Christensen et al. (2018), represents a unique contribution.

This extension of TOE has therefore contributed to a more specific and theoretically underpinned framework, which applies the theory of Disruptive Innovation to assess the potential influence of blockchain on the accommodation sector, thereby fulfilling a central objective of this study.

Factor D.4: Scepticism and Practicality

Decision-makers have been exposed to the concept of blockchain-based booking systems, and for many who are unaware, their common perception is that this could indeed influence and disrupt the intermediation market.

This finding is critical because it frames the innovation adoption framework of this study, highlighting factors that influence adoption, especially the sceptical perceptions towards the transformative shift explored in the literature. However, in the literature, this potential disruption was explored without considering practitioners with authoritative power, as highlighted in the study's academic gap and illustrated in the literature review. Until now, these critical perceptions have been overlooked.

The grounds for scepticism ranged from perceptions about the practicality and market access to predictions about the reactions from existing market participants. Notably, this study is the first to empirically contribute to this factor, thereby enhancing our understanding of the real-world complexities faced by decision-makers in Germany's accommodation sector.

This study aligns with social constructivism and explores perceptions of an emerging technology with almost no application in the accommodation sector, as outlined in Section 2.3.3. Therefore, this study represents a pioneering effort in research about the practicality of such systems. The existing literature lacks investigations of practical blockchain applications in the tourism industry (Ozdemir et al., 2019), particularly decentralised booking systems, as proposed by Demirel et al. (2022). This academic gap can be attributed to the fact that direct, real-life applications, such as the recently presented Winding Tree (2023), are only just emerging. However, extant research lacks the integration of qualitatively gathered, real-life perceptions on potential adoption from decision-makers with expertise in the accommodation sector.

The empirically gathered insights concerning decision-maker scepticism about integrating their organisation in such a system align with the existing literature from fields outside the accommodation sector. According to Golosova and Romanovs (2018), one of the challenges lies in the complexity of integrating blockchain into existing systems since it is a "non-trivial task". Research on this topic needs a comprehensive analysis of successful adoption cases of blockchain technology from other sectors, providing valuable insights into its practical application (Ali et al., 2021).

While this factor of TOEDI focused on general scepticism and practicality related to hypothetically adopting decentralised systems and their potential disruptive influence, the decision-makers provided additional precise insights into technological integration, which are discussed in the next section.

5.3.4 Technological Contextual Force

In Tornatzky and Fleischer (1991) original TOE framework, which served as the primary framework in this study, adopting a technology presents both challenges and benefits. As this study is grounded in social constructivism, the discussion unfolds against the backdrop of what the decision-makers would perceive as the benefits and challenges of this technology. The study highlights the perception and lack of practical experience that decentralised blockchain-based booking systems have, yet, as outlined in Chapter 2.3.3, there are almost no practical s.

In an unexplored technological area characterised by unanticipated uncertainties and challenges, researchers argue for a social constructivist approach (Spender, 1996), as justified in the critical literature review. According to Krotov (2019), research on emerging technologies requires an epistemological stance that accommodates the inherent non-linearity of technologies, which can develop a disruptive influence. The application of social constructivism in the understudied field of disruptive blockchain technology and tourism, however, is rare. One of the few (Tyan et al., 2021) identified key factors influencing blockchain adoption in tourism through in-depth interviews with industry experts.

In other sectors, blockchain benefits, such as enhanced data security, increased operational efficiency leading to cost reductions, and the potential to gain a competitive advantage by bypassing intermediaries, have been well studied (Tapscott & Tapscott, 2016). Blockchain is described as creating an online environment with decentralised trust and reputation management systems (Putra et al., 2022).

The tourism-industry-specific challenges of adopting a decentralised blockchain-based booking system must be carefully weighed against the significant benefits in the accommodation sector. This will be discussed in the technological context (T) that has been empirically determined by four factors (T.1, T.2, T.3, and T.4) and integrated into the TOEDI framework.

Factor T.1: Perceived Technological Challenges

While not experts in blockchain technology, decision-makers identified several industry-specific challenges they considered relevant to adoption. These included integrating complex service bundles, fostering staff development, overcoming skills shortages, and building compatible PMS interfaces. Exploring such perceptions is valuable, as they can highlight adoption barriers that purely technical analyses might overlook. These perceptions are supported by existing literature. Service bundles in tourism comprise offerings from different providers. As suggested by Brözel (2020), tourism offerings in the past were primarily focused on individual components such as transportation, accommodation, and sightseeing tours, with customers having to book each aspect separately. However, as the industry

has evolved, service providers in Germany have recognised the value of bundling these components together to offer customers a more comprehensive and convenient experience. According to Stickdorn and Zehrer (2009), a hotel offers a service bundle that includes accommodation, transportation, meals, and guided tours. This not only simplifies the planning process for customers but also enhances their overall experience.

Nevertheless, in the German market, it is worth noting that German travel law, as incorporated into the Civil Code in 1979, imposes extensive obligations on service bundling. If, for example, accommodation and transport services are bundled, the service provider that bundles, even if it is a hotel, becomes a legal tour operator. This results in far-reaching obligations about insurance (Bürgerliches Gesetzbuch (BGB) § 651a, 2023).

The findings of this study, which relate to the integration of service bundles alongside specific German laws, introduce a novel factor that has been previously overlooked, affecting the potential emergence of decentralised blockchain-based booking systems.

Additionally, in the empirical part of this study, the question of compatibility between blockchain-based booking systems and existing systems surfaced. The operational importance of PMS and its seamless integration with other systems is crucial for effective operation (Buhalis, 2008); therefore, it is an important factor in TOEDI that the extant literature has not yet addressed. The concern over integrating service bundles with existing PMS is not a generic technological challenge; it is a sector-specific barrier that highlights the profound interrelationship between technology, organisation, and external markets in the accommodation sector. This finding is critical as it demonstrates that for blockchain adoption to be feasible, it cannot be a standalone solution. Instead, it must seamlessly integrate with the existing, complex technological ecosystem of the accommodation sector, a point not emphasised in innovation adoption models prior to TOEDI.

Factor T.2: Perceived Technological Benefits

Although decision-makers generally had limited prior knowledge of blockchain, after being introduced to the academic discourse on its disruptive potential and its function as a disintermediating technology, they transferred this understanding to their accommodation sector context. In particular, there was consensus that blockchain's core technological principle could offer cost savings and reduce the market dominance of large intermediaries. This builds on extant literature, describing blockchain as a decentralised technology, that is designed to eliminate centralised intermediaries to achieve cost-cutting (Leung & Dickinger, 2017; Ozdemir et al., 2019).

While this perceived technological benefit is clear, what is empirically more interesting are the negative sentiments that also came up. These were often tied to blockchain's association with Bitcoin, which several participants felt could get in the way of recognising its benefits, both for accommodation providers and for their customers. From an innovation adoption point of view, this shows how reputational perceptions can hold back adoption strategies, even when the technology itself promises clear technological benefits.

This resonates with earlier academic research. One common misconception of blockchain is that it is solely associated with cryptocurrencies such as Bitcoin; however, blockchain's potential reaches far beyond that (Schneider & Azan, 2022). According to Guych et al. (2018), potential users lack a basic understanding of blockchain technology and its potential benefits, thereby hindering its widespread acceptance by businesses. Jacobs (2021) emphasises that media outlets significantly influence the public's understanding and acceptance of blockchain. They can either promote its benefits and adoption through positive portrayals or hinder it through negative narratives.

These findings suggest acknowledging an additional layer: blockchain's perceived image in future research. Research on perceived benefits is at risk of being biased, which can hinder the accurate description of the benefits. Blockchain's public image can substantially influence the emergence of blockchain-based booking systems in the accommodation sector.

This also suggests that the technological value proposition alone is insufficient. Developers and adopters must also engage in a strategic communication effort to overcome these negative connotations. This is a challenge that the TOEDI framework, as an extended network innovation adoption model developed in this research, is particularly suited to address.

Factor T.3: Data Access and Security

Although most of the decision-makers interviewed had limited prior knowledge of blockchain technology, they were able to grasp the core technological principles when these were applied to the scenario of blockchain adoption in the intermediation of accommodation services. In this scenario, the decision-makers perceived that blockchain could, in principle, enhance data quality and reduce issues such as overbooking and data redundancy without the involvement of a third party. A few also regarded the potential for direct data exchange with guests, bypassing intermediaries, as a potentially valuable development. This perception of a secure technology suggests that Data Access and Security should be considered an influencing factor for organisational adoption, one that is often overlooked in the existing research.

This perception corresponds with themes in the existing literature, which describes blockchain as a secure and immutable decentralised ledger. Data stored as identical copies across multiple computer systems, each controlled by different entities, is argued to create a robust online environment with decentralised trust and reputation management systems (Putra et al., 2022). While the participants' perspectives are constrained by their limited knowledge and the absence of practical experience, the factor of Data Access and Security remains a core function of blockchain and is therefore essential to include in any innovation adoption model. Moreover, the literature suggests incorporating additional, more critical features into this factor, which could be explored in future research.

Blockchain, while promising in terms of decentralisation and transparency, is not without its flaws. One major criticism is the vulnerability of blockchain networks

to cyberattacks. Since blockchain operates on a peer-to-peer network, any security breach in one node can potentially compromise the entire network (Mohanta et al., 2021).

The opportunity to directly access guests' data aligns with the technological nature of blockchain. However, how these accesses occur was not widely understood, as the sample interviewed had had little to no contact with blockchain or Bitcoin. Blockchain wallets, serving as access points, are crucial for the broader adoption and use of the technology (Charles, 2022). Cannavò (2021) provides an example of a popular tourist destination where blockchain wallets enable tourists to store and spend digital assets, securely. Adopting blockchain wallets in the tourism sector is described as offering a secure and transparent transaction mechanism, benefiting tourists and service providers (Khanna, 2020). However, research fails to acknowledge the role of blockchain wallets in a decentralised blockchain-based booking system.

This research directly addresses a key organisational weakness identified earlier in Factor O.3: the sector’s struggle to provide a trustworthy direct booking experience on their websites. The potential for a standardised blockchain wallet to enable data exchange and enhance security is therefore not just a technological benefit, but a potential solution to a long-standing organisational capability gap.

The TOEDI factor of data access, security, and interchange in decentralised blockchain-based booking systems is a unique contribution and a crucial factor. The in-depth exploration of blockchain wallets opens avenues for further research.

5.3.5 External Contextual Force

The external contextual force in the TOEDI framework refines and extends the general notion of the external environment context found in the traditional TOE framework. Whereas the TOE framework considers external influences in a broad sense, the TOEDI framework narrows its focus to a specific market: the online platform intermediaries, such as Booking.com or HRS. These gatekeepers have

established an oligopoly, significantly influencing the dependency dynamics within the accommodation sector (Stangl et al., 2016).

By focusing on the external environments of the oligopoly of booking platforms, the TOEDI framework captures the specificity of the intermediary market in Germany, where the accommodation sector operates. This nuanced approach enables a deeper understanding of the disruptive power of blockchain-based booking systems to revolutionise, if not potentially completely replace, the established external market of intermediaries and their incumbents. This contribution provides industry-specific knowledge about blockchain in the external environment of an oligopoly, specifically in the accommodation sector.

This study empirically conceptualised the external context (E) of TOEDI with the intermediary market as an external environment for the accommodation sector. Within this context, four critical factors have been generated in this study (E.1, E.2, E.3, and E.4), which are discussed in the existing literature.

Factor E.1: Market Dominance of Intermediaries

This TOEDI factor examines the significant market power of intermediaries, such as booking platforms, and their influence on the accommodation sector. Booking platforms are described in the interviews of this study as dominant market powers, frequently with negative connotations such as "brute" market power. Such connotations were attributed to the way platforms enforce rules, exploit their market power, and pressure accommodation service providers. Although the advantages of being listed on these platforms were recognised in the interviews with the decision-makers, this has resulted in a high reliance on booking platforms.

This study has empirically revealed that the relationship between the accommodation service provider and intermediaries is not a partnership in a free market. It is a market dominated by a limited number of dominant intermediaries, described as an oligopoly by Stangl et al. (2016), detailing the implications for both consumers and hotels. The oligopoly leads to reduced competition, as these firms frequently engage in strategic behaviour to maintain their market share. This behav-

iour can include collusion, where firms cooperate to fix prices or allocate customers, limiting consumer choice and distorting market outcomes (Yup Chung, 2000).

These dominant platforms can dictate terms and conditions to service providers in the accommodation sector, potentially squeezing their margins and imposing stringent requirements. Hotels, for example, as one of the crucial parts of the accommodation sector, are increasingly dependent on these portals for bookings, as they have become the primary source of online reservations (Stangl et al., 2016).

The perceived market dominance and abuse of power, as described by decision-makers and supported by literature, have become the focus of regulatory instances increasingly. Booking.com is the first intermediary in tourism to be considered a "gatekeeper" under the established Digital Markets Act (European Commission, 2023).

This study is the first to contribute to the TOEDI factor regarding market dominance, pointing out that oligopolistic markets, such as the accommodation sector, exert other influences on the emergence of blockchain. This is a critical external market pressure that goes beyond the typical market competition found in other sectors where blockchain is researched. This study validates the research objective to extend a framework such as TOE to TOEDI and adapt it to the external environment context, specifically focusing on the dominant and often adversarial role of these gatekeepers, a perspective that generic innovation adoption models have failed to capture.

Factor E.2: Relationship and Dependencies

This TOEDI factor suggests that the platform's visibility in search engines determines the dependency of accommodation service providers on intermediary platforms. The desire for independence from the intermediaries exists, but is considered difficult to achieve for smaller, less unique accommodation businesses. The inclusion of this factor aligns with a broader discussion in the existing literature (Romero & Tejada, 2020). According to Carroll and Siguaw (2003), partnering

with intermediaries means tapping into vast customer bases and marketing resources, increasing visibility and brand exposure. Hotels are increasingly relying on these portals for bookings as their primary source of online reservations (Stangl et al., 2016). By outsourcing marketing and distribution functions to intermediaries, accommodation service providers can focus on their core competencies of providing hospitality services, resulting in cost savings and improved operational effectiveness (Carroll & Siguaw, 2003). Nevertheless, retaining up to 30% of the booking value significantly impacts the hotel's profit margins, particularly for smaller, independent establishments with limited financial resources (Carroll & Siguaw, 2003). Furthermore, hotels are at risk of becoming overly reliant on intermediaries for bookings, which can reduce their direct control over the customer experience and limit their ability to establish direct relationships with guests (Carroll & Siguaw, 2003).

This finding highlights a cycle of dependency: intermediaries, such as OTAs and other booking platforms, invest large marketing budgets to dominate search engine visibility, which forces hotels to rely on them for market access, thereby funding the same budgets that create this dominance.

Although the cycle of dependency of accommodation service providers towards intermediaries plays a crucial role, extant literature has failed to acknowledge this as a factor in blockchain research. Blockchain’s disintermediation nature can reduce dependency and act as a strong motivating factor for accommodation service providers to adopt decentralised blockchain-based booking systems.

Factor E.3: Guest Dynamics

In addition to the relationship and dependency on the visibility of booking platforms in search engines described in the previous TOEDI factor, guest dynamics surfaced as a factor in the findings of this study. The decision-makers suggest a set of features that booking platforms can use to influence guest dynamics and foster their oligopoly in the German accommodation sector. The decision-makers identified the following features as crucial for potential guests: simplicity and familiarity with the booking system, comparability of offers, and quick access to

information. It was noted that trust in payment and booking processes, as well as attractive customer loyalty programmes, are also valuable features.

Guests potentially lack knowledge about individual hotels, so trust in the intermediary becomes vital. The trust factor aligns with existing research into how intermediaries can overcome information asymmetry and facilitate transactions by fostering trust. As discussed in the critical literature review in Chapter 2.1, information aggregation and trust-enhancing mechanisms have catalysed several shifts in the intermediation of services. An intermediary reduces transaction costs, significantly simplifying the consumer's decision-making process and reducing the time required to find the correct information (Wigand, 2020). The convenience of comparing prices and reading reviews on a single platform can save travellers time and effort (Stangl et al., 2016). In this way, booking portals serve as a crucial intermediary in the accommodation sector (Qingyun et al., 2009)

The guest dynamics identified in this factor, including a preference for simplicity, comparability, and trust in familiar platforms, are crucial because they represent the source of the intermediaries' market power. This is the demand side of the dependency cycle discussed in the previous factor, E.2.

A key implication for any disruptive technology, such as blockchain, is that it cannot succeed merely by offering lower commissions to hotels. As outlined in Section 2.2.4, this aligns with the characteristics of disruptive innovation described by Christensen et al. (2011): Offering a novel feature like lower commissions may appeal to an initial subset of users (the hotels), but for a technology to disrupt the market, it must improve its performance over time. To succeed, it must eventually replicate or exceed the convenience and trust that the primary market of guests currently derives from incumbent platforms. This underscores that a successful disruption must address the needs of both sides of the market.

This research significantly enhances the understanding of guest dynamics and preferred features when booking accommodation services. This understanding is a critical catalyst for the potential disruptive emergence of decentralised blockchain-based booking systems, particularly if they can replicate the convenience

in information aggregation and cost efficiency currently offered by centralised booking platforms.

With this, the study also contributes to the academic discussion about categorising blockchain as a disruptive innovation. Earlier research, such as that by Iansiti and Lakhani (2017), suggested it is not a disruptive technology, but rather a foundational one. However, this study argues that with the rise of AI and Large Language Models (LLMs) and the development towards Blockchain 4.0, as identified by Palacios et al. (2020), a new perspective is warranted. Therefore, this research contributes to the understanding by suggesting that blockchain should be categorised as a disruptive innovation on a theoretical basis, specifically for the intermediation of accommodation services.

Factor E.4: Societal Dynamics

This factor reflects the societal dynamics of innovation adoption, including the public discourse on emerging technologies and individual behaviour shaped by social influence. The social influence on the adoption pathway of ICTs has been widely acknowledged (Graf-Vlachy et al., 2018). A significant body of theoretical work has examined the relationship between social factors and the adoption and use of technology. Key frameworks revised in the literature review 2.4.2 include the Theory of Planned Behaviour (TPB) by Ajzen (1991), the Technology Acceptance Model (TAM) by Venkatesh and Davis (2000), and the Unified Theory of Acceptance and Use of Technology (UTAUT) by Venkatesh et al. (2003).

With the emergence of ever more technologies, social influence potentially plays an increasingly important role in determining which technologies succeed (Tsai, 2014). While not explicitly part of the traditional TOE, this study aimed to adapt and expand on the necessary factors regarding the influence of blockchain in the intermediation of accommodation services.

This factor is relevant within the scope of this study, particularly in the context of intermediating accommodation services, where broader societal issues of market dominance and the oligopolistic power of platforms such as Booking.com are well documented in both the literature review and empirically in Factor E.1 of this

study. These perceptions significantly influence the future adoption and development of blockchain as a decentralised booking system.

In the perception of decision-makers, changing societal attitudes towards the market dominance of large platforms may potentially influence blockchain development. It was perceived that reconnecting guests and service providers would be a societal advance. This reconnection has the potential to promote social sustainability by leaving more profit margins for service providers rather than intermediaries.

A shift in the dynamics of society's perception of intermediation oligopoly can be crucial in the interplay with the other 18 factors conceptualised in this study. It is worth noting that disruptive innovations often arise from changes in consumer dynamics, as noted by Christensen et al. (2018). These dynamics are closely related to societal acceptance, which refers to the degree to which individuals and groups are willing to embrace and use a particular technology. Societal dynamics are a key determinant of technology adoption (Fernandes & Oliveira, 2021). Alam et al. (2020) emphasise the significance of the concept of "trust" in influencing societal acceptance.

Societal discussions about the influence and acceptance of internet gatekeepers, Google, Facebook, and Amazon, are not new. Carroll (2014) argues that the dominance of internet gatekeepers has led to a concentration of power in the hands of a limited number of corporations. This concentration of power raises concerns about privacy and data protection. These gatekeepers have access to vast amounts of personal information that can be used for targeted advertising or surveillance purposes. Considering these concerns, it is crucial to critically examine and regulate the power of internet gatekeepers to ensure a more inclusive and democratic digital landscape.

According to Dou et al. (2012), the actions and decisions of internet gatekeepers can shape societal attitudes and have far-reaching consequences. For example, when gatekeepers selectively promote certain viewpoints or manipulate algorithms to prioritise specific content, it can amplify certain narratives while silencing

others. TOEDI is the first framework to extend research about the influence of blockchain on the accommodation sector and societal dynamics.

Factor E.4 is a critical finding, as it elevates blockchain adoption from a business decision to a dynamic, potential socio-political one. The perception that decentralisation is a "societal advance" against platform dominance connects this research to broader debates about digital gatekeepers and data ownership. TOEDI is the first framework to formally extend the 'External Context' to include these societal dynamics, acknowledging their power to shape the trajectory of disruptive innovations.

5.4 Summary

This chapter discussed the findings from the empirical investigation of this study, conducted through a hybrid thematic analysis (Braun & Clarke, 2006) in combination with the Delphi consensus technique. This chapter systematically contrasted the qualitative findings from interviews with twelve decision-makers across five major themes and nineteen consensus statements with the extant academic literature.

As a result, nineteen consensus statements were recognised as novel contextual factors within the scope of five different contexts as outlined in the proposed Technology-Organisation-External-Disintermediation-Interrelationship (TOEDI) framework. These empirically derived factors have enriched the draft TOEDI framework conceptualised in the literature review, thereby directly answering the study's second sub-question: Which factors, constructed from the perceptions of decision-makers, influence the emergence of blockchain in the German accommodation intermediary market?

This conceptualisation, which integrates decision-makers' perceptions, answers the central research question by adapting and extending the generic innovation adoption framework, the Technology-Organisation-Environment (TOE) framework originally proposed by Tornatzky and Fleischer (1991). This framework was

initially limited to three contexts: technological, organisational, and external environment.

This extension explicitly addresses the nuanced conditions presented by the pronounced interrelationship between emerging information and communication technologies (ICT) and the intermediation of accommodation services. Furthermore, it incorporates the blockchain-specific context of disintermediation in combination with Christensen's (1997) Disruptive Innovation theory, thus providing a comprehensive and integrative approach to understanding innovation adoption in the intermediation of accommodation services.

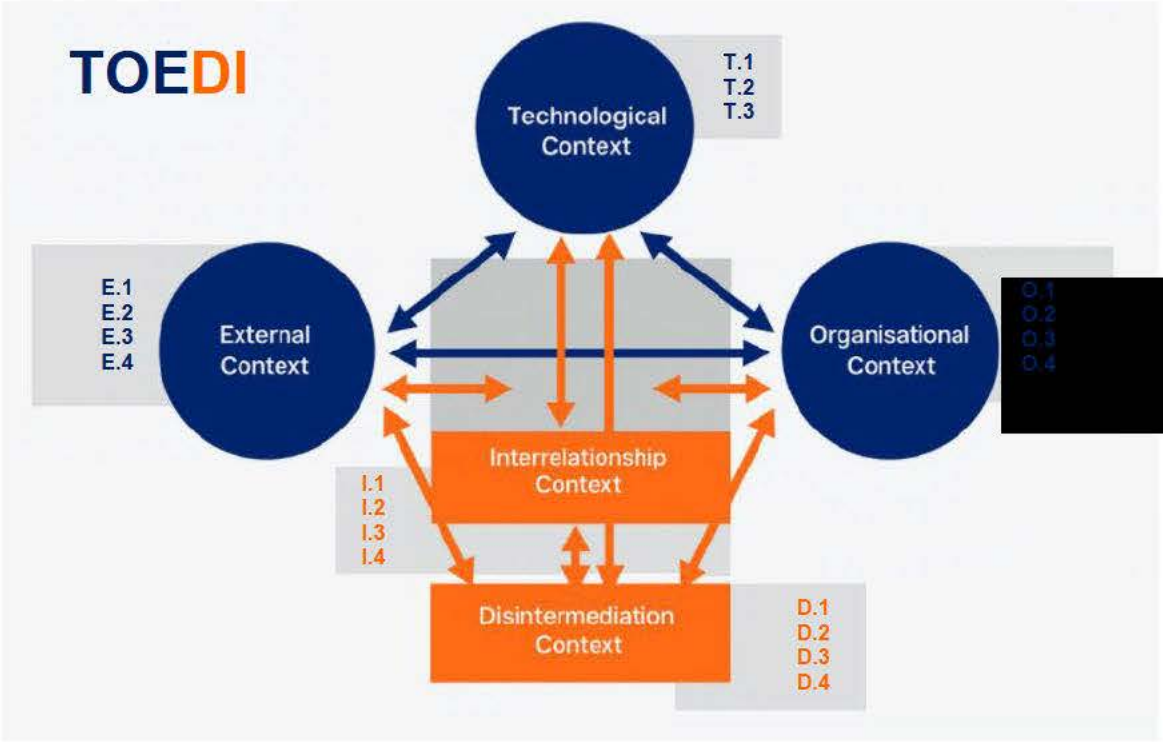
The culmination of this study is the presentation of the TOEDI framework's conceptualisation, focusing on the influence of blockchain and the intermediation of accommodation services in Germany's tourism industry. The final contribution, with its 20 contextual forces and 19 contextual factors, is visualised below.

The visualisation displays the original triad of contexts from the established Technology-Organisation-Environment (TOE) framework in dark blue circles. These contexts are linked by a set of six bidirectional forces, visualised in a dark blue robust bidirectional arrow, signifying the mutually shaping interplay between them.

The study contributes to the existing literature by extending the TOE framework to TOEDI, introducing two additional contexts (represented as orange rectangles) characterised by fourteen contextual forces. These forces are depicted with seven bidirectional arrows highlighting the complex and multi-dimensional influences at play.

The following figure serves as a conceptual blueprint for this study's contribution to the TOEDI framework, which includes an extension of the generic innovation adoption framework TOE for a more nuanced understanding of the influence of blockchain on the intermediation of accommodation services in the German tourism industry.

Figure 8 TOEDI Framework Contexts (Ribes Vicente, 2023)



This study's contribution extends the TOE framework. Conceptualising TOEDI not only bridges the identified academic gap and answers the main research question, along with its two sub-research questions, but also provides an extended analytical lens on blockchain's potentially transformative influence on the accommodation sector.

A primary finding of this study is the profound disconnect between the growing academic discourse surrounding blockchain's potential and the profound lack of awareness among the very decision-makers who would implement it. While the literature has, since 2017, increasingly called for frameworks to understand blockchain's transformative potential, TOEDI is the first to be grounded in empirical data that reveals a near-total absence of this topic in industry practice (Factors D.1 and D.2). This disconnect is not merely a lag in the diffusion of knowledge; it represents a fundamental barrier to adoption that generic innovation models fail to capture. By acknowledging this finding, the extension from the

TOE to the TOEDI framework facilitates a more nuanced understanding of blockchain's potential to influence accommodation service intermediation, thereby fulfilling the overarching aim of this research.

The concluding chapter will present these contributions to existing knowledge, discuss how the academic gap was bridged, and explain how the research objective and its aligned research (sub-)questions were successfully answered.

6 Conclusion and Recommendations

6.1 Introduction

In the previous chapter, TOEDI was introduced as the contribution of this study to the existing knowledge on the influence of blockchain on the intermediation of accommodation services in the German tourism industry.

This final chapter presents the conclusions of this study and outlines how TOEDI bridged the identified research gap regarding the lack of innovation adoption frameworks that address the specific sectoral research problems addressed in this study.

This chapter also outlines how the research objective and related research question, along with their two sub-questions, were addressed.

Additionally, this chapter discusses the study's contributions to knowledge and professional practice. It also critically examines the limitations of the study, particularly in terms of its generalisability, and suggests directions for future research.

6.2 Conclusion

This study aimed to bridge the identified gap in extant literature by offering a framework based on innovation adoption theories that assesses blockchain's influence on the intermediation of accommodation services from practitioners' perspectives. It followed the aligned research objective to adapt and extend existing innovation adoption frameworks to develop a conceptual framework that examines the influence of decentralised blockchain-based booking systems on the intermediation of accommodation services in Germany, incorporating decision-makers’ perceptions.

This study's primary contribution is the TOEDI framework, which advances innovation adoption models by demonstrating that in industries such as the accommodation sector, with a pronounced history of technological dependency, a generic framework like TOE is insufficient. By integrating the specific contexts of 'Disintermediation' and 'Interrelationship', this thesis provides a more nuanced analytical tool for examining disruptive technologies in oligopolistic markets.

According to Treiblmaier (2021), there have been few meaningful frameworks in tourism research, a point underscored by the critical literature review of this study. Moreover, none of them were specifically designed for the accommodation sector, including hotels and B&Bs. TOEDI answers the call of an emerging stream that explores how blockchain has the potential to significantly revolutionise service intermediation in the tourism industry (Demirel et al., 2022; Filimonau & Naumova, 2020; Kizildag et al., 2020; Rashideh, 2020; Buhalis et al., 2019). Most of the previously published work has primarily focused on the role of cryptocurrencies at the intersection of blockchain and the tourism industry. Previous research overlooked the generational evolution of the fourth generation of blockchain, which integrates AI and can be categorised as disruptive innovation, adopting Christensen et al.'s direction for future research.

Furthermore, previous publications overlook specific research problems in the accommodation sector that require a novel, extended framework. Accommodation service providers operate in a highly asymmetric information market that relies heavily on intermediaries (Pearce & Schott, 2005). This study is the first to consider in blockchain research that the intermediation of accommodation services has significantly affected emerging ICTs (Werthner & Klein, 1999, p. 5).

This study offers novel perspectives on the specific research problems concerning the blockchain-specific disruptive disintermediation context and the interrelationship context of ICT and the intermediation of accommodation services. While the one trillion-dollar intermediary market from commission fees, estimated by Winding Tree (2023), provides a powerful economic rationale for this research, the study's findings reveal that this financial incentive to gain independence from

the commission fees is currently tempered by significant decision-makers' scepticism and a profound lack of awareness regarding blockchain technology. This highlights that financial potential alone is an insufficient driver for adoption in the absence of technological readiness and organisational knowledge.

The research objective, to adapt and extend existing innovation adoption frameworks to develop a conceptual framework examining the influence of decentralised blockchain-based booking systems on the intermediation of accommodation services in Germany, was successfully achieved. The resulting TOEDI framework, with 19 contextual factors, integrates the perceptions of decision-makers and thereby contributes to both theoretical advancements and practical understanding in the field. This objective was achieved through a series of methodological and analytical steps.

To achieve the research objective, this study presented in the introduction the central research question: How can existing innovation adoption frameworks be adapted to develop a conceptual framework that examines the influence of blockchain on the intermediation of accommodation services in Germany, while integrating decision-makers' perspectives?

To address this central research question, this study critically reviewed existing innovation adoption models and conceptual frameworks following research subquestion 1: Which innovation adoption framework provides a suitable foundation for analysing the influence of blockchain on a sector-specific intermediary market, such as the German accommodation industry?

In a first step, this study conducted a critical literature review using the SCOPUS database, focusing on the keywords "tourism" and "blockchain" to identify existing research in the tourism industry. However, due to the limited number of studies applying an innovation adoption framework, none were found to be suitable for the scope of this study. In a second step, cross-sectional research was conducted on streams of innovation adoption frameworks. As a result, this study draws on Tornatzky and Fleischer's (1991) *Technology–Organisation–Environment* (TOE) framework as a suitable basis for analysis.

It justified the suitability of Tornatzky and Fleischer's (1991) TOE framework, with its three contexts: technology, organisation, and external environment, as a primary framework for extension. Although more than 30 years old, it is commonly used by researchers to extend its application to appropriate contexts because it is a generic theory (Baker, 2011). In research on blockchain, it has been extended with new variables (Taherdoost, 2022) due to its inherent flexibility (Baker, 2011). TOE, as the primary framework, was extended with accommodation sector-specific context on the pronounced historical interrelationship between emerging ICTs and the intermediation of accommodation services. The TOE triad of contexts was further extended to the blockchain-specific disintermediation context, forming a draft TOEDI framework.

In the conceptualisation of TOEDI, this study subsequently incorporated the decision-makers' perspectives identified in the academic gap to detail the factors across the five contexts. This part addresses sub-question 2: Which factors, constructed from the perceptions of decision-makers, influence the emergence of blockchain in the German accommodation intermediary market?

The empirical part of this study addressed this sub-research question. It explored the qualitative perceptions and knowledge of decision-makers in the German accommodation sector regarding the potential adoption of blockchain in their organisations and its influence on intermediation, in order to achieve the research objective.

Their role in enriching the draft TOE framework, now termed TOEDI, highlights the importance of integrating the practitioner perspective. These decision-makers are responsible for deciding whether to adopt decentralised blockchain-based systems within their organisations.

This objective was achieved through a social constructivist approach. Using a qualitative research methodology, semi-structured interviews were conducted, followed by thematic analysis, yielding 19 subthemes. These subthemes were condensed into consensus statements and further refined through the Delphi consensus technique, involving a questionnaire with a 7-point Likert scale.

Three statistical measures, mean, median, and interquartile ranges, were applied to analyse the data, ensuring that all statements reached at least moderate consensus.

The findings were discussed concerning the existing literature, enriching the TOEDI framework by integrating decision-makers' perceptions and contributing 19 contextual factors, successfully answering research sub-question 2.

Summarising this doctoral thesis, *The Influence of Blockchain on the Inter-mediation of Accommodation Services in the German Tourism Industry*, has successfully bridged the academic gap by offering the first framework based on innovation adoption frameworks that explores blockchain's influence on the intermediation of accommodation services, integrating practitioners' perspectives.

The aligned research problems of the substantial influence of ICT on the intermediation of accommodation services, and the blockchain's inherent technological architecture of disintermediation have been addressed by a sector-specific research objective and an aligned research question, with two sub-questions.

The study adapted and extended an existing innovation adoption framework to develop a conceptual framework addressing the specific research problems of the accommodation sector in Germany. This framework integrates decision-makers' perceptions of decentralised blockchain-based booking systems, thereby enhancing understanding of the potential for adoption and its influence on the intermediation of accommodation services.

The main contribution of this study is that it bridges the identified research gap and fulfils both the research objective and research question by conceptualising TOEDI. This framework builds on the foundations of Tornatzky and Fleischer's (1991) *Technology–Organisation–Environment* (TOE) model, but introduces two critical, sector-specific extensions: the *Disintermediation Context* and the *Interrelationship Context*.

The resulting framework comprises five interconnected contexts, as illustrated in the figure below, and provides a nuanced, sector-specific analytical lens for examining the potential influence of blockchain on the intermediation of accommodation services. It captures the complexity of this transformation by addressing both technological and organisational dimensions, as well as external pressures and the unique dynamics of disintermediation. The model consists of five interrelated contexts: *Technological*, *Organisational*, *External*, *Disintermediation*, and *Interrelationship*.

Technological Context: Includes perceived technological challenges, expected benefits, and concerns related to data security and system access.

Organisational Context: Covers internal structures and adoption readiness, strategic considerations, resource capabilities, and the perceived intangibility of blockchain innovations.

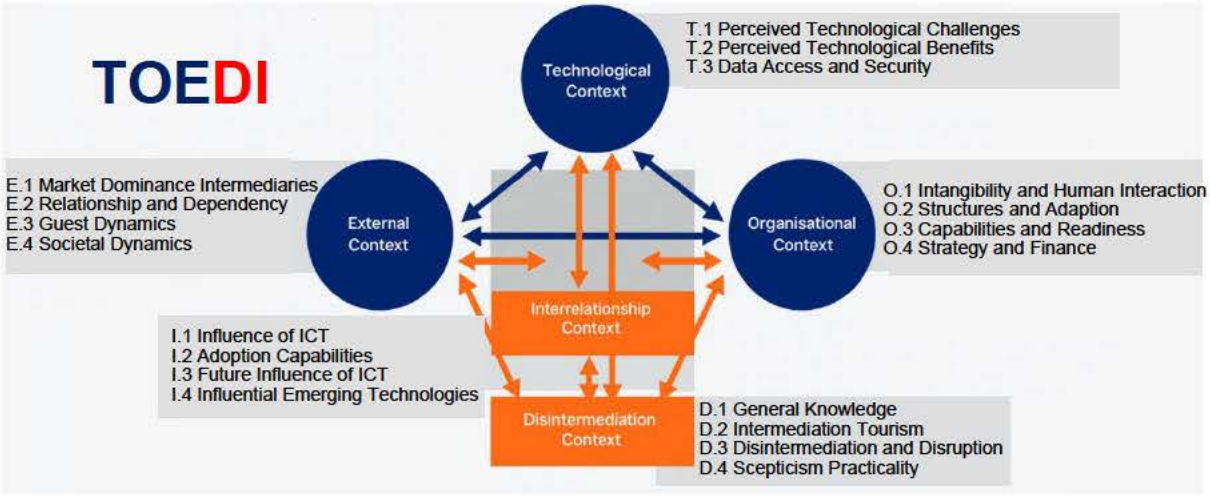
External Context: Captures factors beyond the organisation's control, such as market dominance, dependency relationships, shifting guest behaviours, and societal dynamics concerning decentralised technologies.

Disintermediation Context: This newly introduced context addresses the core disruptive element of blockchain, its potential to bypass intermediaries, like OTAs or booking platforms. It includes dimensions such as the general knowledge of decision-makers compared to academic discourse, which discusses substantial disintermediation effects, the disruption of intermediaries, and scepticism regarding practical .

Interrelationship Context: Positioned centrally, this context reflects the dynamic interactions across all other contexts. It integrates constructs such as intention to adopt, adoption capabilities, the projected influence of ICT, and the emergence of other influential technologies (e.g. AI).

The directional arrows in the model highlight both traditional interactions from the TOE framework (shown in blue) and the influence of the TOEDI extension of disintermediation (in orange), which intersect with the central interrelationship context.

Figure 9 Detailed TOEDI Framework (Ribes Vicente, 2023)



By incorporating decision-makers' perceptions into the factors of the five-context model, including the extended, accommodation sector-specific, and blockchain-specific disintermediation context, the TOEDI model contributes a sector-specific innovation adoption framework on how blockchain potentially influences the intermediation of accommodation services in Germany.

The following subchapter details how bridging the gap by conceptualising a novel extended innovation adoption framework, integrating factors from the decision-makers' perceptions and addressing the two specific research problems with TOEDI, contributes to knowledge.

6.3 Contribution to Knowledge

After successfully addressing the central research aim and its aligned research question, this study has bridged the identified academic gap by answering the first research sub-question 1, which was to identify a suitable foundational innovation adoption framework. It was answered in the critical literature review with the selection and justification of the TOE framework (Tornatzky & Fleischer,

1991). This was then extended to include the blockchain-specific disintermediation context and the accommodation sector-specific interrelationship context. Subsequently, Sub-Question 2, which aimed to identify influencing factors from the perceptions of decision-makers, was answered in the empirical investigation, resulting in the construction of 19 contextual factors. This study has therefore contributed to knowledge in several distinct ways, which are outlined in the following sections.

6.3.1 Extended Analytical Lens

Prior to TOEDI, analysis of blockchain adoption in the accommodation sector failed to account for the sector's historical path dependency on centralised intermediaries and the disintermediating technological nature of blockchain, leading to an incomplete understanding of the potential influence blockchain could develop.

The TOEDI framework's primary contribution is not merely the addition of two contexts, but the reconceptualisation of innovation adoption in sectors defined by technological dependency and oligopolistic intermediaries. It moves the analysis from a generic innovation adoption framework to a specific model of potential disruption by blockchain, extending the analytical lens and addressing a critical gap in both tourism and innovation literature.

The extended innovation adoption framework TOEDI enriches the core concepts of the traditional triad of technological, organisational, and external environment context in the TOE framework of Tornatzky and Fleischer (1991). TOE's core assumption, as part of the network stream of innovation adoption frameworks, is that the triad of contexts is a mutually shaping network. Each context shapes and is shaped by the others in a dynamic interplay. This interplay in the network not only includes the three contexts but also the contextual factors within each context.

The traditional TOE recognises that the influence of each context is a bidirectional force. The TOE triad, therefore, represents six contextual forces. The extension to the five contexts TOEDI extends the network of mutually shaping contextual

forces from six to 20 forces. The interplay of these extended contextual forces has never been explored in the existing literature. They contribute detailed knowledge on the intricate mutual shaping between technological, organisational, and external contexts, together with the catalytic context of interrelationship and the context of disintermediation.

This study's contribution, the TOEDI framework, offers an extended analytical lens to stream of network innovation adoption framework. Adapting and extending this research reveals a far more complex and interdependent system of influences than previously conceptualised in TOE. This highlights numerous potential interactions between technological readiness, organisational strategy, external market pressures, and the disruptive potential of blockchain in a sector with a historically influential interrelationship with emerging ICT.

For example, if the external contextual factor E.1, “market dominance of intermediaries,” increases, this has the potential to significantly encourage accommodation service providers to develop the “ability and willingness to disintermediate” in the organisational contextual factor O.3.

This extension of TOEDI provides an unprecedented, detailed network of mutually shaping contextual forces and factors, thereby taking the network stream of innovation adoption frameworks to a new level, particularly in the accommodation sector.

The extension from TOE to TOEDI, considering the interrelationship context, contributes to knowledge by including the technological catalysts that have had a historically pronounced, substantial impact on the accommodation sector due to emerging ICTs. The first global application of ICT was in the accommodation sector, specifically in air ticket distribution (Pease & Rowe, 2005). The entire tourism industry has consistently been at the forefront of digital disruption (World Economic Forum, 2017). A certain number of substantial shifts have been observed, as revealed in the critical literature review of this study.

To this extent, there has been no framework for innovation adoption that recognises the pronounced interrelationship between emerging ICTs and their influence on the accommodation sector as a catalyst. The TOEDI framework conceptualised in this study pioneers the inclusion of this specific interrelationship in existing frameworks of innovation adoption.

This sector-specific extension reflects the unique proposition that the accommodation sector relies heavily on intermediation (Pearce & Schott, 2005) and has more intermediaries than any other (Rose, 2016). Additionally, the intermediation market is characterised by a limited number of major players, forming an oligopoly, as highlighted by Andriotisy (2003). This oligopoly has a significant influence on the dependency dynamics within the accommodation sector (Stangl et al., 2016). This specific set of research problems necessitates the extension of a traditional innovation adoption framework.

This extension is not a minor addition; it extends the understanding of operational dynamics within the accommodation sector. Nonetheless, the framework's sector-specific focus limits its portability, positioning TOEDI as a starting point rather than a universally generalisable model.

6.3.2 Disintermediation and Practitioner Knowledge

The introduction of the *Disintermediation Context* makes a unique contribution by adding a new layer of knowledge to innovation adoption frameworks, presenting a direct challenge to the assumptions of traditional innovation theories. While frequently used frameworks like the *Diffusion of Innovations* (DOI) presume a smooth, staged flow of information from innovators to mass adopters, this study's findings suggest that for certain disruptive technologies like blockchain, this flow may be absent.

The profound lack of awareness among practitioners regarding blockchain's potential suggest that the process is not one of slow adoption but of a complete knowledge barrier. The TOEDI framework is the first to conceptualise this disconnect formally. It adapts the generic TOE framework by incorporating the *Disintermediation Context*, which includes the empirically grounded factors of "General

Knowledge (D.1)" and knowledge about practical applications in "Intermediation Tourism (D.2)".

Furthermore, by embedding disruptive innovation theory within this new context, TOEDI provides a novel analytical lens. It demonstrates that a technology's disruptive potential is not solely inherent in its features but is critically mediated by the awareness and perceived practicality among key decision-makers. The framework thus moves beyond describing disruption as an outcome and provides a tool to analyse the preconditions and barriers, like the knowledge gap, that enable or prevent it from occurring.

6.3.3 Revaluation Blockchain's Disruptive Influence

By extending the triad of technological, organisational, and external contexts with the *Disintermediation Context*, including the factors about knowledge barriers, this study has addressed the second research problem and further contributed a novel approach to the network stream of innovation frameworks. The disintermediating nature of blockchain, as described in Nakamoto's seminal 2008 paper on Bitcoin, has been thoroughly studied. However, Bitcoin was the first of four generations (Colomo-Palacios et al., 2020; Baudier et al., 2022). Most tourism research has focused on cryptocurrencies and the first generation of blockchain. Only a limited number of researchers address the second generation of blockchain-based smart contracts in tourism, such as Joo et al. (2021).

The scope of this study lies at the intersection of the third and fourth generations of blockchain, where a decentralised design creates a secure and trustworthy environment (Tapscott & Amir-Aslani, 2022). The research argued that they would replace the centralised intermediation systems of OTAs and challenge their monopoly (Calvaresi et al., 2019; Gelter, 2017). The first whitepaper dates back to Beenest (2017). However, specific research on this application has been overlooked until recently. E. Demirel et al. (2022) researched a decentralised booking system. This type of booking system has recently seen real-life applications with the platform Winding Tree (2023).

What has been overlooked so far and is likely the reason for the lack of mass adoption of these systems, is the consideration of the technological catalyst of information aggregation that TOEDI addresses. With the emergence of ChatGPT in November 2022, the fourth generation of blockchain with integrated AI is already emerging. This AI integration reduces the need for human interactions when searching for information to make decisions (Colomo-Palacios et al., 2020; Baudier et al., 2022), increasing functionality and intelligence (Raja, 2021). This evolution is fundamental, as Blockchain 4.0 aligns with the technological catalysts previously identified in this study as responsible for the interrelationship between ICT and the intermediation of accommodation services: trust-enhancing mechanisms to navigate asymmetric markets and information aggregation to reduce transaction costs.

This requires a reconceptualisation of the innovation adoption framework for blockchain and AI technologies. Past research has been divided over whether blockchain should be considered a disruptive innovation; this study classifies Blockchain 4.0 as such for the intermediation of accommodation services in the tourism industry, in line with Christensen et al.'s (2018) five-step framework for future research directions.

Therefore, this study, for the first time, argues that a network innovation adoption framework, within the scope of this research, cannot ignore an actor in the network that fundamentally shapes all other actors, specifically displacing actors such as centralised intermediaries and their oligopoly.

TOEDI extends and reconceptualises TOE from an innovation adoption framework to a disruptive innovation adoption framework. This contribution responds to Christensen et al.'s (2018) calls for future research. This reconceptualisation contributes significantly to knowledge about blockchain and AI research and to the Disruptive Innovation theory.

Besides addressing the two specific research problems represented by two new contexts that extend the triad of TOE to five contexts of TOEDI, this study's contribution also presents another previously overlooked perspective of TOE as a unique and original contribution.

6.3.4 Qualitative Approach to Blockchain Adoption

Previous studies have failed to include the perspective of tourism industry professionals (Rejeb et al., 2020), although Önder and Treiblmaier (2018) stated that practitioners would be increasingly forced to adopt blockchain technology. This study is pioneering in addressing the lack of practitioner perspective on a technology that has seen almost no real-world application. This requires a departure from the traditional research paradigm in the field of blockchain. Previous research has predominantly taken an objective stance on measurable data about blockchain, while simultaneously failing to address subjectivism through the lack of subjective experiences of adoption or case studies in the accommodation sector.

Therefore, this study, under a social constructivist research paradigm, contributes to the qualitative exploration of innovation adoption frameworks and models. The qualitative empirical part of this study was conducted in line with the research objective, which is to integrate decision-makers' perceptions in the German accommodation sector, adapting and extending an existing framework to examine the potential influence of blockchain on the intermediation of accommodation services.

The empirical findings contribute to knowledge by bridging the gap between academic discourse and practitioners’ perceptions of blockchain’s influence. The contribution suggests not only that this gap can hinder adoption, but also that it has provided an analytical lens for understanding what a potential decentralised, blockchain-based system must integrate for decision-makers in the accommodation sector to adopt such systems and thereby reduce dependency on the oligopoly of large booking platforms.

The dependency was described as having "brute market power", serving up to 70% of all bookings with a commission fee of 15–30%. They also want to regain direct contact with guests. This desire was also echoed in the organisational context, where decision-makers believe that the human element remains vital despite increasing digitalisation. This study also contributes to the knowledge of organisational factors, including company size and generational change, that influence the adoption of technology in the German accommodation sector. The accommodation sector faces the challenge of promoting disintermediation and attracting direct bookings to reduce dependency on intermediary booking platforms.

Also, in the technological context, this study provided qualitative new insights that the integration of blockchain technology poses specific challenges for the accommodation sector, including its service complexity and the need for compatible interfaces, for example, to their PMS. However, decision-makers recognised the benefits of adopting decentralised blockchain-based booking systems, such as cost savings and improved data security.

In the external context, this study has contributed to the knowledge that the market dominance of booking platforms presents both challenges and opportunities for the accommodation sector. One of the findings suggests that the social acceptance of the dominance of these centralised booking platforms may influence the future adoption of decentralised booking systems in the accommodation sector. The inclusion of decision-makers addresses a previously lacking perspective, providing lived experiences and perceptions of blockchain adoption that had never been captured in German research.

Furthermore, TOEDI paved the way for the reconceptualisation of innovation adoption frameworks, as outlined in the next section.

6.3.5 Contribution to Professional Practice

This study presents diverse contributions to professional practice from different perspectives. This section outlines the implications for decision-makers in the accommodation sector, for blockchain and ICT developers, and finally, for the oligopoly of OTAs and centralised booking platforms.

Implications for Decision-makers in the Accommodation Sector

From a professional practice perspective, the rise of a start-up like Airbnb, which has become a dominant global player, has demonstrated the substantial influence ICT can have in the accommodation sector. According to Önder and Treiblmaier (2018), practitioners are increasingly compelled to adopt blockchain technology, and managers should consider how they track the development of the peer-to-peer technology blockchain. This can be achieved by allocating resources to these technologies and providing training to enhance operational efficiency and promote a more favourable market position in the future. However, DiPietro and Wang (2010) highlight that limited financial resources are a significant barrier for hotels in adopting new technologies. It was empirically found that managers in the accommodation sector, regardless of whether they are employed in large hotel chains or small accommodation providers, are self-critical in that they need to encourage direct bookings by improving the usability and functionality of websites. They perceive that blockchain can offer an alternative with its decentralised booking systems. Addressing this is crucial, as guests associate low website quality with poor service quality (Lee et al., 2022).

This study revealed that there is a strong consensus that German hotel websites frequently fail to provide a seamless and intuitive user experience, making it difficult for potential customers to navigate the site and find the necessary information. According to DiPietro and Wang (2010), the accommodation sector operates in a highly competitive environment, where profit margins are described as slim, making it difficult for hotels to allocate substantial budgets for technology adoption. A decentralised blockchain-based booking system potentially encourages service providers in the accommodation sector to reduce their reliance on the dominant market power of intermediaries.

Furthermore, this study examined societal dynamics as one factor influencing the acceptance of oligopoly in the accommodation sector and the dominance of market players.

Summarised, decision-makers in the accommodation sector are challenged to develop expertise in the adoption and integration of these systems and allocate resources accordingly. Based on the TOEDI framework, decision-makers should adopt a three-step process:

1. Assess their own organisational readiness (Factors O.2, O.3)

2. Analyse external dependencies (Factors E.1, E.2),

3. Actively seek information on emerging technologies to close knowledge gap (Factors I.3, D.1, D.2).

These managerial implications are particularly relevant for small and medium accommodation service provider, which face high commission burdens. Nonetheless, their adoption capacity may be constrained by resource limitations and technological scepticism.

Implications for ICT and Blockchain Developers

This study also empirically revealed managerial implications for ICT providers or start-ups aiming to participate in the creation of a decentralised blockchain-based booking system. Despite these systems being perceived for their ability to cut costs by displacing intermediaries and thereby lowering their market power, it was found that several decision-makers have negative sentiments towards blockchain. These sentiments, particularly the association with Bitcoin, potentially hinder awareness of its benefits among stakeholders or guests. This echoes findings from prior research; a prevalent misconception is that blockchain is exclusively linked to cryptocurrencies like Bitcoin. Although blockchain technology was initially developed by Nakamoto (2008) to back cryptocurrencies, its capabilities extend well beyond this scope (Schneider & Azan, 2022).

This concurs with the interviewees' perception in this research, with an absence of basic understanding among several decision-makers. According to Guych et al. (2018), a significant number of potential adopters lack a fundamental understanding of blockchain technology and its potential benefits. Jacobs (2021) points out that the media plays a significant role in influencing the public's perception and acceptance of blockchain, capable of either advancing its adoption through positive depictions or impeding it with negative portrayals.

The findings (Factors T.1,T.2, T.3) demonstrate that a successful solution must not only be decentralised but must offer a seamless interface with existing PMS systems and an intuitive, trustworthy and user friendly solution for guests to address the guest dynamics identified in Factor E.3.

Implications for OTAs and Intermediaries

This study also revealed managerial implications for intermediaries like OTAs and booking platforms. Decentralised blockchain-based booking systems have the potential to disrupt traditional intermediaries (Demirel et al., 2022; Filimonau and Naumova, 2020; Kizildag et al., 2020; Rashideh, 2020; Buhalis et al., 2019). It is expected that start-ups adopting blockchain will replace the centralised intermediation systems and challenge their monopoly (Calvaresi et al., 2019; Gelter, 2017). Ampountolas and Chiffer (2021) suggest that OTAs, to maintain their market position, should be aware of this potential. This, combined with the empirical findings of this study, suggests that the relationship between the accommodation sector and intermediaries is not one of a free market partnership. Booking platforms were described as dominant market powers, frequently with negative connotations, such as "brute" market power, resulting from their enforcement of rules, exploitation of market power, and the pressure they exert on suppliers. Considering that hotels account for the majority of their business through these booking platforms, the motivation of the accommodation sector to become independent of the oligopoly of intermediaries and improve margins is very high.

In conclusion, this study contributes with the TOEDI framework, a groundbreaking, extended, and innovative adoption framework that integrates technological

catalysts that substantially influence the intermediation of accommodation services. It applies these catalysts to the previously overlooked generational development of fourth-generation blockchain, which integrates Artificial Intelligence, as outlined in Section 2.3.2.

This novel framework highlights the importance of OTAs rethinking the status quo of oligopolies. These oligopolies have the potential for positive transformation if they are carefully assessed and strategically managed to find a relationship with the accommodation service provider. Considering regulators like the EU, this transformation is evident, and future research could integrate the EU regulations into TOEDI as a contextual factor. Further directions for future research are outlined in Chapter 6.5, following the chapter about the limitations of this study.

6.4 Limitations

This study employed a constructivist research paradigm with a qualitative research design to gain an understanding of German decision-makers' perceptions regarding the adoption of blockchain in the accommodation sector. Qualitative research approaches are suitable to "generate understanding" rather than "measure and generate explanations", according to Stenbacka (2001).

This field has very few real-world applications, as revealed in 2.3.2. Therefore, this study contributed with TOEDI in a constructivist epistemology. Lincoln et al. (1985) state that knowledge builds multiple constructed realities, and instead of validity and reliability, the concept of 'trustworthiness' is more relevant for qualitative research. Nevertheless, ‘trustworthiness’ is always negotiable and open-ended and not a matter of final proof (Seale, 1999). Furthermore, in multiple constructed realities, knowledge is a matter of the best-informed and most sophisticated construction on which there is a consensus at a given time (Guba & Lincoln, 1989).

Therefore, this study addresses this issue with a purposive sample using the Delphi consensus technique, as attributed to Dalkey and Helmer (1963).

The empirical part of this study, rooted in the methodological guidance of Easterby-Smith et al. (2012), prioritised capturing a deep understanding of behaviours within organisations in the innovation adoption of blockchain. This was then condensed using the Delphi consensus technique to conceptualise the 19 contextual factors for TOEDI.

Therefore, the qualitative findings provide a rich and detailed snapshot of current perceptions on blockchain adoption in the German accommodation sector. However, generalising these findings requires careful consideration.

First, the sectoral focus on the intermediation of accommodation services is highly contextualised through the pronounced interrelationship between emerging ICT and the intermediation of accommodation services. As such, the findings may not be directly transferable to other sectors, geographical locations, social and cultural differences, or technological evolution without adjustments. According to Lincoln et al. (1985), qualitative research is not about reproducing results. However, it is about illuminating patterns that can be used in other contexts, as exemplified in the following examples.

For example, the generalisability of TOEDI from the German accommodation sector to other tourism sectors and international markets must consider that the external context, representing the intermediary market in the accommodation sector, has not been adopted uniformly worldwide.

Furthermore, the phenomenon of disintermediation, as revealed in this study, depends on social capital. The idea of social capital is based on trust in an institutional environment that facilitates direct business transactions. Therefore, disintermediation is more likely to occur in low-risk countries (Wiig, 2004).

The most commonly used indicator in the literature to measure trustworthiness and assess transaction risk is the International Country Risk Guide (ICRG) indicator (PRS Group, 2021). However, risk assessment was not part of the study. Nonetheless, it may serve as a contextual factor in the external context if TOEDI is applied outside the German market.

Finally, a limitation of this study is the lack of existing literature on innovation adoption in the accommodation sector, as well as the scarcity of interviewees with expertise in the adoption of decentralised, blockchain-based booking systems.

In summary, while the findings of this study provide important insights into the perception of decision-makers about the adoption of blockchain technology in the German accommodation sector, the generalisability of TOEDI should be approached with caution. The specificity and highly contextual nature of the findings call for further research to explore the generalisability of these insights across different domains.

6.5 Direction for Future Research

Future research streams should focus on empirically validating the TOEDI framework. This involves conducting rigorous research on the 19 contextual factors of TOEDI to determine their credibility and generalisability. To enhance the generalisability of the study's findings, future research could aim to replicate the study in different contexts, including different industries and countries. This would not only validate the applicability of the TOEDI framework in different settings but also enrich the understanding of the role of blockchain in the digital transformation of business models beyond the accommodation sector.

Quantitative methods, such as surveys or experiments, could be adopted to assess the framework's accuracy in predicting or explaining the adoption of blockchain-based booking in the accommodation sector. Decentralised booking systems have seen real-world applications recently, such as Winding Tree (2023), that allow diverse directions for future research.

These case studies could focus on specific services in the accommodation sector, ranging from traditional hotels to alternatives such as Airbnb or camping lodges. The aim would be to explore how the TOEDI framework applies to different business models, market conditions, and organisational structures within the accommodation sector. Each case study would provide insights into the unique challenges and opportunities associated with adopting decentralised blockchain-based systems, thereby providing a nuanced understanding of the framework's applicability.

By combining empirical validation with case studies, the research could provide a robust and comprehensive understanding of the TOEDI framework's effectiveness in describing blockchain adoption in service intermediation within the accommodation sector. This dual approach not only tests the conceptual soundness of the framework but also examines its practical applicability, enhancing its potential for academic rigour and real-world relevance.

A further important direction for future research could be the environmental impact of blockchain technology if adopted in the accommodation sector. Studies,

such as those by Mora et al. (2018), have noted blockchain’s high energy consumption, and its rollout in an industry as large as tourism could yield unexpected results.

6.6 Relevance to Personal Development

This section of the study reflects the author's perspective on how the research for this study contributed to personal development. One of the key takeaways was the exploration of ontologies and epistemologies, particularly social constructivism, which broadened our understanding of how human knowledge is constructed.

A second key takeaway was the improvement in time management and project planning. The research for this study was challenging, especially during the COVID-19 crisis between 2020 and 2022, when I faced job changes and personal losses. Since the autumn of 2022, with a better balance between personal, academic, and professional life, this research has accelerated.

The third takeaway is a deep understanding of independent research, which will continue to lead to further academic publications, particularly in the field of artificial intelligence.

The fourth key takeaway is an increased self-awareness and pride in achievements. Coming from an immigrant background with parents who had no formal school education, obtaining a PhD was a lifelong dream. Thanks to the supervisory team of Dr. Hong and Prof. Ozuem.

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List of Appendices

1 Appendix Literature Review

- 1.1 Literature not in the scope of the study
- 1.2 2016/2017
- 1.3 2018
- 1.4 2019
- 1.5 2020
- 1.6 2021
- 1.7 2022

2 Appendix Matrix Intersectoral Contextual Review

3 Appendix Email

4 Appendix Online Consent Form (German/English)

5 Appendix Questions and Visual

6 Appendix Data Export Request

7 Transcription Interviews

8 Appendix Translation Consensus Framework

9 Appendix Raw Data 2nd Delphi Round

Appendix 1.1 Literature not in the scope of the study or wrong categorised

No.	Cluster	Author
6	Smart Destination	(Enescu et al., 2021) (Nam et al., 2021) (Tyan et al., 2020) (Haider et al., 2022) (Pahuja, 2022) (Ansari et al., 2022) (Liu et al., 2022) (Krishna Yadav et al., 2022)
3	Cultural Heritage	(Trček, 2022) (Mucchi et al., 2022)
2	Social Media	(Chang et al., 2022) (Bolici et al., 2020)
1	Smart Home	(Aung & Tantidham, 2017)
2	Certification of Tourism Services, Health Passports	(Dudin et al., 2017) (Mishra, 2022)
1	P2P	(Adeyinka-Ojo & Abdullah, 2019)
1	Digital Assistant Robotic	(Rizk et al., 2020)
1	Electrical Engineering	(ICC 2020)
1	Food Supply	(Baralla et al., 2021)
1	Education	(ICTE 2020)
8	Data Mining & Processing, GIS, Deep-Learning	(Line et al., 2020) (Wibowo et al., 2020) (Kumar et al., 2020) (Achmad Teguh et al., 2020) (Y. Arif et al., 2020) (Bodkhe et al., 2020) (Wei et al., 2020) (Qin, 2022)

2	Space Tourism Safety and Services	(Surdi, 2020) (Yamazaki, 2020)
3	Reputation Management and Tourist Satisfaction	(Reyes-Menendez et al., 2019) (Y. M. Arif et al., 2020) (Le et al., 2020)
2	Travel Related Services, Passport Security	(Bindhu, 2021) (Haque et al., 2021)
2	Supply Chain	(Varriale et al., 2020) (Vodenicharova, 2021)
10	Finance and Bitcoin	(Bulut, 2021; Jiangen et al., 2021; Leung & Dickinger, 2017; G. Nuryyev et al., 2020;Tham & Sigala, 2020; Treiblmaier et al., 2020; Turkay et al., 2019) (Laptevaitė et al., 2022) (Bulut, 2022)
1	Negotiation Platform	(Cardoso et al., 2019)
1	Classification of Hotels	(Cardona Taborda et al., 2021)
1	Cognitive Diagnosis	(Liu, 2019)
2	DAAP and Technological Aspects	(Ozdemir et al., 2019) (Jijin et al., 2022)
1	Loyalty Programs	(Pérez-Sánchez et al., 2021)
2	Organ Supply, Medical Records, Smart Health	(Chavez et al., 2020) (Alhadhrami et al.) (Oberoi et al., 2022) (Dar & Kashyap, 2022)
2	Sustainability Wildlife	(Dryga et al., 2019) (Mofokeng & Matima, 2018a)

1	Knowledge Management & Management tools	(Liu & Dong, 2021)
3	Internet of Things (IoT)	(Bao, 2021) (Girau et al., 2018) (Verma, 2021)
2	Virtual Reality	(Mofokeng & Matima, 2018b) (Siddiqui et al., 2022)
2	Sustainability	(Zhou, 2022) (Peng & Huang, 2022)
3	Source not found	(IEE, 2021) (20thIEE, 2020) (Furones, 2022)
1	Policies	(Verma & Sheel, 2022)
-3	Double Entry	(CENIM, 2020) (Yunifa Miftachul Arif et al., 2020) (Treiblmaier & Önder, 2019)
-2	Triple entry	(Hassan & Rahman, 2022)
19	Sorted Wrong Conference Proceedings	HE (2020), INCIT (2020); WIS (2020), HCII (2020), ISOC (2019), SMARTCOM (2019), IEEE (2019); ICEAST (2019); ITT (2019) IEEE; BIS (2019); ICG (2018), MS (2018), Procedia (2017), ICISS (2022); ICRTC (2021); ASSIOA (2020)

Appendix 1.2 2016/2017

Blockchain and Bitcoin as a Way to Lift a Country out of Poverty - Tourism 2.0 and e-Governance in the Republic of Moldova (Pilkington & Crudu, 2016)	Analyses the potential of transformative shift in the fight against corruption in the field of E-Government and the real-world example of Moldova Tours	No innovation adoption framework identified

Appendix 1.3 2018

Blockchain and Tourism: Three Research Propositions (Önder & Treiblmaier, 2018)	The authors propose three research hypotheses about the impact of Blockchain on the tourism business.	No innovation adoption framework identified

Appendix 1.4 2019

Is Blockchain technology a watershed for tourism development? (Kwok & Koh, 2018)	Opportunities and main challenges arising from the use of Blockchain technology for small island economies DMO	No innovation adoption framework identified
Leveraging Blockchain in Monitoring SLA-Oriented Tourism Service Provisioning (Nguyen et al., 2019)	Smart contracts can automatically make compensation immediately, and tourists and service providers can track these changes.	No innovation adoption framework identified
Distributed trust reputation models using Blockchain technologies for tourism crowdsourcing platforms (Veloso et al., 2019)	The study presents a survey on distributed trust reputation modelling using the Blockchain.	No innovation adoption framework identified
BloHosT: Blockchain enabled smart tourism and hospitality management (Bodkhe et al., 2019)	Propose a BloHosT framework, which allows tourists to interact with stakeholders through a single wallet.	No innovation adoption framework identified
Blockchain: The advent of disintermediation (Quiniou, 2019)	The dominance of trusted intermediaries could be weakened by Blockchain,	No innovation adoption framework identified
Can all sectors of the hospitality and tourism industry be influenced by the innovation of Blockchain technology? (Willie, 2019)	Blockchain technology will influence all sectors of the hospitality and tourism industry.	No innovation adoption framework identified
Assessment of Blockchain applications in travel and tourism industry (Ozdemir et al., 2019)	Smart contracts and decentralised networks. The study proposes essential criteria for decision-makers in the tourism industry to compare models of DAAP.	No innovation adoption framework identified

Appendix 1.5 2020

Blockchain adoption in tourism: Grounded theory-based conceptual model (Tyan et al., 2021) Listed in 2020 in SCOPUS!	Develops a conceptual model of Blockchain adoption with casualties, phenomena, context, intervening conditions, and consequences.	Yes Grounded Theory
A Blockchain-Based Multiplayer Transaction for Tourism Serious Game (Y. M. Arif et al., 2020)	Simulates a transaction game between tourists and service providers like jeep drivers, horse rentals	No innovation adoption framework identified
Research on Blockchain Application in the Internationalisation of China's Medical Tourism Industry. (Shen & Bai, 2020)	Blockchain internalisation in medical tourism in marketing. Smart contracts increase trans-border-trust without intermediaries. Calls for improved Regulations in China and to improve the Blockchain application industry	No innovation adoption framework identified
Blockchain technology framework: Current and future perspectives for the tourism industry (Rashideh, 2020)	Blockchain's ability to increase disintermediation in tourism represents this technology's most effective influence on the industry.	No innovation adoption framework identified
Construyendo un P2P accommodation 4.0 frente al COVID-19: Proptech, autorregulación y Tokenización [Developing P2P accommodation 4.0 when faced with COVID-19: Proptech, self-regulation and Tokenization] (Comelles, 2020)	Peer-to-peer accommodation as an option after the COVID Crisis proposes the of Blockchain by passing the strongly regulated P2P platforms (Digital Service Act), enhancing transparency, and protecting the consumer from fraud.	No innovation adoption framework identified
The impact of Blockchain technology on tourism intermediation (Melkić & Čavlek, 2020)	Focused on all potential impacts (positive and negative changes), tour operators (TO), travel agencies (TA), online travel agencies (OTA), tourists (customers) and tourism service providers (suppliers).	No innovation adoption framework identified. A SWOT was introduced.
The Blockchain technology and the scope of its application in hospitality operations (Filimonau & Naumova, 2020)	The recently emerged concept of Blockchain technology (BCT) can disrupt the traditional realm and eliminate the intermediary of tourism and hospitality operations, but it is understudied.	Yes, an innovation adoption framework identified
Blockchain: a paradigm shift in business practices (Kizildag et al., 2020)	identifies and proposes several potential areas for adopting and implementing Blockchain technology in the hospitality and tourism industry, including disintermediation and smart contracts.	No innovation adoption framework identified

	Answers to which critical functions in booking can be implemented	
The Impact of Blockchain on Medical Tourism (Rejeb et al., 2020)	Potential benefits of Blockchain technology to address some of the open questions in medical tourism. A conclusion that Blockchain technology can benefit medical tourism	No innovation adoption framework identified
The Application of Blockchain in Tourism: Use Cases in the Tourism Value System (Thees et al., 2020)	The findings suggest that Blockchain applications and the entire tourism value system can provide more value to travellers while eliminating the need for traditional intermediaries. However, obstacles and rules are identified in the study.	No innovation adoption framework identified
Blockchain in the tourism industry - A review of the situation in Croatia and Macedonia (Erceg et al., 2020)	Use of Blockchain technology in Croatia and Macedonia. Detection of key areas regarding why Blockchain technology is not implemented in the tourist industry. Presents a case study	No innovation adoption framework identified
Blockchain Technology: Adoption Perspectives in Tourism (Valeri, 2020)	BCT represents a functional tool for better governance. Smart contracts and decentralised applications have already had a significant impact on tourism business deals.	No innovation adoption framework identified
Blockchain-Based Smart Contract Applications in the Tourism Industry (Karagoz & Demirel, 2020)	Aim to design the bases of the Blockchain system and the creation of smart contracts.	No innovation adoption framework identified

Appendix 1.6 2021

Technology assessment: Enabling Blockchain in hospitality and tourism sectors (Sharma et al., 2021)	Barriers and drivers, cause, and effect relationships on OTAs	Yes, a framework was identified: Interpretive Structural Modelling
Designing a tourism business model on Blockchain platform (Aghaei et al., 2021)	Blockchain platforms change business models in tourism in general with smart contracts.	Yes, a framework was identified: Osterwalder Business Model Canvas.
BlockTour: A Blockchain-based smart tourism platform (Luo & Zhou, 2021)	Propose and develop BlockTour, a Blockchain-based smart tourism platform	No innovation adoption framework identified
A critical reflection on the adoption of Blockchain in tourism (Valeri & Baggio, 2021)	Call for deeper analysis notes that tourism industry experts must be involved.	No innovation adoption framework identified
Blockchain as an innovative digitalization achievement in logistics of eco-tourism (Arbatskaya & Khoreva, 2021)	The expediency of use is justified as an example of the practical application of Blockchain technologies in tourism logistics – a quick solution to tourist problems at all stages of consumption of a tourist product booking.	No innovation adoption framework identified
Opportunities and challenges of Blockchain-oriented systems in the tourism industry. (Caddeo et al., 2021)	Use of IT in management and monitoring projects most promising sectors for the development of Blockchain technology in DMO	No innovation adoption framework identified
An IAD-type framework for Blockchain-enabled smart tourism ecosystem (Yadav et al., 2021)	Smart tourism - Visualisation of integration. The expected increase of disintermediation, few actors loss of power, but the whole system beneficial	Yes, a framework was identified: IAD.
Is Blockchain tourism's new hope? (Irannezhad & Mahadevan, 2020)	Smart contracts eliminate intermediaries and concerns relevant to tourism	No innovation adoption framework identified
Disintermediation in medical tourism through Blockchain technology: an analysis using value-focused thinking approach (Parekh et al., 2021)	Claims Blockchain technology as a potential solution, disintermediation through the execution of smart contracts	Yes, a framework was identified, but it is not suitable Value focussed thinking (VFT)

Blockchain and IoT-based vehicle tracking system for industry 4.0 applications (Chauhan et al., 2021)	Do travel agents and tourists trust service intermediation, trip summary, and influence on intermediation car rentals?	No innovation adoption framework identified
Formulation of Silver Tourism Digital Industry Service Platform Based on Blockchain and Internet of Things: Taking Shanghai Chongming Island as an Example (Feng et al., 2021)	It is not directly about intermediation or booking but platform for silver tourism in China.	No innovation adoption framework identified
Application Potential of Blockchain Technologies in the Travel and Tourism Industry (Banerji et al., 2021)	11 thematic applications, one of them smart contract and disintermediation	No innovation adoption framework identified
The token economy as a key driver for tourism: Entering the next phase of Blockchain research (Treiblmaier, 2021b)	Blockchain paradigm shift, an umbrella term, calls for research on tokens instead of cryptocurrency to facilitate bookings, replacement of OTA hubs through Blockchain-based service aggregators,	No innovation adoption framework identified
Will Blockchain shift Online Travel Agencies toward growth or to an end? (Ampountolas & Chiffer, 2021)	BCT has the potential to revolutionise distribution channels. Potential to improve OTA if they recognise it. To maintain power, they need to be careful. Immense potential, limited progress from OTA Research proposal	No innovation adoption framework identified
Blockchain Technology: The Future of Tourism (Cheriyan & Tamilarasi, 2021)	NO Full text Analysis of the industry, barriers, and aversion to adoption	No innovation adoption framework identified

Appendix 1.7 2022

CAR-Tourist: An Integrity-Preserved Collaborative Augmented Reality Framework-Tourism as a Use-Case (Syed et al., 2022)	Booking a remote guide for collaborative guidance over a Blockchain-trusted network	Yes, a framework was identified:
Improving sustainability in the tourism industry through Blockchain technology: Challenges and opportunities (Erol et al., 2022)	Research about supporting macro- and micro-level decision-making in the tourism industry's future applications of Blockchain.	Yes, a framework was identified: Interpretive Structural Modelling - Cross-Impact Matrix Diffusion of Innovation Theory.

Blockchain technology: a solution to address the challenges faced by the international travellers (Dubey et al., 2022)	Tracking traveller information as a distributed ledger and building trust among all the stakeholders.	No innovation adoption framework identified
Shared Mobility Intelligence Using Permissioned Blockchains for Smart Cities (Benedict, 2022)	allocates seats to residents/tourists in a shareable vehicle based on air quality and COVID-19 information on travelling locations	No innovation adoption framework identified
Evaluating the opportunities, challenges and risks of applying the Blockchain technology in tourism: a Delphi study approach (Dadkhah et al., 2022)	Delphi to empirically confirm what opportunities, challenges and risks can be attributed to BCT use in tourism.	No innovation adoption framework identified
Cultural roadblocks? Acceptance of Blockchain-based hotel booking among individualistic and collectivistic travellers (Strebinger & Treiblmaier, 2022a)	Blockchain technology is described to potentially to revolutionise the tourism and hospitality industry through peer-to-peer hotel bookings with little or no involvement of intermediaries.	No innovation adoption framework identified
Acceptance of tourism Blockchain based on UTAUT and connectivism theory (Chang et al., 2022)	video experiment introducing Blockchain as a currency for Jeju tourism, a significant positive change towards the of Blockchain was observed	Yes, a framework was identified: UTAUT and connectivism theory
Blockchain and tourism: Paradoxes, misconceptions, and a research roadmap (Treiblmaier, 2022)	Research calls to create meaningful frameworks, models, and theories that enable incremental research and provide value for the industry.	No innovation adoption framework identified
Digital Tools for the Development of the Hospitality and Tourism Industry in the Context of a Digitized Economy (Verhun et al., 2022)	Tourists make self-booking and travel arrangements through online agencies.	No innovation adoption framework identified
Will Self-Service Technologies Be Widely Adopted in Travel, Tourism, and Hospitality Industries During and After COVID-19? (Saputra et al., 2022)	The tourism industry ecosystem needs to employ Blockchain, which has become a reality today and a necessity for many industries in the future.	No innovation adoption framework identified
Examining Stakeholder Collaboration Intention with Blockchain OTA for Online Hotel Reservations: Case of Taiwan	Research about management perceptions regarding Blockchain technology and how trust level influences the collaboration intention towards Blockchain OTAs.	NO full text

(Hsu & Leung, 2022)		
Blockchain tools for socio-economic interactions in local communities Open Access (Viano et al., 2022)	The concrete application of Commons Hood for innovating local development policies and service co-production in the tourism sector	Yes, a framework was identified: Linders's analytical framework for ICT.
Will Blockchain shift Online Travel Agencies toward growth or to an end? (Ampountolas & Chiffer, 2021)	Therefore, Blockchain technology can potentially revolutionise distribution channels' operational processes. This article introduces Blockchain's immense potential and initiates two research propositions for further study.	No innovation adoption framework identified
Can Blockchain technology help small islands achieve sustainable tourism? A Perspective on North Cyprus (Özgit & Adalıer, 2022)	Lack of overall knowledge of BCTs, particularly the areas in which they can be used	No innovation adoption framework identified
An Enabling Framework for Blockchain in Tourism (Balasubramanian et al., 2022)	An enabling framework that identifies the use of Blockchain technologies in tourism and their applications (digitalisation, automation, disintermediation, and intelligent environment)	Yes, a framework was identified, but it is not about technology acceptance.
Gemiverse: The Blockchain-based professional certification and tourism platform with its ecosystem in the metaverse (Wei, 2022)	Blockchain is an emerging technology that brings new opportunities to the tourism industry by providing a trusted platform for travel companies and tourists.	No innovation adoption framework identified
Information Disclosure Decision for Tourism O2O Supply Chain Based on Blockchain Technology (Zhou et al., 2022)	Optimal strategies of supply chain members in two scenarios (decentralised and centralised) when the online platform does not adopt or adopt Blockchain technology.	Yes, a framework was identified: Game theory
The Impact of Blockchain Technology Adoption on Tourism Industry: A Systematic Literature Review (Rana et al., 2022)	Blockchain is a young technology, and numerous challenges have appeared to its complete adoption in the tourism industry.	No innovation adoption framework identified
Profiling early adopters of Blockchain-based hotel booking applications: demographic, psychographic, and service-related factors (Strebinger & Treiblmaier, 2022b)	Providers must understand their target audiences to introduce Blockchain-enabled booking platforms in tourism successfully.	Yes, a framework was identified: DOI and segmentation variables.
Blockchain: Is it the future for the tourism and hospitality industry? (Önder & Gunter, 2022)	Exploration of use cases for Blockchain for the tourism and hospitality industry	No innovation adoption framework identified

Opportunities and Challenges of Blockchain Technology for Tourism Industry in Future Smart Society (Girish Kumar et al., 2022)	Blockchain and tourism have the potential to show into an advantageous combination as this technology will offer additional security and safety, eradication of middlemen, data integrity, decentralized business models, immutability, transparency, and accurate contact tracing.	BLOBIM (Blockchain-Based Integrated Model) N Full text
Prospects for the Impact of Blockchain on the Innovation and Development of the Tourism Industry (Li et al., 2022)	Blockchain will reshape the traditional tourism business model. Therefore, it is recommended that training in tourism Blockchain technology be strengthened.	No full text
The of New Technologies in Tourism and Hospitality Industry - Practices and Challenges (Đikanović & Jakšić-Stojanović, 2022)	No full text was available.	No innovation adoption framework identified
The Utility of Blockchain Technology in the Electronic Commerce of Tourism Services: An Exploratory Study on Romanian Consumers (Raluca-Florentina, 2022)	Tourism specialists have not agreed on the development of Blockchain-based applications, although the benefits are great for both consumers and tourism service providers,	No innovation adoption framework identified
Stream-based explainable recommendations via Blockchain profiling (Leal et al., 2022)	Empirical evaluation with Hotel, Expedia and Tripadvisor has consistently shown the positive impact of Blockchain-based profiling on the quality (measured as recall) and transparency (determined via explanations) of recommendations.	No innovation adoption framework identified
Blue Ocean or Dry Desert? Blockchain and Bitcoin Impact on Tourism Industry (Acciarini et al., 2022)	Thus, the paper contributes to the literature on new technology diffusion by intercepting current social media debate, and literature studies focused on the diffusion of new technologies in tourism.	No full text
Smart contracts in tourism industry: a model with Blockchain integration for post pandemic economy (E. Demirel et al., 2022)	Booking system with a unique smart contract between customers and hotels. These contracts will include all kinds of services a customer may need during the stay and will be secured by a Blockchain structure.	Yes, a framework was identified, but it does not refer directly to Blockchain IoT.

Appendix 2 Matrix Intersectoral Context Review

Title (Author(s), 2022)	Technological Context	Organisational Context	External Context	Interrelation Context	Perspective Method	Framework / Theories
Profiling early adopters of Blockchain-based hotel booking applications: demographic, psychographic, and service-related factors (Strebinger & Treiblmaier, 2022b)	Tourism Value Chain	Tourism Service Providers	Learn the target audience to avoid disintermediation	No		DOI and segmentation variables
Blockchain Technology in the Tourism Industry: New Perspectives in Switzerland (Fragnière et al., 2022)	Reservation and ticketing, identity management), loyalty programs, digital payment, credential management and inventory management	Tourism	Blockchain as a disruptive technology	No	Qualitative Eighteen semi-directive interviews	Exploratory
Title (Author(s), 2021)	**Technological Context**	**Organisational Context**	**External Context**	**Interrelation Context**	**Perspective Method**	**Framework / Theories**
Predictors for distributed ledger technology adoption: integrating three traditional adoption theories for manufacturing and service operations (Ullah et al., 2021)	No specific	Manufacturing & Service	No specific	No	Business Manager Quantitative Online-questionnaire 211 experts in equation modelling	Technology Acceptance Model (TAM), Technology Readiness Index (TRI) and Theory of Planned Behaviour (TPB).
Technology assessment: Enabling Blockchain in hospitality and tourism sectors (Sharma et al., 2021)	Tourism Value chain	Tourism OTAs	Disruptive Technology	No		Interpretive Structural Modelling-Decision-making trial and evaluation laboratory (AHP-ISM-DEMATEL)

Blockchain adoption in tourism: A grounded theory-based conceptual model (Tyan et al., 2021)	Payment, Loyalty programs, disintermediation	Tourism	Blockchain can revolutionize the tourism industry	No	Business Manager Qualitative interviews with experts in the tourism industry	Grounded theory-based conceptual model
A Blockchain maturity model in the agricultural supply chain (Ronaghi, 2021)	Smart Contracts Tracking	Supply chain Agricultural	Affects supply-chain	No	Business Manager SWARA method 13 expert interviews & 130 questionnaire	Capability Maturity Model (CMM)
Title (Author(s), 2020)	Technological Context	Organisational Context	External Context	Interrelation Context	Perspective Method	Framework / Theories
Blockchain technology-enabled supply chain systems and supply chain performance: a resource-based view (Nandi et al., 2020)	Improving operational-level	Supply Chain	No pressure	No	Abductive 126 cases	Resource-based-View (RBV
Cryptocurrency adoption in travel and tourism – an exploratory study of Asia Pacific travellers (Treiblmaier et al., 2020)	Cryptocurrency	Tourism	Blockchain has generally the potential to be disruptive but focuses on Cryptocurrency.	No	Quantitative 161 Traveller	Exploratory
Antecedents of Blockchain Adoption: An Integrative Framework (Clohessy et al., 2020)	Payment, Smart contracts	General	Competitive pressure, unpredictable legislative environment	No	systematic literature review	Technology–Organisation–Environment (TOE)
Developing a framework for Blockchain adoption using the TOE model (Hanna et al., 2020)	Value Chain	Supply chain	Competitive Pressure	No	Business Manager Quantitative Regression Analysis questionnaire (427)	Technology–Organisation–Environment (TOE)
Block Chain Technology Adoption Using TOE Framework	Payment Transaction	Finance	Competitive pressure and	No	Business Manager	Technology–Organisation–

(Kulkarni & Patil, 2020)	Smart Contracts		regulatory pressure		Quantitative Online-questionnaire (409)	Environment (TOE)
The application of Blockchain in tourism: use cases in the tourism value system (Thees et al., 2020)	Tourism Value Chain, identification, Loyalty, contracts, payment	Tourism	Replacement of intermediaries	No	Qualitative content analysis	Tourism Value System
The impact of Blockchain technology on tourism intermediation (Melkić & Čavlek, 2020)	Tourism Value Chain Intermediation?	Tourism	The revolution of the traditional business is only recognised by bigger tourism intermediaries.	No	General Indirect observation	SWOT
Blockchain in Supply Chain Management: A Review of the Capability Maturity Model (Unny & Lal, 2020)	Verifiable transactions	Supply chain	No specific pressure	No	Business Manager	Capability Maturity Model (CMM)
Blockchain as a disruptive technology for business: A systematic review (Frizzo-Barker et al., 2020)	No specific	No specific	Disruptive technology	No	Researcher PRISMA-guided systematic review	Disruptive Innovation
The Blockchain technology and the scope of its application in hospitality operations (Filimonau & Naumova, 2020)	Smart Contracts Value Chain Loyalty programmes	Tourism	The disruptive character remains unstudied. Tourism reluctance to adopt external market innovations	No	Industry adoption synthesizing existing research	Synthesizing Existing Research
Blockchain Technology Adoption Behavior and Sustainability of the Business in Tourism and Hospitality SMEs: An Empirical Study (Guych Nuryyev et al., 2020)	Cryptocurrency	Tourism	Not specifically, legislation and competitors were not under research	No	Business manager SME Structural Equation Modelling (101)	Technology Acceptance Model (TAM)
Title (Author(s), 2019)	Technological Context	Organisational Context	External Context	Interrelation Context	Perspective Method	Framework / Theories
Blockchain: The emerging technology of digital trust Shin/Berg?		General		No	User Quantitative Online-questionnaire	Theory of Reasoned Action (TRA)

					391	
The Impact of Blockchain on the Tourism Industry: A Theory-Based Research Framework Treiblmaier Önder (2019)	Tourism value chain	Tourism	Disintermediation	No	Tourism Professionals Qualitative semi-structured interviews (10)	Transaction Cost Theory (TCT) The resource-based view of the firm (RBV) Actor-network Theory (ANT)
User Acceptance of Usable Blockchain-Based Research Data Sharing System (Shrestha & Vassileva, 2019)	Smart Contracts for Data Sharing	General	No specific	No	User Quantitative Online-questionnaire 22 respondents	Technology Acceptance Model (TAM)
Investigating the influence of organizational factors on Blockchain adoption (Clohessy & Acton, 2019)	Value Chain	General	Potential to disrupt and reshape a plethora of industries	No	General qualitative content analysis	Technology–Organisation–Environment (TOE)
Technological disruptions in services: Lessons from tourism and hospitality (Buhalis et al., 2019)	Payment	Tourism	Not specific to Blockchain	No	Synthesizes prevailing theories	Co-Creation Theories
Understanding the Role of Actor Heterogeneity in Blockchain Splits: An Actor-Network Perspective to Bitcoin Forks (Islam et al., 2019)	No specific	Technology	Not specific	No	Programmer Case Study Methodology	Actor-Network-Theory (ANT)
Variables Influencing Cryptocurrency Use: A Technology Acceptance Model in Spain (Arias-Oliva et al., 2019)	Cryptocurrency	Finance	Not specific	No	Consumer Quantitative Online-questionnaire (420)	Unified Theory of Acceptance and Use of Technology (UTAUT)
Understanding the Blockchain economy: An introduction to institutional cryptocurrency economics (Berg et al., 2019)	Cryptocurrency	Finance	poised to reshape the nature of firms, governments, markets, and civil society.	No	Scholarly analysis	Transaction-Cost-Theory (TCT)
Title (Author(s), 2018)	Technological Context	Organisational Context	External Context	Interrelation Context	Perspective Method	Framework / Theories

Disrupting Industries with Blockchain: The Industry, Venture Capital Funding, and Regional Distribution of Blockchain Ventures (Friedlmaier et al., 2018)	decentralization, cryptography, and consensus	Finance Venture Capital	Disruptive technology	No	Investor Database of Blockchain Start-ups	Disruptive Innovation DOI Diffusion of innovation (DOI)
The impact of the Blockchain on the supply chain: a theory-based research framework and a call for action Treiblmaier H (2018)	Transaction costs, new payment channels, simplified shipping documents	Supply Chain	Impact unclear call for more research	No	Business Manager Systematic and theory-based identification	Agency Theory (ANT) Transaction-Cost- Theory (TCT The resource-based view of the firm (RBV)
Blockchain-based Technology in the Coffee Supply Chain Trade: Case of Burundi Coffee (Thiruchelvam et al., 2018)	Transaction Costs	Supply chain	No specific	No	Business Manager Quantitative Online-questionnaire 66 respondents	Technology Acceptance Model (TAM)
Cryptocurrency adoption and the road to regulation (Schaupp & Festa, 2018)	Cryptocurrency	Finance	Regulation & Policies	No		Theory of Planned Behaviour (TPB)
(Francisco & Swanson, 2018)				No		(UTAUT)
(Ma et al., 2018)	solid waste collection			No		Theory of Planned behaviour (TPB) with TAM,
Title (Author(s), 2017)	**Technological Context**	**Organisational Context**	**External Context**	**Interrelation Context**	**Perspective Method**	**Framework / Theories**
Integrating Innovation Diffusion Theory and the Technology Acceptance Model: The adoption of Blockchain technology from business managers' perspective (Lou & Li, 2017)	No specific	Finance	Not especially under research	No	Business Manager Quantitative Online-questionnaire	Innovation Diffusion (TAM) Diffusion of Innovation (DOI)

(Xie et al., 2017)		e-government		No		TAM, TPB
(Issa & Hamm, 2017)		Organic farming.		No		theory of planned behaviour
Title (Author(s), 2016)	Technological Context	Organisational Context	External Context	Interrelation Context	Perspective Method	Framework / Theories
A maturity model for Blockchain adoption (Wang et al., 2016)	No specific	No specific	No under research regarding disintermediation removal of 'central authority' record keeper intermediaries	No	Business Manager Comparative Analysis Method	Capability Maturity Model (CMM)
(Folkinshteyn & Lennon, 2016)	Bitcoin, Land registration, notary,	Finance	State regulations	No	Use-cases	Technology Acceptance Model (TAM)

Appendix 3 Email

Sehr geehrte|r Herr|Frau XXXXX

als Entscheidungsträger in der Hotellerie haben Sie sicherlich bemerkt, dass Ihre Branche immer wieder wellenartig von technologischen Innovationen massiv beeinflusst wird, wie kaum ein anderer Industriezweig.

Denken Sie an die technologische Macht von Buchungsplattformen, die seit Jahrzehnten einen nicht unerheblichen Teil Ihres Umsatzes als Kommission einbehalten. Oder an ein 2008 gegründetes Start-Up zur Vermittlung von LUFTmatratzenschlafplätzen (AIRBnb), welches heute mehr wert ist als die sechs größten Hotelketten der Welt zusammen!

Doch welche Technologietrends, wie Künstliche Intelligenz oder Blockchain, bringen die nächste einflussreiche Welle?

Als Ihr Partner im dualen Studium möchten wir Sie dabei unterstützen, am technologischen Puls der Zeit zu bleiben und Ihren Wissens- und Wettbewerbsvorteil zu vertiefen!

Ihre langjährige Erfahrung als Entscheidungsträger ist für uns entscheidend, um Forschungsergebnisse besser auf die realen Herausforderungen der Hotelbranche abzustimmen

Reservieren Sie hier Ihren unverbindlichen 30-minütigen Gesprächstermin mit dem Forschungsleiter Guillermo Ribes PhD (cand.)

https://outlook.office365.com/owa/calendar/TerminvereinbarungKopie@connectglosac.onmicrosoft.com/bookings/

Als Dankeschön für Ihre Zeit erhalten Sie ein sogenanntes DELPHI-Konsens Feedback in einem zweiten Gespräch, das anonymisierte Erfahrungen anderer Entscheidungsträger der Hotellerie diskutiert. Dies ermöglicht Ihnen nicht nur eine Selbstevaluation der technologischen Positionierung Ihres Unternehmens, sondern befähigt Sie persönlich, in einem sich schnell wandelnden technologischen Umfeld als Führungskraft zu agieren.

Appendix 4 ONLNE CONSENT FORM FOR PARTICIPATION IN THE RESEARCH (German Original):

Einverständniserklärung zur Teilnahme an der Forschung: Der Einfluss von Informationstechnologien auf die Vermittlung von Dienstleistungen in der deutschen Tourismusbranche

Forschender: Guillermo Ribes Vicente (PhD cand.)

Institut: University of Gloucestershire, UK

Kooperierendes Institut: iba | University of Cooperative Education, Deutschland

Liebe iba Praxispartnerin, lieber iba Praxispartner,

wir laden Sie herzlich ein, an unserer Studie teilzunehmen, deren Ziel es ist, den Einfluss von Informationstechnologien auf die deutsche Tourismusbranche zu untersuchen. Dafür möchten wir Entscheidungsträger aus der Branche in einem Online-Meeting via Teams befragen.

Die Datenerhebung erfolgt durch die Delphi-Technik, bei der Expertenmeinungen in Befragungen und Feedbackrunden eingeholt werden, um zu einem Expertenkonsens zu gelangen. Nach der ersten Online-Sitzung, die Sie hier buchen können, wird ein zweiter Termin vereinbart, bei dem zu den anonymisierten und aggregierten Ergebnissen der anderen teilnehmenden Entscheidungsträger diskutiert wird. Der gesamte Zeitaufwand für die Studie wird auf 1 Stunde geschätzt.

Die Teilnahme an dieser Studie birgt nur minimale Risiken. Manche Fragen der Umfrage könnten allerdings als sensibel oder persönlich empfunden werden. In diesem Fall haben Sie das Recht, diese Fragen nicht zu beantworten. Durch Ihre Teilnahme tragen Sie zur Erweiterung des Wissens über den Einfluss von Informationstechnologien auf die Tourismusbranche bei und erhalten möglicherweise wertvolle Anregungen, um die eigene Wettbewerbsfähigkeit zu verbessern.

Ihre Umfrageantworten werden vertraulich behandelt und nur in aggregierter Form berichtet. Weder Ihr Name noch der Ihres Unternehmens werden mit den

Umfrageergebnissen in Verbindung gebracht. Ihre Teilnahme an dieser Studie ist freiwillig. Sie können jederzeit entscheiden, nicht teilzunehmen oder Ihre Teilnahme zu beenden, ohne dass Ihnen daraus Nachteile entstehen.

Bei Fragen zur Studie können Sie sich an den Studienleiter Guillermo Ribes Vicente unter guillermo.ribes@ibaDual.com wenden. Fragen zu Ihren Rechten als Studienteilnehmer können Sie an die iba | University of Cooperative Education oder die University of Gloucestershire richten.

Wenn Sie die oben genannten Informationen gelesen und verstanden haben und mit der Teilnahme an dieser Studie einverstanden sind, bestätigen Sie bitte Ihre Zustimmung durch Anklicken des Kontrollkästchens.

Diese Einverständniserklärung wurde von Dr. Hong, University of Gloucestershire, und Prof. Wilson Ouzem, University of Cumbria, geprüft und genehmigt.

Wir danken Ihnen für Ihre Unterstützung und freuen uns auf Ihre Teilnahme.

Guillermo Ribes

ONLINE CONSENT FORM FOR PARTICIPATION IN THE RESEARCH (Translation from German):

The Influence of ICT on the Intermediation of Services in the German Tourism Industry

Researcher: Guillermo Ribes Vicente

Institute: University of Gloucestershire, UK

Cooperating Institute: iba | University of Cooperative Education, Germany

Dear iba cooperating partner,

We cordially invite you to take part in our study, which aims to investigate the impact of emerging information technologies on the German tourism industry. To achieve this goal, we would like to interview decision-makers from the industry in an online meeting via Teams.

The data collection method for this study is the Delphi technique, which involves gathering expert opinions through surveys and feedback rounds to reach a consensus among experts. After the first online session, which you can book here, a second appointment will be scheduled, during which the anonymized and aggregated results of the other participating decision-makers will be discussed. The total time commitment for the study is estimated to be 1 hour.

Participation in this study entails only minimal risks. However, some survey questions might be perceived as sensitive or personal. In this case, you have the right not to answer these questions. By participating, you contribute to expanding the knowledge about the impact of information technologies on the tourism industry and may receive valuable insights to improve your competitiveness.

Your survey responses will be treated confidentially and reported only in aggregated form. Neither your name nor your company's name will be associated with the survey results. Your participation in this study is voluntary. You can decide at

any time not to participate or to withdraw your participation without any disadvantage.

If you have any questions about the study, please contact the study director, Guillermo Ribes Vicente, [redacted] For questions about your rights as a study participant, please contact the iba | University of Cooperative Education or the University of Gloucestershire.

If you have read and understood the information above and agree to participate in this study, please confirm your consent by clicking on the checkbox.

This consent form has been reviewed and approved by Dr. Hong, University of Gloucestershire, and Prof. Wilson Ouzem, University of Cumbria.

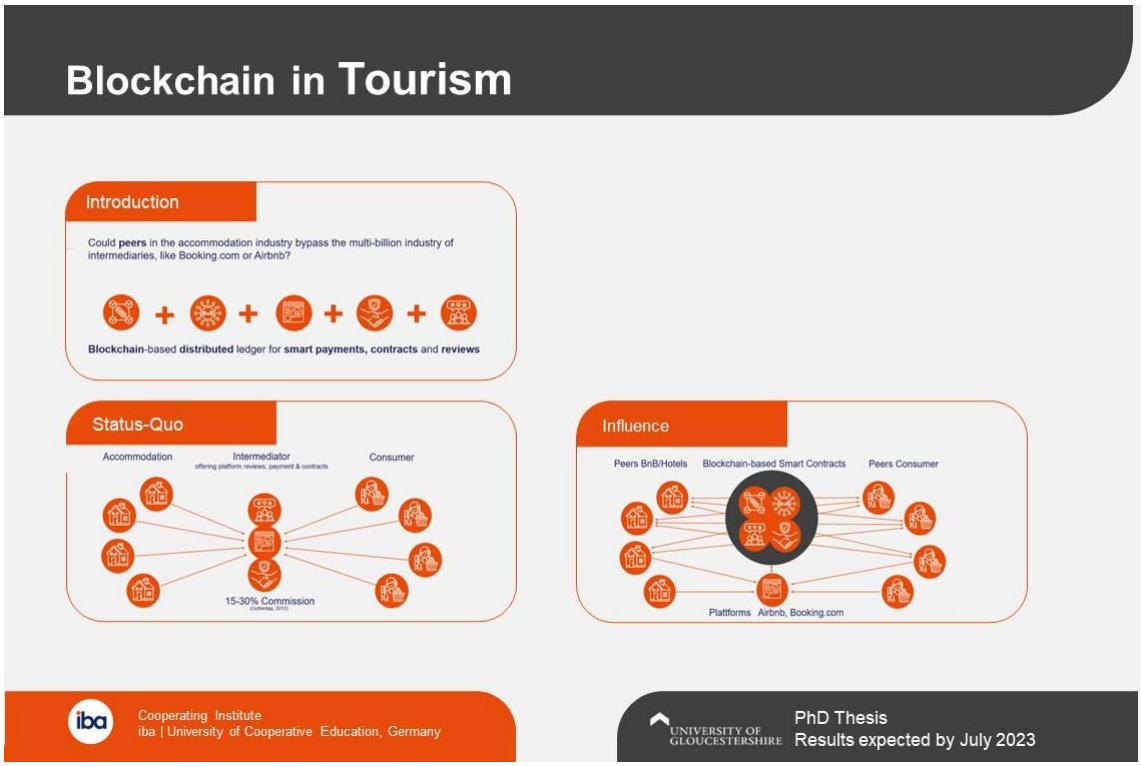
We thank you for your support and look forward to your participation.

Appendix 5 Questions and Visual

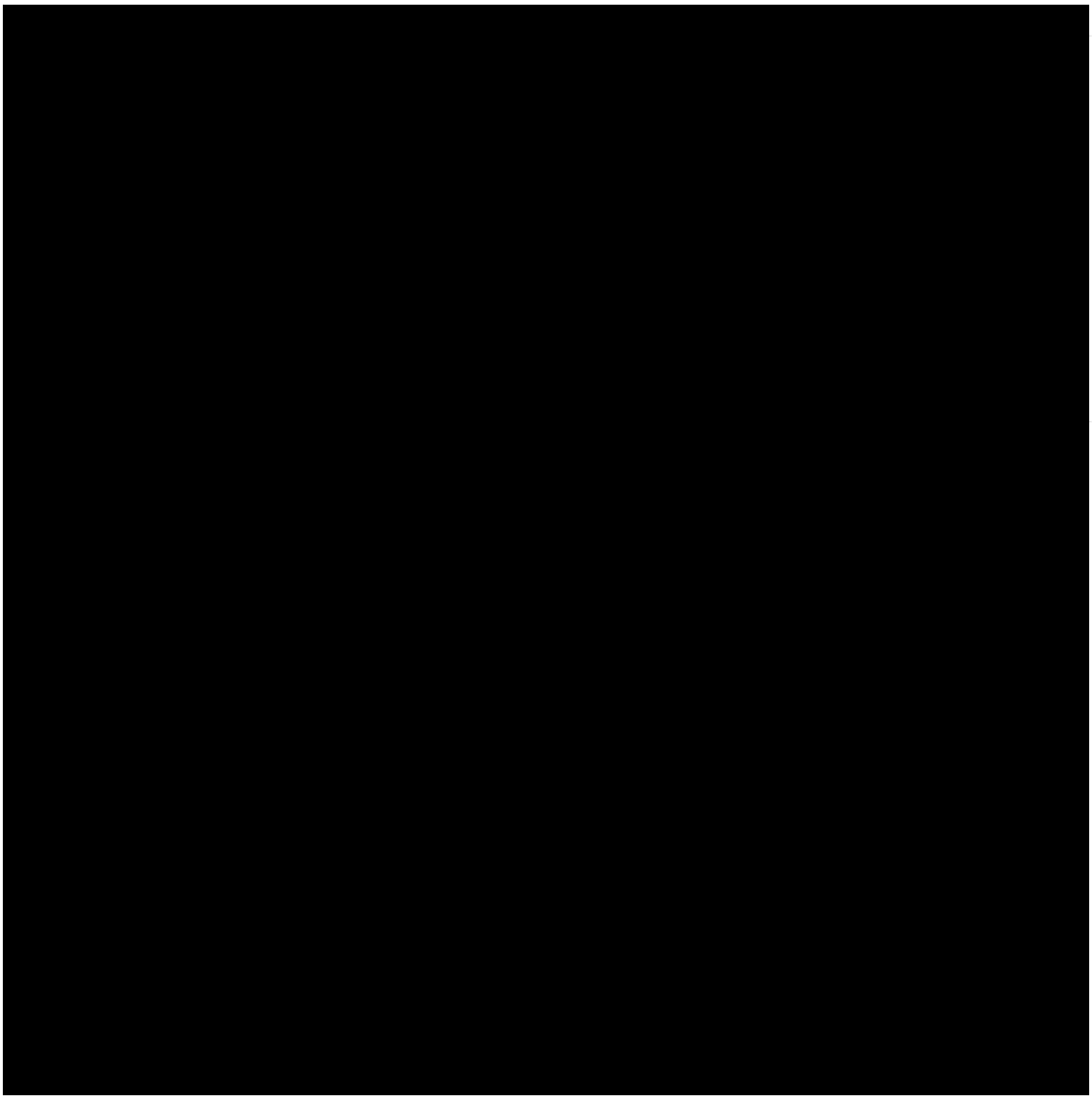
Context	Questions
1. Interrelationship	1. How have emerging technologies influenced the tourism industry in the past? 2. Is the tourism industry more influenced by information technology than other industries? 3. How do you see the relationship of ICT in the future of accommodation service intermediation? 4. Which emerging technologies will influence the tourism industry, particularly accommodation service intermediation?
2. External	1. How do you perceive the influence and market power of intermediaries and booking portals in the past, present, and future? 2. What features do booking portals offer compared to direct booking on hotel websites for guests? 3. Why do guests probably prefer booking portals over direct booking with hotels?
3. Organisational	1. What advantages do booking portals offer for hotels? 2. Why/Why not do hotels use these online intermediation platforms? 3. How do you perceive the technological adoption capabilities of the accommodation sector? 4. What percentage of commission do service providers like hotels have to pay to intermediaries?
4. Disintermediation	1. What do you know about Blockchain and smart contracts and their technological nature?

	2. Are you aware of the trending academic topic of Blockchain's disintermediating characteristics as a decentralised booking system? 3. What are your perceptions of Blockchain's potential to disrupt intermediaries/booking platforms?
5. Technological	1. What technological features would Blockchain-based booking systems need? 2. What benefits could contribute to adopting Blockchain, in your opinion? 3. What do you perceive as challenges in implementing Blockchain in the accommodation sector/your organisation?

This was used during the interview with decision-makers.



Appendix 6 Data Export Request



Appendix 7 Transcription Interviews

No.	Gender	Occupation
1	m	Managing Director | Destination Management
2	m	Managing Director | Tourism Consulting
3	m	Managing Director | Sustainable Development
4	m	Associate Director of Operational Excellence | Finance & Travel Management
5	m	Area Manager | Sustainable Development
6	m	Senior Management Consultant Hotel Services | Real Estate
7	f	Managing Director | Hotel SPA Development
8	f	Hotel Manager | International Hotel Chain
9	f	Head of HR & Recruiting | German Hotel Chain
10	m	Hotel Owner | 2 Private Hotels
11	f	Multi-site Manager | International Hotel Chain
12	f	President Regional Chapter | Hotel and Tourism Association

Bilingual Interview Transcript Interviewee 1

Austausch mit Guillermo Ribes-20230606_142042-Meeting Recording

29m 44s

Ribes Vicente, Guillermo 0:03
Transkription.
So siehst du jetzt die Transkription.

Interviewee 0:10
Ich sehe auf jeden Fall das aufgenommen wird, aber noch keine Transkription.

Ribes Vicente, Guillermo 0:16
Ich sehe Sie.
Ich kann sie dir eigentlich müssten die alle sehen.

Interviewee 0:23
Ja, ich gucke ich Klick mal hier auf diesen.

Ribes Vicente, Guillermo 0:25
Chat Fenster.
Weil das ist Funktion von Teams ich habe letzten bei einer Konferenz teilgenommen, das war mega. Du kannst das komplette Transkription runterladen, das ist perfekt, Tippfehler.

Interviewee 0:33
Ja.
Das das richtig gut? Ich sehe nur leider nicht, ich sehe im Chatfenster. Die Aufzeichnung wurde gestartet, das war es.

Ribes Vicente, Guillermo 0:44
Mhm.
So, dann muss ich jetzt noch mal gucken, ob ich das vielleicht nochmal separat teilen muss, aber ich schick dir das auf jeden Fall zu. Hallo wir starten jetzt das Interview ungefähr eine halbe Stunde.

Interviewee 0:52
Mhm.

Exchange with Guillermo Ribes-20230606_142042-Meeting recording

29m 44s

Ribes Vicente, Guillermo:03
Transcription
This is how you see the transcription now.

Interviewee 0:10
I can see that it is being recorded, but no transcription yet.

Ribes Vicente, Guillermo 0:16
I see you.
I can see them all.

Interviewee 0:23
Yes, I look. I click here on this one.

Ribes Vicente, Guillermo 0:25
Chat Window.
Because that is a function of teams, I participated in a conference last that was mega. You can download the full transcript; it is perfect, typo.

Interviewee 0:33
Yes.
Is that good? Unfortunately, I cannot see it; I see it in the chat window. The recording has started; that is it.

Ribes Vicente, Guillermo 0:44
Mhm.
Well, I will have to see if I need to share this again separately, but I will send it to you in any case. Hello, we are going to start the interview about half an hour.

Interviewee 0:52
Mhm.

Ribes Vicente, Guillermo 0:58
Und vielleicht, wenn du jetzt einen kurzen anonymisierte Beschreibung geben magst.

Interviewee 1:04
Mhm.
Okay, ich bin zusagen in einer Doppelfunktion Leitung einer örtlichen Tourist Information von einer kleinen Stadt und gleichzeitig auf lokaler Ebene Leitung einer Tourismusorganisation, die für die gesamte Verbandsgemeinde zuständig ist.

Ribes Vicente, Guillermo 1:28
Super vielen Dank wir fangen mit einer einfach einstiegsfrage ich muss immer nach links gucken, weil ich mir hier noch Notizen und habe damit ist strukturiert geht. Wie bewerten Sie…? Switch vielleicht zwischen du und sie im englischen, egal in der?

Interviewee 1:38
Mhm.
Ja.

Ribes Vicente, Guillermo 1:44
Wie bewerten Sie den Einfluss von Informationstechnologien auf die Tourismusindustrie?
Ganz besonders auf die Vermittlung von Dienstleistungen. Das ist ein ganzwichtiger.in meiner Arbeit, wie zum Beispiel Hotelbuchungen in der Vergangenheit.
Vergangenheit startet für mich ab den 60er Jahren.

Interviewee 2:00
Mhm.
Ja stetig wachsend.
In der jüngsten Vergangenheit sehr, sehr stark mit dem Buchen von Dienstleistungen und Übernachtungsleistungen beispielsweise.
Und jetzt? Vielleicht kommen wir darauf gleich, aber nochmal zu sprechen.
Gegenwärtig steigt das nochmal vielleicht exponentiell, auf jeden Fall immer weiter an.

Ribes Vicente, Guillermo 2:31
Oh, das ist spannender, kann gerne bleiben warum denkst du, dass das gerade noch weiter steigt?

Interviewee 2:37
Weil auf der lokalen Ebene vor allen Dingen man muss ehrlicherweise sagen, die Digitalisierung ist bei den lokalen Dienstleistern Gastgebern noch nicht hundertprozentig angekommen. Gerade in der Verbandsgemeinde, in der ich mich bewege ist, ist sehr kleinteilig strukturiert, keine großen Betriebe sondern sehr kleinteilig, egal ob jetzt Gastronomie oder Beherbergungswesen und bei diesen kleinteiligen Betrieben merkt man immer.
Und deswegen würde ich auch die These aufstellen je kleinteiliger, desto schwieriger Digitalisierung die tun sich schwer, die Dienstleistungen und die dementsprechende Buchungen zu digitalisieren.

Ribes Vicente, Guillermo 3:20
Okay.

Interviewee 3:21
Das ist jetzt in Zukunft immer noch mehr im Wandel im Wandel, weil da einfach schlicht und ergreifend auch ein Generationenwechsel stattfindet. Generationenwechsel führt dazu, dass man die digitalen Wege geht, wobei auf der anderen Seite die alteingesessenen Gastgeber in einer in meiner Region sehr touristisch geprägten Tourismuswirtschaft teilweise auch gar nicht darauf angewiesen sind.
Zumindest nicht in der Vergangenheit das Ganze zu digitalisieren, das heißt, das ist nicht in.
Im Sine von ich muss das jetzt machen oder ich stelle mich der Digitalisierung, weil und das ist natürlich positiv als auch negativ. Es läuft derzeit auch ohne wenn man möchte.

Ribes Vicente, Guillermo 4:13
Das ist ganz, das ist eine ganz spannende Aussage cool, wenn wir da an dem Punkt noch ein bisschen weiter bleiben, wie siehst du denn als Experte die Rolle von Vermittlern? Jetzt, ich sage mal wie booking.com es gibt diese ganzen Vermittlungsplattformen wie siehst du deren Einfluss, das Wort Einfluss ist ganz oft heute hören wir analysieren das Thema Einfluss eben fallen in den Einfluss in Bezug auf die Technologie als Buchungsplattform.

Interviewee 4:36
Mhm.
Ich habe, da muss ich nochmal aus holen wir in Rheinland-Pfalz ganz Rheinland-Pfalz, ich glaub das sich in Rheinland-Pfalz unterwegs bin, das kann man sagen wir haben uns…

Ribes Vicente, Guillermo 4:48
Ja.

Interviewee 4:59
…dazu committed schon seit Jahrzehnten verteilt als buchungsplattform zunehmen und da mit entsprechenden Schnittstellen kann man alle weiteren Buchungsplattformen anbinden, das bedingt aber immer, dass der Gastgeber mehr Provisionen zahlen muss, wenn er direkt auf booking.com buchbar ist, zahlt er weniger Provision als über XXXX. X in dem Fall und das ist oftmals schwierig mit Chanel Managern.

Ribes Vicente, Guillermo 5:21
Hm.

Ribes Vicente, Guillermo 0:58
And perhaps, if you would like to explain you anonymous.

Interviewee 1:04
Mhm.
Okay, I am the head of a local tourist information office in a small town and, at the same time, the local head of a tourism organisation that is responsible for the entire municipality.

Ribes Vicente, Guillermo 1:28
Super, thanks. We start with a simple introductory question. I always must look to the left because I still have notes here and, so it is structured. How do you rate…) Switch, maybe you or you (formal) in English, no matter what?

Interviewee 1:38
Mhm.
Yes.

Ribes Vicente, Guillermo 1:44
How do you assess the influence of information technologies on the tourism industry?
Especially on the provision of services. This is a very important aspect of my work, such as hotel bookings in the past.
For me, the past starts in the 60s.

Interviewee 2:00
Mhm.
Yes, constantly growing.
In the recent past, very, very strongly with the booking of services and accommodation, for example.
And now? Maybe we will come back to that in a moment. At the moment, it is increasing again, perhaps exponentially, but in any case, it is continuing to grow.

Ribes Vicente, Guillermo 2:31
Oh, this is more exciting; I can stick here. Why do you think this just keeps going up?

Interviewee 2:37
Because at the local level, you have to say that digitalisation has not yet fully reached local service providers and hosts. Especially in the municipality where I live, the structure is very small-scale, not large businesses, but very small-scale, regardless of whether it is catering or accommodation, and you always notice this in these small-scale businesses.
Moreover, that is why I would also put forward the theory that the smaller the business, the more difficult it is to digitise, and they find it difficult to digitise their services and the corresponding bookings.

Ribes Vicente, Guillermo 3:20
Okay.

Interviewee 3:21
This will continue to change even more in the future because, quite simply, a generational change is taking place; generational change is leading to people going digital, although on the other hand, some of the long-established hosts in the tourism industry that are very much characterised by tourism in my region are not even dependent on it.
At least not in the past; digitising the whole thing is not in.
In other words, I have to do it now or face up to digitalisation, and that is, of course, both positive and negative. It is also going without at the moment if you like.

Ribes Vicente, Guillermo 4:13
That is very, that is a very exciting statement, cool. If we stay a bit longer at that point, how do you, as an expert, see the role of intermediaries? Like I said how, booking.com, there are all these intermediary platforms; how do you see their influence? The word influence is heard quite often today. We analyse the topic of influence just fall into the influence in relation to the technology as a booking platform.

Interviewee 4:36
Mhm.
I have to go back to the whole of Rhineland-Palatinate. I think that I'm travelling in Rhineland-Palatinate, and you could say that we have…

Ribes Vicente, Guillermo:48
Yes.

Interviewee 4:59
…commited booking platform has been used for decades, and with the appropriate interfaces, all other booking platforms can be connected, but this always means that the host has to pay more commission if he can book directly on booking.com, he pays less commission than via XXXXX in this case, and that is often difficult with chanel managers.

Ribes Vicente, Guillermo 5:21
Hm

Interviewee 5:32
Wenn man auf vevo.de booking.com und AirBNB unterwegs ist.

Ribes Vicente, Guillermo 5:38
Mhm.

Interviewee 5:38
Und um mal einen zu nennen booking.com ist natürlich ein starker Player, der ist aber in innerhalb dieses System HRS einem nicht leicht macht das Ganze zu integrieren.
Auf der einen Seite eine immense Marktmacht aus meiner Sicht und auf der anderen Seite, aber innerhalb unseres Systems nicht leicht zu handeln. Es gibt auch Gastgeber und Gastgeberin, die einfach sagen Ach ich Krieg das mit der Kalendersynchronisation Channel Manager nicht hundertprozentig hin.
Booking.com passt bei mir, ich habe dementsprechend Erfolg das wars und dann müssen wir sagen okay, dann bist du leiser, nicht über unsere Kanäle buchbar.

Ribes Vicente, Guillermo 6:27
Ja, genau spannend du sagst gerade Booking macht es einem schwer? Warum
tut Booking das denn?

Interviewee 6:35
Weil Booking es, kann.

Ribes Vicente, Guillermo 6:38
Ja, okay,

Interviewee 6:41
Warum tut Booking, dass? Ich glaub, die sind sich dessen bewusst, dass mit einer dementsprechenden Marktmacht man Bedingungen stellen kann wie beispielsweise OK, wenn ihr wollt, dass wir in eurem System integriert seid, dann müsst ihr aber mit unserer Provision leben.

Ribes Vicente, Guillermo 7:00
Mhm.
Was sind die Erfahrungen? Gibt es eine Range?

Interviewee 7:07
Also auf booking.com, würde man sagen liegt die normale Provision bei sag jetzt einfach mal beispielsweise 12% und wenn man das Ganze in unserem System integrieren möchte, liegt es dann aber bei 15%?

Ribes Vicente, Guillermo 7:25
Okay, danke das ist eine spannende Information.
Jetzt mach ich vielleicht auf den ersten Blick einen harten Bruch hast du dich mit deiner Rolle als Experte ganz allgemein jetzt nicht konkret für sondern du einfach als Experte hast dich mal mit der Forschung oder mit dem Thema Blockchain auseinandergesetzt.

Interviewee 7:33
Mhm.
In der Tourismuswirtschaft.

Ribes Vicente, Guillermo 7:50
Weil.
Nein.

Interviewee 7:53
Definitiv nicht.

Ribes Vicente, Guillermo 7:53
Okay.

Interviewee 7:57
Wenn wir mit diesem in Richtung Geld gehen, dann bin ich froh und das hört sich jetzt zynisch an, aber es ist einfach, dann bin ich froh, wenn man vor Ort mit Karte zahlen kann.

Ribes Vicente, Guillermo 8:08
Ok spannende Aussage, du hast dich damit nicht beschäftigt und aber der Gedanke geht in Richtung Zahlung.

Interviewee 8:17
Mhm.

Ribes Vicente, Guillermo 8:17
Genau ich kann dich beruhigen, darüber forsche ich nicht es geht gar nicht um Zahlung, sondern es geht um wenn wir jetzt immer noch dieses Blockchain es geht nicht um Zahlung kannst du dir da denn einen Einfluss auf die Tourismusbranche und ausdrücklich auf die Vermittlung von Dienstleistungen vorstellen?

Interviewee 8:42
Ne ich ganz ehrlich, ich hab mich dahingehend nicht tief mit beschäftigt, das mir jetzt direkt auf Anhieb klar wäre, welchen Einfluss Blockchain auf die Vermittlung von Dienstleistungen haben sollte.

Ribes Vicente, Guillermo 8:54
Ja.
Genau das ist auch tatsächlich noch sehr, diese Forschung dazu ausdrücklich, dass das, dass ich mit geht davon aus, dass die meisten Experten sich damit nicht auseinandersetzen und Ziele sehr hier, Theorie und Praxis zu verbinden. Das heißt, ich würde jetzt kurz ausholen, was meine Forschung

Interviewee 5:32
If you are travelling on vevo.de booking.com and he AirBNB

Ribes Vicente, Guillermo 5:38
Mhm.

Interviewee 5:38
To give you an example, booking.com is, of course, a strong player, but within this system, HRS does not make it easy to integrate the whole thing. On the one hand, there is an immense market power from my point of view and on the other hand, it is not easy to act within our system. There are also hosts and hostesses who simply say, "Oh, I cannot manage the calendar synchronisation channel manager one hundred per cent. Booking.com works for me; I am successful, that is it, and then we have to say okay, then you are quieter, and you cannot be booked via our channels.

Ribes Vicente, Guillermo 6:27
Yes, that is exciting; you are saying Booking is making it difficult? Why does Booking do that?

Interviewee 6:35
Because booking, can do it.

Ribes Vicente, Guillermo 6:38
Yes, okay,

Interviewee 6:41
Why is Booking doing that? I think they realise that with that kind of market power, you can set conditions like, OK, if you want us to be integrated into your system, then you have to live with our commission.

Ribes Vicente, Guillermo 7:00
Mhm.
What are your experiences? Is there a range?

Interviewee 7:07
On booking.com, would you say the normal commission is 12%, for example, and if you want to integrate the whole thing into our system, it is 15%?

Ribes Vicente, Guillermo 7:25
Okay, thanks, that is exciting information.
At first glance, it might seem like a tough break, but you have not really been involved with your role as an expert in general, but simply as an expert involved withhin research on the topic of Blockchain.

Interviewee 7:33
Mhm.
In the tourism industry.

Ribes Vicente, Guillermo 7:50
Because.
No.

Interviewee 7:53
Definitely not

Ribes Vicente, Guillermo 7:53
Okay.

Interviewee 7:57
If we go in the direction of money with this, then I am happy, and that sounds cynical now, but it is simple then: I am happy if you can pay by card on-site.

Ribes Vicente, Guillermo 8:08
Ok, that is an exciting statement; you have not dealt with it, but the thought goes in the direction of payment.

Interviewee 8:17
Mhm.

Ribes Vicente, Guillermo 8:17
Exactly, I can reassure you that I am not researching this; it is not about payment; it is about whether we still have this Blockchain; it is not about payment. Can you imagine an impact on the tourism industry and, specifically, on the provision of services?

Interviewee 8:42
No, I have not really looked into it deeply enough to realise straight away what influence Blockchain would have on the provision of services.

Ribes Vicente, Guillermo 8:54
Yes.
That is exactly what is actually still very; this research explicitly that I am working with assumes that most experts do not deal with this and aims to combine theory and practice. In other words, I will now briefly expand on what my research is, and then we will continue talking about Blockchain

ist und dann sprechen wir weiter bei mir geht es grundsätzlich erstmal um die Technologie Blockchain unabhängig von Bitcoin oder Kryptowährung. Dass das nehmen wir komplett weg.

Interviewee 9:14
Mhm.

Ribes Vicente, Guillermo 9:28
Bei Blockchain, das erstmal nur darum, dass Information in Blöcken gespeichert werden, in einer Datenbank nicht mehr und nicht weniger das besondere ist sozusagen jeder Eintrag in die Datenbank ist ein Logbuch und alle Einträge, wenn diesem Logbuch gespeichert, aber sie werden nicht zentral in einem Rechner gespeichert, sondern auf ganz, ganz, ganz vielen und man kann sozusagen von allen Seiten gleichzeitig auf diesen auf dieses Logbuch schauen.
Das Spannende ist das gab es früher auch. Das nennt sich Distributed Ledger was ist verteilt auf verschiedenen Rechnern, das spannend ist jeder Einzelne Eintrag, den wir Blocken, wenn der reinkommt, kriegt eine Verknüpfung, die verschlüsselt ist, zudem Block davor. Damit wird es halt eine Blockchain jeder Block bildet durch den Code Chain. Und da ich das von ganz, ganz, ganz vielen Leuten ich muss mal gucken, dass sie alle das gleiche vorlese.

Interviewee 10:03
Mhm.

Ribes Vicente, Guillermo 10:29
Ja, das ist immer jeder Block mit einem Bund und des dezentral auf vielen Rechnern liegt, geht man davon aus, dass das eben gegenüber, auch von der Sicherheit gegenüber Manipulation und Hacking sehr sicher ist. Das ist sozusagen die Grundlage und das ist sozusagen Blockchain 1.0. Wir sind aber jetzt gerade bei 2.0 und gehen zu 3.0, bedeutet, dass ich nicht nur ei Information da hinterlegenden.

Interviewee 10:42
Mhm.

Ribes Vicente, Guillermo 10:59
Dass ich ein intelligenten Vertrag, ein Code und ich hab mir ein Beispiel einmal stellen sie sich vor sie möchte ein Hotelzimmer buchen, anstatt auf einer Buchung Website oder eine Agentur zu wenden, die als Vermittler fungiert, können sie direkt mit dem Hotel über eine Blockchain Plattform interagieren. Der Buchungsvorgang würde in einem Intelligent Vertrag auf Blockchain festgehalten. Dieser digitale Vertrag wird automatisch ausgeführt, bald Bedingungen erfüllt sind. Dieser Fall könnte der intelligente Vertrag Informationen wie klar Zimmerpreis.

Interviewee 11:16
Mhm.

Ribes Vicente, Guillermo 11:30
Buchungsdatum und Zahlungsdetails enthalten.
Da Blockchain dezentral und transparente Datenbank ist, können wohl das Hotel wie auch der Kunde auf diese Information zurückgreifen, weil sie sind unveränderlich und vertrauenswürdig. Das eliminiert aufgrund der technologischen Funktion Blockchain Halt die Möglichkeiten zu manipulieren und natürlich können auch Zahlungen regiert Blockchain abgewickelt werden. Das ist aber tatsächlich erstmal auch nicht wichtig für meine Forschung. Das Spannende ist eben das ist total transparent ist das heißt alle Beteiligten beteiligen?

Interviewee 11:56
Mhm.

Ribes Vicente, Guillermo 12:05
Können auf diesen Buchungsverlauf zurückgreifen und alle Aktivitäten sind nach Nachverfolgbar.
Das heißt, das ist ein sogenanntes Konsens Management das heißt, wenn es zwischen den beiden Streit gibt, zwischen einem Gast das Peer, der sollte das Hotel ist ein Peer und der Gast ist ein Peer. Das ist durch ein Konsens Managementzusagen dezentral, dann auch gelöst werden kann. Das ist der Versuch, kurz darzustellen, was, was geforscht wird. Ich hab jetzt einen Schaubild für dich.

Interviewee 12:37
Mhm.
Mhm.

Ribes Vicente, Guillermo 12:42
Oh.
Green dauert ab.
So.
So teilen, jetzt solltest du den besten alle Fälle eben ein, ein Schaubild sehen, ich forsche über Blockchain-based distributed ledger für Smart payment contract and Reviews. Das hatte ich eben tatsächlich vergessen. Dort können natürlich auch einzigartige Idee für Reviews, als sozusagen als Bekämpfung gegen Fake Reviews und was ich untersuchen möchte ist wir haben den Status quo wir haben oft accommodations, die über halt.

Interviewee 12:54
Ja.

Ribes Vicente, Guillermo 13:22
Ja.

Interviewee 13:22
entschuldigen, wenn ich unterbreche ich Ihnen schau Bild sehen.

technology independently of Bitcoin or cryptocurrency. We will leave that out completely.

Interviewee 9:14
Mhm.

Ribes Vicente, Guillermo:28
With Blockchain, the first thing is that information is stored in blocks, in a database, no more and no less. The special thing is that every entry in the database is a logbook, and all entries are stored in this logbook, but they are not stored centrally in one computer, but on many, many, many computers, and you can look at this logbook from all sides at the same time.
The exciting thing is that this also used to exist. It is called a distributed ledger, which is distributed across different computers, and the exciting thing is that every single entry that we block, when it comes in, gets a link that is encrypted, plus a block in front of it. This makes it a Blockchain; each block forms a chain through the code. Moreover, since I am reading this from lots and lots of people, I have to make sure they all read the same thing.

Interviewee 10:03
Mhm.

Ribes Vicente, Guillermo 10:29
Yes, each block always has a covenant and is decentralised on many computers, so it is assumed that this is very secure, also in terms of security against manipulation and hacking. That is, so to speak, the basis and that is, so to speak, Blockchain 1.0. However, we are currently at 2.0 and are moving to 3.0, which means that I am not just storing information there.

Interviewee 10:42
Mhm.

Ribes Vicente, Guillermo 10:59
I have a smart contract, a code, and I have an example. Imagine you want to book a hotel room; instead of going to a booking website or an agency that acts as an intermediary, you can interact directly with the hotel via a Blockchain platform. The booking process would be recorded in a smart contract on Blockchain. This digital contract is automatically executed once conditions are met. In this case, the smart contract could clear information such as room rate.

Interviewee 11:16
Mhm.

Ribes Vicente, Guillermo 11:30
Booking date and payment details are included.
As Blockchain is a decentralised and transparent database, both the hotel and the customer can access this information because it is unchangeable and trustworthy. This eliminates the possibility of manipulation due to the technological functionality of Blockchain, and, of course, payments can also be processed using Blockchain. However, that is not really important for my research at the moment. The exciting thing is that it is totally transparent, which means that everyone involved is involved.

Interviewee 11:56
Mhm.

Ribes Vicente, Guillermo 12:05
Can access this booking history, and all activities are traced.
In other words, this is called consensus management, which means that if there is a dispute between the two, between a host and the peer, the hotel is a peer, and the guest is a peer. This can be resolved in a decentralised manner through consensus management. This is an attempt to briefly illustrate what is being researched. I have a diagram for you now.

Interviewee 12:37
Mhm.
Mmm.

Ribes Vicente, Guillermo 12:42
Oh.
Green is taking a while.
So.
So, sharing now, you want to see the best of all cases, just one, one, one diagram; I am researching Blockchain-based distributed ledger for smart payment contracts and reviews. I had actually just forgotten about that. There can, of course, also be a unique idea for reviews as a promise in a fight against fake reviews and what I want to investigate is whether we have the status quo. We often have accommodations that stopover.

Interviewee 12:54
Yes.

Ribes Vicente, Guillermo 13:22
Yes.

Interviewee 13:22
XXXX must be sorry if I interrupt; I will look at your picture

Ribes Vicente, Guillermo 13:27
Ja, solltest du, siehst du nicht.

Interviewee 13:28
Ne sehe ich nicht sehe dass

Ribes Vicente, Guillermo 13:30
So danke, dass du das sagst, ich mach das hier mal kleiner.
So ich sollte es doch ich bin nämlich jetzt gerade in.
Stop sharing.
Screen Window Tab.
So jetzt.

Interviewee 13:50
Jetzt.

Ribes Vicente, Guillermo 13:51
Ja genau das ich Forscher Blockchain based distributed Ledger Smart Payment Contract Reviews und die Frage ist nicht wirklich unter weil was gibt es halt tatsächlich noch nicht. Es ist nur eine theoretische Ansatz wie ist der Status quo jetzt? Man geht über den Vermittler.

Interviewee 13:58
Mhm.

Ribes Vicente, Guillermo 14:10
Der halt die Consumer und die Anbieter der verbindet und dafür natürlich seine Kommission nimmt.
Ist halt die Frage, ob eben die einzelnen Peers und das kann eben ein B&B in Bangladesch sein. Mit einem Peer, der ein Kunde in New York ist.
Ob er, ob Blockchain diese Rolle des Vermittlers siehst du jetzt wieder mich.

Interviewee 14:32
Ja.

Ribes Vicente, Guillermo 14:32
So übernehmen könnten deswegen jetzt wird nur einfach rausgehauen das Gute ist, man kann seine Meinung dahinter ändern oder ich hab dich jetzt natürlich Überfallen sozusagen wie wahrscheinlich halten Sie die Einführung von Blockchain based Smart Contracts für die Vermittlung von touristischen Dienstleistungen in den nächsten Jahren?

Interviewee 14:43
Mhm.
Alich, ich sag jetzt, ich muss jetzt noch eine Sache dazwischen sagen das erste, was mir eingefallen ist als Frage.

Ribes Vicente, Guillermo 14:59
Die.
Ja gern.

Interviewee 15:05
Was haben die Global Player davon?
Und?
Die müssen, wenn ich das richtig verstehe.
Ja, was würde, wenn wir beim Beispiel bleiben, booking.com machen beziehungsweise was würde denen das nützen, wenn die die Technologien nutzen würden, können? Die als Rückfrage können, die bei ihrem Provisionsmodell bleiben?

Ribes Vicente, Guillermo 15:30
Ja.
Ganz das ist, das ist nicht die entscheidende Frage wem nutzt ein solches System?

Interviewee 15:41
Wenn die das ist Bedingung ich würde mal das Formulieren das ist für wie wahrscheinlich halte ich das? Eingeführt wird, wenn es eine Möglichkeit gibt, das Business Modell der großen Player in der Vermittlung von Dienstleistungen beizubehalten dann.
Würde ich sagen, dass es.
Bei 50%.

Ribes Vicente, Guillermo 16:16
Ok, genau das ist einfach nur mal raushauen, dann hab ich aber auch direkt eine Nachfrage.

Interviewee 16:21
Ja.

Ribes Vicente, Guillermo 16:22
Warum brauchen wir denn diese großen Geldgeber wie booking.com und diese interne, Intermediates, diese Vermittler? Warum brauchen wir die denn?

Interviewee 16:32
Zurzeit nur.
Weil.
Die in der Auffindbarkeit stärker als die Anbieter selbst sind.

Ribes Vicente, Guillermo 16:45
Mhm.

Interviewee 16:49
Ich denke, das ist der.

Ribes Vicente, Guillermo 13:27
Yes, you do, don't you see

Interviewee 13:28
No, I do not see that.

Ribes Vicente, Guillermo 13:30
So thank you for saying that; I will make this smaller.
That is how it should be because I am in right now.
Stop sharing
Screen Window Tab.
So now.

Interviewee 13:50
Now.

Ribes Vicente, Guillermo 13:51
Yes, exactly that I research Blockchain-based distributed ledger smart payment contract reviews, and the question is not really under because what actually does not exist yet? It is just a theoretical approach. What is the status quo now? You go through the intermediary.

Interviewee 13:58
Mhm.

Ribes Vicente, Guillermo 14:10
The one that connects the consumer and the service provider and takes the commission
The question is whether the individual peers that can be a BnB in Bangladesh, with a peer that is a customer in New York.
Whether he whether Blockchain this role of the intermediary, you now see me again.

Interviewee 14:32
Yes.

Ribes Vicente, Guillermo 14:32
So now you could just take over. The good thing is, you can change your opinion behind it, or I have you now; of course, I surprised you; how likely do you think the introduction of Blockchain-based smart contracts for the provision of tourism services will be in the next few years?

Interviewee 14:43
Mhm.
Well, I will say one more thing in between: the first thing that occurred to me as a question.

Ribes Vicente, Guillermo 14:59
The.
Yes, with pleasure.

Interviewee 15:05
What do the global players get out of it?
And?
They have to, if I understand correctly.
Yes, if we stay with the example of booking.com, what would they do, or what good would it do them if they were able to use the technologies? Who can, as a query, stick to their commission model?

Ribes Vicente, Guillermo 15:30
Yes.
That is not the crucial question - who benefits from such a system?

Interviewee 15:41.
If that is the condition, I would formulate that is how likely do I think that is if there is a possibility of retaining the business model of the big players in the provision of services, then.
I would say that it.
At 50 per cent.

Ribes Vicente, Guillermo 16:16
Ok, that is exactly what I just want to say, but then I also have a direct enquiry.

Interviewee 16:21
Yes.

Ribes Vicente, Guillermo 16:22
Why do we need these big donors, like booking.com and these internal intermediaries? Why do we need them?

Interviewee 16:32
At the moment only.
Because.
They are stronger in findability than the providers themselves.

Ribes Vicente, Guillermo 16:45
Mhm.

Interviewee 16:49
I think that is the.

Der alleinige und einzige Grund sollte sich da was ändern?
Könnte die Marktmacht schwinden und das Blatt könnte sich drehen definitiv.

Ribes Vicente, Guillermo 17:00
Super bleiben Beginn bleiben wir genau da. Wie sieht denn die Auffindbarkeit heute aus und was verändert sich da möglicherweise?
ein Hotel in der Region, die du verantwortest, Namen jetzt nicht nennen.

Interviewee 17:13
Mhm.

Ribes Vicente, Guillermo 17:15
Wie sieht denn die Auffindbarkeit aus?

Interviewee 17:23
ich würde das mal aufteilen über die.
Weil bei einer kleinteiligen.
Beherbergung und Dienstleistungsregion wie wir es sind, ist es, dass
Ein erschreckend großer Teil noch persönlich passiert tatsächlich Stammkundschaft als auch per Telefon klassisch vor allen Dingen, weil unsere Traditionelle Zielgruppe zur älteren Generation angehört, aber ansonsten? Funktioniert das natürlich wie bei den meisten auch und da wird der Weg hingehen über Google eirelativ einfache Google suche.
Und jetzt sind wir wahrscheinlich relativ schnell in der Thematik. Was passiert mit Webseiten zukünftig? was passiert mit booking.com und ähnliches oder auch Beherbergungs-Webseiten? Und da bin ich mir als Tourismus experte, wenn man mag, nicht sicher, wie schnell das passieren wird, das Webseiten überflüssig sind.

Ribes Vicente, Guillermo 18:38
Ganz genau das ist das ist ein ganz, ganz wichtiger Punkt tatsächlich, das ist das kann ich dir auch nicht beantworten, aber es ist tatsächlich ein Seitenstrang meiner Forschung tatsächlich, ich werde wahrscheinlich dann direkt danach in dem Thema weiter forschen sollte Motto.

Interviewee 18:50
Mhm.

Ribes Vicente, Guillermo 18:57
Ansonsten, wenn es ich, ich nehme mal die Frage in die Richtung abhängig von der Frage die Organisation hat die sich schon mal mit Blockchain auseinandergesetzt?

Interviewee 19:08
Nein.

Ribes Vicente, Guillermo 19:09
genau andere Technologien gerade ist welche sind gerade wo du sagst, da, da sind wir gerade dran, das ist vielleicht eine Technologie, die sich entwickelt, weil das finde ich auch spannend wer macht was gerade?

Interviewee 19:22
All das hier Technologien, die sich gerade entwickelt, ich beschäftige mich als Leiter der Organisation mit dem Thema Künstliche Intelligenz. Das ist natürlich derzeit in aller Munde.
In der Praxis wirklich in der Umsetzung befinden?
Machen wir Dinge, wie?
Hm.
Seo.
Such Marketing.

Ribes Vicente, Guillermo 19:52
Hm.
Mhm.

Interviewee 20:01
Auf vor allen Dingen der lokalen Ebene.
Wenn man im Alltagsgeschäft sitzt, oh Tourist Informationen betreibt als auch Marketing für eine Verbandsgemeinde Macht in der touristisch starken Region und da All die täglichen Herausforderungen hat und vor allen Dingen die Herausforderungen hat das immer tatsächlich immer eine Person mehrere Aufgaben hat und jetzt nicht eine Person sich mit einem Thema beschäftigen kann?
Es unglaublich schwer ist in der jetzigen Organisationswelt im Tourismus, sich mit diesen Dingen auseinanderzusetzen. Das ist mir noch wichtig, weil.

Ribes Vicente, Guillermo 20:45
Ja.

Interviewee 20:48
Vor allen Dingen auf Landesebene wird sich ganz viel mit Open Data beschäftigt und künstlicher Intelligenz und natürlich Krieg ich das persönlich auch mit.

Ribes Vicente, Guillermo 20:58
Hm.

Interviewee 20:59
Aber das sind der Anforderungen, wo man auf lokaler Ebene sagt ok, ich verstehe, worum es geht. Ich verstehe auch die Sinnhaftigkeit dahinter aber.
Teilweise im Alltagsgeschäft gilt es da wirklich zu priorisieren und manches fällt dann rüber und manches eben nicht.

Ribes Vicente, Guillermo 21:22

The one and only reason should something change?
Could the market power dwindle, and the tide could definitely turn.

Ribes Vicente, Guillermo 17:00
Super stay at the beginning. Let us stay right there. What does the findability look like today, and what might change?
Looking for a hotel in the region you are responsible for? Do not say the name of

Interviewee 17:13
Mhm.

Ribes Vicente, Guillermo 17:15
What does the findability look like?

Interviewee 17:23
I would divide it up over the.
Because on a small scale.
Accommodation and service region like we are, it is that.
A frighteningly large proportion still happens in person, actually regular customers as well as by phone classic above all because our traditional target group belongs to the older generation, but otherwise?
Of course, it works like most people, and the way to get there is via Google, a relatively simple Google search.
Moreover, now we are probably getting into the subject relatively quickly What will happen to websites in the future? What will happen to booking.com and similar or accommodation
Websites? And as a tourism expert, if you like, I'm not sure how quickly this will happen and that websites will become superfluous.

Ribes Vicente, Guillermo 18:38
That is a very, very important point indeed. I cannot answer that for you either, but it is actually a side thread of my research. Actually, I will probably continue researching the topic right after that motto.

Interviewee 18:50
Mhm.

Ribes Vicente, Guillermo 18:57
Otherwise, if it is me, I will take the question in the direction depending on the question of Organisation. Has it ever dealt with Blockchain?

Interviewee 19:08
No.

Ribes Vicente, Guillermo 19:09
Precisely other technologies are currently being developed because I also find that exciting - who is doing what right now?

Interviewee 19:22
All Technologies, which is currently developing. As head of the organisation, I deal with the topic of artificial intelligence. Of course, everyone is talking about it at the moment.
Are we really implementing it in practice?
Are we doing things like that?
Hm.
Seo.
Search marketing.

Ribes Vicente, Guillermo 19:52
Hm.
Mmm.

Interviewee 20:01
Above all, at the local level
When you are in day-to-day business, tourist information operates as well as Marketing for a municipality with power in a region with a strong tourism industry because all have daily challenges and, above all, the challenges that a person always actually has several tasks and cannot deal with one topic.
It is incredibly difficult in the current organisational world of tourism to deal with these things. That is still important to me because.

Ribes Vicente, Guillermo 20:45
Yes.

Interviewee 20:48
A lot is going on at the country level with open data and artificial intelligence, especially at the national level, and of course, I am also personally involved in this.

Ribes Vicente, Guillermo 20:58
Hm.

Interviewee 20:59
However, these are requirements where you have to be localised. However, I also understand the sense behind it.
Sometimes, in day-to-day business, you really have to prioritise, and some things fall through, and some do not.

Ribes Vicente, Guillermo 21:22

Für mich ein ganz spannender Part, gerade dann noch was denn die Einschätzung, die Tourismusindustrie als Gesamtindustrie wenn du dir bewerten müsstest aufgrund seiner Struktur, da hast du mich grad gesagt, kleinteilig fragmentiert und ganz spannend Stichwörter wie würdest du insgesamt die Branche, die Tourismus, Industrie und ihren Umgang mit neuen Technologien beschreiben?

Interviewee 21:33
Ja.
Mhm.
In je nach ich würde unterscheiden, wir haben einmal die, die kleinteiligen Beherbergungsbetriebe, Ferienwohnungen und Co und einmal größere Hotels, gar Hotelketten, größere Betriebe, wiebooking.com oder Landes, Tourismus Organisationen oder gar der DTV oder ähnliches die beschäftigen die größeren Betriebe beschäftigen sich dahingehend viel und sind auch technologieoffen.

Ribes Vicente, Guillermo 22:00
Mhm.

Interviewee 22:21
Und die anderen haben gefühlt?
Entweder gerade auf Beherbergung Ebene. Kein Interesse daran oder auf Tourismus Organisation ebene keine Zeit dafür.

Ribes Vicente, Guillermo 22:34
Wenn ich ganz, ganz spannend, was ich mir gerade notiert hatte, weil das passt, jetzt hier doch ganz gut.
Das Konzept Airways wie als Vermittler?

Interviewee 22:47
Mhm.

Ribes Vicente, Guillermo 22:48
Was glaubst du, warum das erfolgreich geworden ist und erfolgreich heißt, das ist heute mehr wert als die 6 größten Konzerne zusammen warum hat das funktioniert?

Interviewee 23:07
Anfänglich glaub ich hatte es funktioniert, weil.
Als es groß geworden wirklich in den absoluten Anfängen ist das Konzept unter dem Stichwort übernachten bei Freunden übernachten bei Einheimischen.
Jetzt und in den letzten Jahren ist das Konzept erfolgreich, weil das einfach Marke ist und man auf dieser Plattform sucht wie beispielsweise booking.com.

Ribes Vicente, Guillermo 23:37
Mhm.

Interviewee 23:39
Ich glaube, es ist nicht mehr der Grund. Der ist anfänglich war.

Ribes Vicente, Guillermo 23:43
Also ist die Veränderung.

Interviewee 23:45
Ja.

Ribes Vicente, Guillermo 23:46
Ja, genau gut ist in den Sachen mal der Begriff Peer-to-Peer Technologie untergekommen.

Interviewee 23:54
Ich habe schon mal gehört, müsstest du mir aber noch mal erklären, wenn wir da einsteigen möchten.

Ribes Vicente, Guillermo 23:56
Mhm.
Nee, das ist wahr, das ist das, wir nähern uns langsam dem Ende. Es ist tatsächlich in in der Forschung wird ganz gerne, wenn wir auf die auf den Einfluss verschiedener Technologien schauen, war die letzte große technologische sag mal Welle ich benutze das Wort Welle ganz oft war tatsächlich die sogenannte Peer-to-Peer Technologie letztendlich genutzt hat, indem sie Luftmatratzen deswegen Air BNB einfach nur zwischen einem Studien San Francisco und einem Messebesucher aus weiß ich auch was.

Interviewee 24:18
Mhm.
Mhm.

Ribes Vicente, Guillermo 24:33
Auf San Diego vermittelt hat sie haben tatsächlich.
Einfach Peers und Peers miteinander verbunden ist die Grundlage war gar nicht wirklich als der große Intermediator aufzutreten, zu denen sie sich nämlich dann verändert haben, tatsächlich sehr erfolgreich, sondern Menschen miteinander zu verbinden, die sich vorher nicht verbinden konnte.

Interviewee 24:50
Okay.

Ribes Vicente, Guillermo 24:56
Und?
Ich jetzt mal noch eine Frage am Ende kann sein, dass sie am Ende rausschneiden, weil ich.

For me, a very exciting part, especially still what, is your comment on the tourism industry as an overall industry. If you had to evaluate yourself based on its structure, you just told me, fragmented in small parts and very exciting keywords, how would you describe the industry as a whole, the tourism industry and its use of new technologies?

Interviewee 21:33
Yes.
Mhm.
I would differentiate between small-scale accommodation providers, holiday flats and the like, and larger hotels, even hotel chains, larger companies, such as booking.com or national tourism organisations or even the DTV or similar, which employ the larger companies a lot in this respect and are also open to technology.

Ribes Vicente, Guillermo 22:00
Mhm.

Interviewee 22:21
Moreover, the others have felt?
Either just at the accommodation level. No interest or time at the tourism organisation level.

Ribes Vicente, Guillermo 22:34
I find what I have just written down very, very interesting because it fits in quite well here.
The Airways concept as an intermediary?

Interviewee 22:47
Mhm.

Ribes Vicente, Guillermo 22:48
Why do you think this has become successful and successful means it is worth more today than the six largest cooperation together why has it worked?

Interviewee 23:07
Initially, I think it worked because.
The concept really became big in the very early days under the heading of staying with friends and staying with locals.
Now, and in recent years, the concept has been successful because it is simply a brand, and people search on this platform, such as booking.com.

Ribes Vicente, Guillermo 23:37
Mhm.

Interviewee 23:39
I do not think it is the reason anymore. It was in the beginning.

Ribes Vicente, Guillermo 23:43
Means the change.

Interviewee 23:45
Yes.

Ribes Vicente, Guillermo 23:46
Yes, the term Peer-to-Peer technology has come up in things.

Interviewee 23:54
I have heard that before, but you will have to explain it to me again if we want to get into it.

Ribes Vicente, Guillermo 23:56
Mhm.
No, that is true; that is why we are slowly approaching the end. It is actually in the research quite popular; if we look at the influence of different technologies, the last big technological say wave I use the word wave quite often was actually the so-called peer-to-peer technology ultimately utilised by using air mattresses therefore, AirBNB just between a study San Francisco and a fairgoer from I do not know what.

Interviewee 24:18
Mhm.
Mmm.

Ribes Vicente, Guillermo 24:33
They have mediated in San Diego.
Simply connecting Peers and Peers together is the basis was not really to act as the great intermediator, to which they then changed, actually very successfully, but to connect people who previously could not connect.

Interviewee 24:50
Okay.

Ribes Vicente, Guillermo 24:56
And?
I now have another question at the end may, be that they end up cutting out because I.

Warum glaubst du, dass dieses Menschen über eine Website miteinander zu verbinden, wie AirBNB gemacht hat sozusagen?
Was ist der technologische Grund? Warum ist eingeschlagen hat?
Ich darf dich halt nicht in der Richtung lenken, aber das wäre ganz spannend.

Why do you think this is connecting people via a website like AirBNB has done?
What is the technological reason? Why did it work?
I am just not allowed to steer you in that direction, but that would be quite exciting.

Interviewee 25:24
Nee.

Interviewee 25:24
Nope.

Ribes Vicente, Guillermo 25:26
Warum ging das auf einmal? Was hat er BNB geboren?

Ribes Vicente, Guillermo 25:26
Why did that happen all of a sudden? What BNB did he give birth to?

Interviewee 25:30
Mhm.

Interviewee 25:30
Mhm.

Ribes Vicente, Guillermo 25:31
Dass ich wie gesagt der eine Studierende aus, dann nimmt seine Luftmatratze und vermietet es an irgendeinen aus Madrid.

Ribes Vicente, Guillermo 25:31
As I said, I am a student, and then he takes an air mattress and rents it out to someone from Madrid.

Interviewee 25:36
Ja.
Ja eigentlich ohne dass ich da technologisch wirklich tief tiefer einsteigen möchte.
Die Plattform einfach nur ich glaube nicht, dass es simpel ist wie das weiß ich nicht.
Ist wie das iPhone, warum war das erfolgreich, weil es selbsterklärend war, weil es einfach war und in der Nutzung hervorragend, Software, die dahinter gesteckt hat und bei Air BNB nur kann ich mir das erklären spontan was dementsprechend genau ich, wenn ich vor wirklich vielen, vielen Jahren an mein Vermieter Zeit auf AIRBnB.

Interviewee 25:36
Yes.
Yes, actually, I do not really want to go into it in depth technologically.
The platform, I do not think it is simple like that I do not know.
It is like the iPhone; why was that successful? Because it was self-explanatory, because it was simple and excellent to use, the software behind it and with Air BNB, I can only explain it to myself spontaneously, which is exactly what I did when I was a landlord many, many years ago on Air BNB.

Ribes Vicente, Guillermo 26:13
Mhm.

Ribes Vicente, Guillermo 26:13
Mhm.

Interviewee 26:31
Wenn ich mir die nochmal vor Augen bringe, dann war die relativ einfache Angelegenheit, das konnte halt jeder machen vorher nicht.

Interviewee 26:31
When I think about it again, it was a relatively simple matter, and anyone could not do it before

Ribes Vicente, Guillermo 26:33
Hm.
Mhm, ist ganz spannend, jetzt sozusagen hast du noch etwas, was du noch, weil, dann würde ich geraden Punkt außerhalb des offiziellen Interviews noch weiterführen hast du noch irgendwie Fragen oder Ideen oder irgendwas rund um das Thema Blockchain und oder künstliche Intelligenz was du abschließend noch?

Ribes Vicente, Guillermo 26:33
Hm.
Mhm, that is quite exciting. Now to say do you have anything else that you would like to add outside of the official interview? Do you have any questions or ideas or anything else about Blockchain or artificial intelligence that you would like to add to the conclusion?

Interviewee 26:49
Ja.
Ja.

Interviewee 26:49
Yes.
Yes.

Ribes Vicente, Guillermo 27:03
Mit Einbringen möchtest du Gedanken? Blockchain, Künstliche Intelligenz?

Ribes Vicente, Guillermo 27:03
Want to contribute with thoughts? Blockchain, artificial intelligence?

Interviewee 27:04
Block 2.
Blockchain nicht.
Blockchain künstliche Intelligenz?
Nur ein Gedanke ich bin ich bin wie gesagt in der Doppelfunktion als Leiter einer Tourist Information. Ich muss, deswegen finde ich Tourist Information ganz spannend ich muss in Zukunft die die analoge Welt vor Ort, das persönliche Gespräch mit der zunehmenden Digitalisierung vereinen und dann ist immer die große Frage Informationstechnologien wie entwickeln die sich eigentlich? Ich glaub nicht, dass das persönliche Gespräch und der Flyer in der Hand.

Interviewee 27:04
Block 2.
Blockchain not.
Blockchain, artificial intelligence?
Just a thought: I am, as I said, in the dual role of head of a tourist information centre. That is why I find tourist information really exciting - in the future, I have to combine the analogue world on-site, the personal conversation with increasing digitalisation and then the big question is always informationtechnologies how is it actually developing? I do not believe that the personal conversation and the flyer are in your hands.

Ribes Vicente, Guillermo 27:14
Hm.

Ribes Vicente, Guillermo 27:14
Hm

Interviewee 27:43
Komplett wegfallen werden. Ich glaube aber schon, dass Zusatzangebote geschaffen werden. Ich habe jetzt in der Neugestaltung der Tourist Information bei uns vor Ort ein tatsächlich auch 2 Touchscreens installiert und eigrößere Ställe hat tatsächlich gar die Funktion, die habe ich direkt ehrlich gesagt ausgeschaltet, weil ich mir das datenschutzrechtlich erstmal nicht antun wollte. Die hat auch die Möglichkeit eine Kamera einschalten zu können und dann.
Zu sehen, welche Personen eigentlich vor einem steht. Ist das jetzt ältere Person? Ist das eine Familie oder ähnliches?

Interviewee 27:43
Will be completely cancelled, But I do believe that additional services will be created. I have actually installed two touchscreens in the redesign of our local tourist information centre, and the larger stables actually have the function, which I switched off directly because I did not want to do that to myself for the time being in terms of data protection. It also has the option of switching on a camera and then.
To see who is actually standing in front of you. Is this an elderly person? Is it a family or something similar?

Ribes Vicente, Guillermo 28:20
Mhm.
Ja.

Ribes Vicente, Guillermo 28:20
Mhm.
Yes.

Interviewee 28:26
Kommt zu diesem Thema oder Zeit n bisschen darauf ein, dass vielleicht der künstliche kontinuierlich beispielsweise oder die die künstliche Information?
Abrufung immer stärker wird und das ist natürlich künstliche Intelligenz. Mich würde aber wird aber sagen, dass das und deswegen auch dieses Gedankenspiel, wie sich das in Zukunft entwickeln wird ich würde sagen, dass das ein Zusatzangebot vor Ort ist, was aber immens stark genug genutzt werden kann, Chat Bot Dinge kann ich mir durchaus vorstellen, dass man nicht nur am Counter steht, sondern auch vor einer digitalen Stähle und da beraten wird.

Interviewee 28:26
Does it come to this topic or time a little about the fact that perhaps the artificial continuous, for example, or the artificial information?
Retrieval is getting stronger and stronger, and that is, of course, artificial intelligence.
However, I would say that, and that is why I am also thinking about how this will develop in the future, I would say that this is an additional offer on-site, but one that can be utilised immensely enough chatbot things; I can certainly imagine that you are not just standing at the counter, but also in front of a digital steel and being advised there.

Ribes Vicente, Guillermo 28:57
Aus.

Ribes Vicente, Guillermo 28:57
Off.

Jo.
kann ich mir absolut finde ich ganz, ganz billig, aber toll das sind wirklich, aber ich find cool, dass ihr das schon habt, aber weil Technologie überholt uns im Moment gerade n bisschen, dann lieber ausschalten aber spannend das ist schon stehen zum Kaufen gibt die Erkenntnisse vor einem steht.

Interviewee 29:20
Mhm.
Mhm.

Ribes Vicente, Guillermo stopped transcription.

Jo.
I think it is really, really cheap but great, but I think it is cool that you have already got it, but because technology is overtaking us a bit at the moment, it is better to switch it off, but it is exciting to buy it because the knowledge is there in front of you.

Interviewee 29:20
Mhm.
Mhm.

Ribes Vicente, Guillermo stopped transcription.

Bilingual Interview Transcript Interviewee 2

Austausch mit Guillermo Ribes (PhD cand.)-20230612_171841-Meeting Recording
32m 44s

Ribes Vicente, Guillermo 0:03
Rotes Lämpchen sehen, dass ich aufnehme.

Ribes Vicente, Guillermo started transcription

Interviewee 0:05
Ja.

Ribes Vicente, Guillermo 0:06
So und Transkription sollte gestartet haben. Warum? Ja, ich sehe die Transkription du wahrscheinlich nicht das hab ich noch nicht so ganz rausgefunden. Im Moment ist es so also ich sehe, was ich sage und er macht es wirklich auf Deutsch. Der nimmt auch alle irgendwas mit und so also da kann man fast froh sein, dass Corona gekommen ist, weil technologisch hat sich alles entwickelt.

Interviewee 0:15
Nee.
Okay.

Ribes Vicente, Guillermo 0:29
Genau.

Interviewee 0:30
Absolut.

Ribes Vicente, Guillermo 0:31
Dann das Ganze anonymisiert ist, also brauchen wir zu eine anonymisierte Bezeichnung, was du bist und was du tust?

Interviewee 0:39
Bitte.

Ribes Vicente, Guillermo 0:40
Ja also, es muss klar, wenn du bist Entscheidungsträger und irgendwie, dass man schon sagen kann Hey, der ist Experte im Bereich ist aber Consulting ist der große Bereich hat dann hast du dein Vorschlag?

Interviewee 0:51
Genau dann wird es ruhig, dann geh mal auf die destinations Ebene oder das hast du ja dann noch nicht ne also destinationsmanagement.

Ribes Vicente, Guillermo 0:54
Ja.
Ja.
Genau und du bist aber dann Managing Director genau genommen.

Interviewee 1:03
Ja.

Ribes Vicente, Guillermo 1:04
Ja.

Interviewee 1:04
Erklär ich nachher ist ein bisschen komplizierter im Prinzip schon.

Ribes Vicente, Guillermo 1:06
Genau.
Das will ich nämlich hinterher noch wissen, weil ich hab gesehen, du hast das ja mal erzählt gehabt, umgewandelt und so, dann sprechen wir gleich drüber genau genau alt alter hab ich mich entschlossen, dass rauszulassen. Ich werd dann nur so ne Range angeben, was Berufserfahrung angeht. Das kann ich bei dir ungefähr schätzen so.

Interviewee 1:22
Naja.

Ribes Vicente, Guillermo 1:27

Exchange with Guillermo Ribes (PhD cand.)-20230612_171841-Meeting Recording
32m 44s

Ribes Vicente, Guillermo 0:03
See red light that I am recording.

Ribes Vicente, Guillermo started transcription

Interviewee 0:05
Yes.

Ribes Vicente, Guillermo 0:06
So and transcription should have started. Why? Yeah, I see the transcription you probably don't, I haven't quite figured that out yet. At the moment I can see what I'm saying and he's really doing it in German. He also takes something with him and so on, so you can almost be glad that Corona has come, because everything has developed technologically.

Interviewee 0:15
Nope.
Okay.

Ribes Vicente, Guillermo 0:29
Exactly.

Interviewee 0:30
Absolutely.

Ribes Vicente, Guillermo 0:31
Then the whole thing is anonymised, so do we need to anonymise what you are and what you do?

Interviewee 0:39
Please.

Ribes Vicente, Guillermo 0:40
Yes, so, it must be clear, if you are a decision maker and somehow, that one can already say Hey, he is an expert in the field but consulting is the big area then you have your proposal?

Interviewee 0:51
Exactly then it gets quiet, then go to the destination level or you don't have that yet, so destination management.

Ribes Vicente, Guillermo 0:54
Yes.
Yes.
Exactly, and then you're Managing Director, actually.

Interviewee 1:03
Yes.

Ribes Vicente, Guillermo 1:04
Yes.

Interviewee 1:04
I'll explain later, it's a bit more complicated in principle.

Ribes Vicente, Guillermo 1:06
Exactly.
That's what I want to know afterwards, because I've seen that you've talked about it, converted and so on, so we'll talk about it in a moment, exactly the same age I decided to leave it out. I'll just give you a range in terms of work experience. I can roughly estimate that for you.

Interviewee 1:22
Well.

Ribes Vicente, Guillermo 1:27

Also die allererste und super allgemeine Frage ich guck mal so links, weil ich hab natürlich Notizen so links. Wie bewerten Sie insgesamt den Einfluss? Also ich sag jetzt immer, war meine Notizen. Sie ist aber das nimmt das nicht persönlich. Wie werten Sie den Einfluss von Informationstechnologie?

Interviewee 1:38
Ja ja.

Ribes Vicente, Guillermo 1:45
Auf die Tourismusindustrie insgesamt ganz, ganz gerne auch in Bezug auf die Buchung von Hotelleistungen.

Interviewee 1:55
Oh also ganz allgemein natürlich kann man es nicht hoch genug bewerten, weil es in allen Bereichen des Tourismus entscheidender Game Changer ist wahr bleiben wird vermutlich.
In allen Bereichen der Reiseleistung, bei der Information, bei der Buchung, bei der Bewertung, bei der Kommunikation also.
Ja, kann man nicht, kann man nicht hoch. Letzten Endes kann Mans nicht hoch genug bewerten ohne ohne Informationstechnologie gibt es eigentlich gar keinen Tourismus mehr und Buchung von Hotel oder Gelb hat den klassischen Tourismus aber komplett anders als er jetzt ist Buch von von Hotelleistungen bin ich tatsächlich sehr schwer zu sagen, ich könnte es bei der Auswahl von und Buchung von von Regionen von Destinationen, von allgemeinen Reisen und eher sagen, wobei ich denke, dass er die Informationsbeschaffung.
Und die Community? Der Gedanke, dass weitervermitteln Imagebildende sehr großen Effekt hat, klar bei der Buchung ist natürlich auch so, dass die Leute elektronisch buchen und nicht mehr analog oder per Telefon.

Ribes Vicente, Guillermo 2:53
Mhm.

Interviewee 3:02
Ich glaub, das ist sehr offensichtlich, ne?

Ribes Vicente, Guillermo 3:04
Ja, du hattest gerade einen schönen Satz gesagt es gebe irgendwie kein Tourismus, wie wir ihn jetzt kennen, wenn du jetzt die Tourismusindustrie mit anderen Branchen mit großen anderen Industrien vergleichst. Wie stark ist der Einfluß verglichen zu anderen Industrien? Weil das war eben schon ne sehr, das war ein Statement, was du eben gemacht hast.

Interviewee 3:25
Ich ich glaube wirklich sehr hoch, weil es ja alle Lebensbereiche eingreift also ich, wenn ich, wenn ich mir, wenn ich mich darüber informiere, ich eine eine Urlaubsreise zu machen, dann greife ich zurück auf persönliche Erfahrungen, logischerweise von Freunden und Bekannten aber ja nicht nur analog und mündlich, sondern auch digital. Ich lese deren Facebook's Posten Instagram, der Bewertungen aber nicht nur deren von meinen Freunden, sondern auch von Leuten, die ich nicht kenne, die aber ja zu meinen Freunden werden, weil ich irgendeine elektronische Verbindung ziehen hab.

Ribes Vicente, Guillermo 3:56
Mhm.

Interviewee 3:57
Und dann geht das ja noch weiter, dann geht es ja über die über die Informations einholung, was Preise betrifft. Flug Hotel, keine Ahnung, was services, ich lese dann wieder Empfehlungen. Ich bin vor Ort eigentlich permanent damit beschäftigt, mir Informationen zu holen über Angebote, Restaurants et cetera. Ich glaube, ich weiß es nicht wie in anderen Branchen ist aber wenn ich jetzt eine Textilbranche denke, dann geh ich immer noch im Klamottenladen vielleicht bestelle ich auch online aber.
Ich glaube, die Empfehlungen sind da nicht so nicht ganz so wichtig. Natürlich gibt es da auch Influencer, aber ich bin nicht in einem Austausch mit Freunden und sagt ich hab meine Jeans gekauft guck mal auf Insta, ne ne also das ist ne ganz andere Sache, oder wenn ich mir keine Ahnung in welchen Bereichen, Automobil oder Technologie kochen ist ja kein Telefon, weil ich von anderen irgendwo auf einer Plattform gelesen hab, dass sie mit ihrem Gerät zu bei Bremen sind. Also ich glaube die Informationsdienste im Tourismus ist einfach riesig hoch und in allen Elementen hab ich Kontakt zu.
Anderen Menschen aus dem näheren oder weiteren Umfeld, die mir etwas empfehlen, von denen ich was lesen? Also ich glaube schon, dass der Einfluß nochmal deutlich höher ist als in der Branche, glaube ich.

Ribes Vicente, Guillermo 5:01
Die.
Ja, eine Frage, die Transkriptions hat soll geschrieben, ich glaube, die Informationsdienste im Tourismus ist riesig hoch Informationsdichte dichte. Ich sage Ihnen das jetzt nochmal ja dichte das weil sonst hab ich genau weil das Wort ist super Informationsdichte, wenn wir da jetzt mal auf ein also mein meine mein Forschung kommst hört sich doch sehr auf die Vermittlung, also intermediation Services, wo ja hotelbuchung einfach aufgrund der der der der monetären Dinge die Größe ist.

Interviewee 5:17
Dichte Dichte.
Genau.

Ribes Vicente, Guillermo 5:40
Was glaubst du warum buchen Kunden überhaupt über Buchungsplattformen? Was ist die, was ist die Motivation dahinter?

Interviewee 5:52

So the very first and super general question I'll have a look on the left, because of course I have notes on the left. How do you rate the overall Influence? Well, I always say was my notes. But doesn't take it personally. How do you rate the influence of information technology?

Interviewee 1:38
Yes, yes.

Ribes Vicente, Guillermo 1:45
On the tourism industry as a whole, also in terms of booking hotel services.

Interviewee 1:55
Oh, so in general, of course, you can't rate it highly enough, because it's a decisive game changer in all areas of tourism and will probably remain so. In all areas of travel services, in information, in booking, in evaluation, in communication.
Yes, you can't, you can't go up. At the end of the day, without information technology, there is no longer any tourism and booking of hotel or yellow book of hotel services I am actually very difficult to say, I could say it in the selection of and booking of of regions of destinations, of general travel and rather, I think it is the information gathering.
And the community? The idea that it has a great effect on image-building, of course, when it comes to booking, people are booking electronically and no longer by analogue or telephone.

Ribes Vicente, Guillermo 2:53
Mmm.

Interviewee 3:02
I think that's very obvious, isn't it?

Ribes Vicente, Guillermo 3:04
Yes, you just said a nice sentence that there is somehow no tourism as we know it now, if you compare the tourism industry with other industries with big other industries. How strong is the influence compared to other industries? Because that was a very, that was a statement you just made.

Interviewee 3:25
I think it's really very high, because it affects all areas of life, so when I, when I find out about going on holiday, I fall back on personal experiences, logically from friends and acquaintances, but not only analogue and verbally, but also digitally. I read their Facebook posts, Instagram posts and reviews, but not only those of my friends, but also those of people I don't know, but who become my friends because I have some kind of electronic connection.

Ribes Vicente, Guillermo 3:56
Mhm.

Interviewee 3:57
And then it goes even further, then it's about getting information about prices. Flight hotel, I don't know what services, then I read recommendations again. When I'm there, I'm actually constantly busy gathering information about offers, restaurants, etc. I don't think I know how. I don't think I know what it's like in other industries, but if I think of the textile industry, I still go to the clothes shop, but maybe I order online too.
I don't think the recommendations are that important. Of course there are influencers, but I'm not in an exchange with friends and say I bought my jeans on Insta, no, that's a completely different thing, or if I have no idea in which areas, automotive or technology cooking is not a phone, because I've read somewhere on a platform from others that they are with their device to Bremen. So I think the information services in tourism are simply huge and I have contact with all elements.
Other people from my immediate or wider environment who recommend something to me, who I read about? So I believe that the influence is significantly higher than in the industry, I think.

Ribes Vicente, Guillermo 5:01
The.
Yes, a question, the transcription has to be written, I think the information services in tourism is hugely high information density. I'll tell you that again now yes density that because otherwise I have exactly because the word is super information density, if we now come to a so my my research sounds very much on the intermediation, so intermediation services, where yes hotel booking simply because of the of the of the monetary things is the size.

Interviewee 5:17
Density Density.
Exactly.

Ribes Vicente, Guillermo 5:40
Why do you think customers book through booking platforms in the first place? What is the, what is the motivation behind it?

Interviewee 5:52
Simply the practicality.

Das einfach die Praktikabilität.
Es ist einfach super praktisch du hast dich mit einem System vertraut gemacht oder mit zweien maximal oder dreien und ich muss nicht jedes Mal bei der Hotelplattform gucken wie ist die Buchungsplattform aufgebaut? Das muss ich jetzt eingeben. Wir sind die Stornobedingungen und ich muss mich eigentlich bei jedem Hotel einzeln informieren, weil der Buchungsplattform hab ich das alles aus einer Hand und ich kenne das, ich weiß wo was ist.
Ich glaub, das ist das Allerwichtigste. Das Thema Stornobedingungen gehört auch dazu, auch das finde ich sofort aus einer Hand und muss mich nicht erst durch ein Gebiet oder sonstiges würden auf der Plattform also die bei einheitlichen standardisierten Informationen.
Natürlich sind alle Daten hinterlegt, ich kann mit einem Klick mit 2 Klicks hab ich mein Hotel gebucht.

Ribes Vicente, Guillermo 6:38
Hm.

Interviewee 6:39
Unschlagbarer Vorteil zum Beispiel ja nicht mehr kostet also ich hab ja letzten Endes die Kosten trägt der Anbieter und was wir als Gast wenn ich denn nicht gut kenne ja ich auch egal.

Ribes Vicente, Guillermo 6:46
Mhm.

Interviewee 6:49
Die Vergleichbarkeit natürlich letzten Endes jetzt auch dazu gekommen. Das Thema Nachhaltigkeit kann ich vor ein Booking weiß ich bei den anderen weiß ich gar nicht auch eruieren sehr direkt ein 2 oder 3 Blätter und und kann das einschätzen, wie nachhaltig der Anbieter ist, das müßte ja ansonsten bei jedem Betrieb mehr anschauen was hat der für ein Label hatte überhaupt 1 ist das gültig? Keine Ahnung also, das sind eigentlich die Hauptargumente, wie ich sage.

Ribes Vicente, Guillermo 7:11
Hm.
Oder also der letzte Punkt ist spannend, den hatten wir bis jetzt noch nicht in den Diskussionen mit dem Thema Nachhaltigkeit sehr gut neuer neuer Punkt?
Jetzt ganz ein bisschen ketzerisch gefragt das sind alles diese Einflussfaktoren gerade gesagt hast.
Aber also vielleicht nochmal also warum buchen viele Menschen nicht einfach direkt bei Hotels? Also einfach weil natürlich die Hotelindustrie wahnsinnig hohe Kommission abgeben muss und an die Plattformen?

Interviewee 7:43
Weil die Webseiten fürchterlich sind ganz ehrlich also egal wo ich bin, wenn immer eine große Kettenhotellerie, ne Marriott oder oder Steigenberger oder sonst was, dann lande ich auf einer Seite, die alle Häuser vereint, da muss ich mich erst wieder in die Stadt vor klicken, dann muss ich schauen, in welcher welches Haus in der Stadt ist es jetzt hab ich ja schon kein schon kein Bock also, die sind dann professionell von ihrem von ihrem Management und von Bezahlsystem aber bis ich mich durchgeklickt hab gefunden was ich suche noch mit Rabatten und Sonderaktionen super kompliziert.

Ribes Vicente, Guillermo 7:45
Okay.
So.

Interviewee 8:14
Kann doch das richtige Zimmer auswählen hör mir auf die Kleinen haben häufig entweder ganz schlecht funktionierende Websites und ich bin mir gar nicht sicher, was passiert ist. Mit meinen Kreditkartendaten wird abgebucht, wird nicht abgebucht, wieder andere kann man nur Anfragen. Also ist es gibt keine Standards, die funktionieren. Es ist umständlich und es ist unsicher oder zumindest gefühlt unsicher, wahrscheinlich realistisch, gar nicht, aber gefühlte unsicher.

Ribes Vicente, Guillermo 8:39
Gefühlte Unsicherheit alles klar, ja, oder?
Jetzt machen wir so einen kleinen Break, das war so, die mein meine Einleitungs allgemein dann jetzt wirklich also ausdrücklich nicht als technologieexperte sollen als Experte im Tourismus was sind deiner Meinung nach Schlüssel, Technologien, die uns, die sozusagen jetzt auf uns zukommen und zwar speziell, was die Vermittlung von Dienstleistungen Tourismus angeht.

Interviewee 9:10
Also womit ich mich intensiv beschäftigen und was auf destinations Ebene relevant ist, was aber auch in die Betriebe eingreift. Dieses Thema Open Data.

Ribes Vicente, Guillermo 9:19
Ja.

Interviewee 9:19
Das heißt also ne Zurverfügungstellung offener Daten inklusive der ganzen Thema Bildrechte inklusive Standards steam.org, also die ganze Open Data Technologie, auf die sich die Anbieter in den Destinationen und die Hotels, die Betriebe einstellen müssen und möglichst sicherzustellen, dass ihre Daten nicht immer in dem internationalen Standard möglichst Qualität voll und vollständig aktualisiert zur Verfügung stehen und das ist.

Ribes Vicente, Guillermo 9:47
Mhm.

It's just super practical, you've familiarised yourself with one system or two or three at most and I don't have to look at the hotel platform every time to see how the booking platform is structured. I have to enter that now. We are the cancellation conditions and I actually have to check with each hotel individually because the booking platform gives me everything from a single source and I know where everything is.
I think that's the most important thing. The topic of cancellation conditions is also part of this, I can find this immediately from a single source and don't have to search through an area or anything else on the platform, i.e. the standardised information.
Of course, all the data is stored, I can book my hotel with one click and two clicks.

Ribes Vicente, Guillermo 6:38
Hm.

Interviewee 6:39
Unbeatable advantage, for example, it doesn't cost any more, so at the end of the day the provider bears the costs and I don't care what we pay as guests if I don't know them well.

Ribes Vicente, Guillermo 6:46
Mhm.

Interviewee 6:49
At the end of the day, of course, comparability has also been added. I don't know about the others, I don't know about the others, I can find out about sustainability very directly from 2 or 3 sheets and I can assess how sustainable the provider is, otherwise I would have to look more closely at each company to see what kind of label they have, is it even valid? So I don't know, those are actually the main arguments, as I say.

Ribes Vicente, Guillermo 7:11
Hm.
Or so the last point is exciting, we haven't had it yet in the discussions with the topic of sustainability very good new point?
Now I'm asking a bit heretically, these are all the influencing factors you just mentioned.
But maybe once again, why don't many people just book directly with hotels? Simply because, of course, the hotel industry has to pay incredibly high commissions to the platforms?

Interviewee 7:43
Because the websites are terrible to be honest, so no matter where I am, if there's always a big chain hotel, a Marriott or Steigenberger or something else, then I end up on a page that brings together all the hotels, I first have to click my way back to the city, then I have to look at which hotel in the city it's in, now I'm not really interested, so they're professional in their management and payment system, but until I've clicked through and found what I'm looking for, it's still super complicated with discounts and special offers.

Ribes Vicente, Guillermo 7:45
Okay.
Like this.

Interviewee 8:14
Can I choose the right room? Listen, the little ones often either have very poorly functioning websites and I'm not even sure what happened. With my credit card details being charged, not being charged, yet others you can just enquire. So there are no standards that work. It's cumbersome and it's insecure or at least feels insecure, probably realistically, not at all, but feels insecure.

Ribes Vicente, Guillermo 8:39
Feeling insecure all right, right?
Now we're going to take a little break, that was my introduction in general, not as a technology expert, but as an expert in tourism, what do you think are the keys, the technologies that are now coming our way, so to speak, specifically with regard to the provision of tourism services?

Interviewee 9:10
So what I'm intensively involved with and what is relevant at destination level, but which also has an impact on businesses. This topic of open data.

Ribes Vicente, Guillermo 9:19
Yes.

Interviewee 9:19
So that means making open data available, including the whole issue of image rights, including steam.org standards, in other words the whole open data technology that providers in the destinations and the hotels, the businesses have to adapt to and ensure as far as possible that their data is not always available in the international standard, fully and completely updated as far as possible, and that is.

Ribes Vicente, Guillermo 9:47
Mhm.

Interviewee 9:49
From the area in which I work, the challenge is to get that as comprehensively as possible in a destination.
Mhm.

Interviewee 9:49
Aus dem Bereich, in dem ich arbeite, gerade die Herausforderung, dass möglichst flächendeckend in einer Destinationen hinzubekommen.
Mhm.

Ribes Vicente, Guillermo 10:13
Großen Einfluß oder also oder einen Einfluss oder vielleicht einen großen Einfluss auf die Tourismus? Industrie als Ganzes haben könnte?

Interviewee 10:21
Also ne weiß ich nicht bin ich kenne ich mich nicht gut genug aus, also im Bereich Kommunikation sind es gibt die klassischen Social Media Plattformen und Kanäle, aber das ist glaube ich keine großen neuen Technologien.

Ribes Vicente, Guillermo 10:29
Sie.

Interviewee 10:33
Und was sonst? Hinter dem Buchungssystem oder so steckt das weiß ich.

Ribes Vicente, Guillermo 10:38
Genau dann schlag ich dir jetzt mal eine Technologie vor hast du dich schon mal einfach so oder vielleicht schon mal gehört oder mal in Besprechung oder selber das Thema Blockchain und den potenziellen Einfluss auf die Tourismusindustrie?

Interviewee 10:52
Ja, das habe ich mir fast gedacht.

Ribes Vicente, Guillermo 10:54
Ja.

Interviewee 10:55
Ich hab, ich hab, ich verstehe es, ich versuche es zu begreifen, was die Potenziale sind und ich hab ich verstehs nicht also nur mal genau man kennt das weiß ich nicht aus der Logistik oder Produktion oder anderen Themenbereichen. Ich hab das, ich hab mich eingelesen. Ich hab überlegt zu verstehen wo könnte die Potenziale sein? Ich habe aber überhaupt keine gefunden. Dann wäre es eher spannend von dir zu hören, was du alles drin, aber ich ich kann dazu tatsächlich nichts sagen.

Ribes Vicente, Guillermo 11:05
Ja.
Genau.
Und jetzt wird eben das ist, das ist der Kern meiner Forschung, weil die Wissenschaft, sagt Huiuiui, da gibt es eine Technologie, und die Touristiker sagen ok, da wollen wir mehr darüber wissen weil so also also manchmal so ich sag doch centres und die Leute sagen hä also, ich würd so anfangen damit alle auf den Beistand ich hab so einen kleinen Text hier ein bisschen vorlese so also Block also als Erklärung Blockchain Technologie, bei der Informationen in Form von Datenblöcken gespeichert.

Interviewee 11:39
Mhm.

Ribes Vicente, Guillermo 11:53
Verschlüsselt miteinander verknüpft werden, um eine sichere und transparente Datenbank zu erstellen.
Mehr nicht mehr und nicht weniger wichtig diese Datenbank wird nicht von einer zentralen Autorität verwaltet, sondern wird in ganz viel Computern gleichzeitig über das Internet kontrolliert. Also ganz viele Augen können auf diese Datenbank schauen.
Blockchain dieser Name ist eigentlich ein sehr schönes, sehr schöne Metapher, denn jeder Datenblock, das ist eine gewisse Menge an Daten, die passen in einen sogenannten Block.
Da können Transaktionsdetail und Informationen drin sein, sozusagen der Block voll ist, wird ja in die Chain Reingeschoben und das Spannende ist, er kriegt dann verschlüsselt.
Informationen zum Block, der davor ist, das heißt jeder Block kriegt so ein Kettenglied zum alten, dass sie miteinander verbunden sind.
Das macht es halt in der Kombination, das ist dezentral organisiert ist.
Sehr, sehr, sehr resistent gegen Hacker, Angriffe gegen Manipulation, weil man würde die Kette zerbrechen und 100 andere Leute würden sagen da ist ne Kette kaputt, das ist sag ich mal der der sozusagen die Grund Technologie.
Man muss dazu sagen das hört jetzt erstmal, das ist auch eigentlich gar nicht was also ist gar nicht so? Also was hat als Idee nimmer wiedergeben, was spannend ist? Der erste, der das ja massentauglich gemacht hat, war eben, sagte Lina Moto, der das auf eine Währung angepasst hat, nämlich Bitcoin und das entscheidend ist also die technologische Architektur von Blockchain ist darauf ausgerichtet. Es braucht kein Vermittler, es braucht keine zentrale Instanz, sondern Peer zu Peer.

Interviewee 13:33
Mhm.
Mhm.
Mhm.

Ribes Vicente, Guillermo 13:48
Machen Geschäfte und die Blockchain? Die gibt eben die Sicherheit, dass diese Geschäfte nicht manipuliert werden können.

Interviewee 13:56
Mhm.

Ribes Vicente, Guillermo 13:57

Ribes Vicente, Guillermo 10:13
A big influence or so or an influence or maybe a big influence on the tourism? Industry as a whole?

Interviewee 10:21
Well, I don't know, I'm not familiar enough with it, so in terms of communication, there are the classic social media platforms and channels, but I don't think that's a big new technology.

Ribes Vicente, Guillermo 10:29
You.

Interviewee 10:33
And what else? Behind the booking system or something like that, I know.

Ribes Vicente, Guillermo 10:38
Right then, I'm going to suggest a technology to you, have you ever heard of or perhaps discussed the topic of blockchain and its potential impact on the tourism industry?

Interviewee 10:52
Yes, I almost thought so.

Ribes Vicente, Guillermo 10:54
Yes.

Interviewee 10:55
I have, I have, I understand it, I'm trying to understand it, what the potentials are and I don't understand it so just exactly you know I don't know that from logistics or production or other topics. I did that, I read up on it. I thought about understanding where the potentials could be? But I haven't found any. Then it would be rather interesting to hear from you what you have in it, but I can't really say anything about it.

Ribes Vicente, Guillermo 11:05
Yes.
Exactly.
And now that's, that's the core of my research, because the science says Huiuiui, there's a technology, and the tourism experts say ok, we want to know more about it because so so so sometimes I say centres and people say hä so, I would start so that all on the assistance I have such a small text here read out a bit so so block so as an explanation blockchain technology, where information is stored in the form of data blocks.

Interviewee 11:39
Mhm.

Ribes Vicente, Guillermo 11:53
linked together in encrypted form to create a secure and transparent database.
No more and no less important, this database is not managed by a central authority, but is controlled simultaneously in many computers via the Internet. So many eyes can look at this database.
Block chain this name is actually a very nice, very beautiful metaphor, because every block of data, that is a certain amount of data, fits into a so-called block.
It can contain transaction details and information, so when the block is full, so to speak, it is pushed into the chain and the exciting thing is that it is then encrypted.
Information about the block in front of it, i.e. each block gets a chain link to the old one so that they are connected to each other.
That's what makes the combination so decentralised.
Very, very, very resistant to hackers, attacks against manipulation, because you would break the chain and 100 other people would say there's a broken chain, that's the basic technology, so to speak.
You have to say that this is not really what it is, so it's not like that? So what is the idea that is exciting? Lina Moto said that the first person to make this suitable for the masses was the one who adapted it to a currency, namely Bitcoin, and that is the decisive factor, i.e. the technological architecture of blockchain is geared towards this. It doesn't need an intermediary, it doesn't need a central authority, it needs peer-to-peer.

Interviewee 13:33
Mmm.
Mm.
Mmm.

Ribes Vicente, Guillermo 13:48
Doing business and the blockchain? It provides the security that these transactions cannot be manipulated.

Interviewee 13:56
Mmm.

Ribes Vicente, Guillermo 13:57
Now I have an intermediate question, could you imagine why some people in science say that blockchain could have a big impact on the tourism industry?

Jetzt habe ich noch eine Zwischenfrage könntest du dir jetzt vorstellen, warum manche in der Wissenschaft sagen Huiuiui Blockchain könnte einen großen Einfluss auf die Tourismusindustrie haben?

Interviewee 14:12
Ja, vielleicht also ich bin es ist eine quasi so eine Art Marktplatz.
Ohne Zwischenhändler, sondern.

Ribes Vicente, Guillermo 14:22
Ja.

Interviewee 14:24
1000 Leute sind auf dem Marktplatz, jeder kann mit jedem gleichzeitig verhandeln und Dinge anbieten und kaufen, was richtig so ungefähr so ja möglich, wenn es irgendwie. Ich kann mir doch nicht vorstellen, wie das konkret aussehen könnte. Aber.

Ribes Vicente, Guillermo 14:28
Mhm.
Ja.
Mhm.

Interviewee 14:40
Klar, ich hab keine zentrale Vermittlungsinstanz, sondern.
Ich bin in der Lage, durch Technologie Unterstützung mit jedem Marktteilnehmer sozusagen zu interagieren.

Ribes Vicente, Guillermo 14:50
Mhm.

Interviewee 14:52
Ja, vielleicht.

Ribes Vicente, Guillermo 14:54
Ja. Weil.

Interviewee 14:55
Kommt drauf an, wie das, wie die Anwendung in der Praktikabilität ist also.

Ribes Vicente, Guillermo 14:59
Genau also davon sind wir tatsächlich noch entfernt also wir sind tatsächlich noch total im theoretischen Bereich, denn jetzt kann was ich nämlich eben vorgestellt habe. Das nennt man Wissenschaft, Blockchain, 1.0. Wir sind aber faktisch schon lange, also schon seit vielen Jahren in der sogenannten zweiten Generation und jetzt wird es spannend das sind die sogenannten intelligenten Verträge Smart Contracts. Das heißt in diesen Blöcken, die ich eben beschrieben habe.

Interviewee 15:02
Mhm, Mhm auf der theoretischen Ebene ja ok.

Ribes Vicente, Guillermo 15:27
Wird ein digitaler Vertrag zwischen 2 Nutzern eingespeist, der automatisch ausgeführt wird, sobald bestimmte Bedingungen erfüllt sind? Ohne Anwalt, ohne Bahn, ohne Agenturen, Vermittler Beispiel Lotterie ein Kunde möchte ein Hotelzimmer buchen, anstatt eine Buchungsplattform als Vermittler zuwenden, könnte er direkt mit dem Hotel oder mit einem privaten BnB einen intelligenten Vertrag auf der Blockchain festhalten. Und der konnte eben die Buchungsinformationen.

Interviewee 15:36
Mhm.

Ribes Vicente, Guillermo 15:58
Datum zimmerpreis zahlungsdetails Stornierung enthalten.
Da diese Blockchain dezentral und transparent ist, sind diese Information also der eine oder der andere kann es ja nicht einfach verändern oder dann sagen NÖ, das ist jetzt alles ganz anders, sondern das ist unveränderlich und schafft und jetzt muss ich aufpassen es schafft, es ist vertrauenswürdig. In der Übersetzung ist bisschen schwierig, weil eigentlich ist es, man braucht kein Vertrauen.

Interviewee 16:13
Mhm.
Mhm.

Ribes Vicente, Guillermo 16:28
Weil es automatisiert in einem intelligenten Vertrag ist. Ich muss einem Algorithmus, so ist es im Englischen, es ist ein Trustless ist, und das ist ganz spannend.

Interviewee 16:28
Mhm.
Mhm.
Ja.
Mhm.
Mhm.

Ribes Vicente, Guillermo 16:37
Also tatsächlich können auch Zahlungen über die Blockchain gemacht werden, aber ausdrücklich Zahlungen ist gar nicht mein mein Thema.
Und die Forschung sagt Halt, wenn man das zu Ende denkt, könnte das eben zu extrem geringeren Gebühren und schnelleren Transaktionen führen, da man den Vermittler komplett umgeht und trotzdem einen transparenten Buchungsverlauf hat.

Interviewee 16:53

Interviewee 14:12
Yes, maybe, so I'm it's a kind of marketplace.
Without middlemen, but.

Ribes Vicente, Guillermo 14:22
Yes.

Interviewee 14:24
1000 people are on the marketplace, everyone can negotiate with everyone at the same time and offer and buy things, which is really possible if it's somehow. I can't imagine what that would look like in concrete terms. But.

Ribes Vicente, Guillermo 14:28
Mmm.
Yes.
Mhm.

Interviewee 14:40
Sure, I don't have a central intermediary, but.
I'm able to interact with every market participant through technology support, so to speak.

Ribes Vicente, Guillermo 14:50
Mhm.

Interviewee 14:52
Yes, maybe.

Ribes Vicente, Guillermo 14:54
Yes, because.

Interviewee 14:55
Depends on how that, how the application is in terms of practicability.

Ribes Vicente, Guillermo 14:59
Exactly, so we're actually still a long way from that, so we're actually still totally in the theoretical realm, because what I've just presented can now be used. It's called science, blockchain, 1.0, but we've actually been in the so-called second generation for a long time, i.e. for many years, and now it's getting exciting - these are the so-called intelligent contracts, smart contracts. That means in these blocks that I've just described.

Interviewee 15:02
Mhm, Mhm on a theoretical level yes ok.

Ribes Vicente, Guillermo 15:27
Is there a digital contract between 2 users that is automatically executed as soon as certain conditions are met? Without a lawyer, without a railway, without agencies, intermediaries Example lottery a customer wants to book a hotel room, instead of using a booking platform as an intermediary, he could record a smart contract directly with the hotel or with a private BnB on the blockchain. And that could contain the booking information.

Interviewee 15:36
Mmm.

Ribes Vicente, Guillermo 15:58
Date room rate payment details cancellation included.
As this blockchain is decentralised and transparent, this information cannot simply be changed by one person or another or then say no, it's all completely different now, but it's unchangeable and created and now I have to be careful, it's trustworthy. It's a bit difficult to translate, because you don't actually need trust.

Interviewee 16:13
Mhm.
Mhm.

Ribes Vicente, Guillermo 16:28
Because it's automated in an intelligent contract. I have to tell an algorithm, that's how it is in English, it's a trustless, and that's quite exciting.

Interviewee 16:28
Mmm.
Mhm.
Yes.
Mhm.
Mhm.

Ribes Vicente, Guillermo 16:37
So actually payments can also be made via the blockchain, but explicit payments is not my topic at all.
And the research says Halt, if you think this through to the end, it could lead to extremely low fees and faster transactions, because you bypass the intermediary completely and still have a transparent booking process.

Interviewee 16:53
Mhm.
Mhm okay, I can imagine that, let's say for a company that has booked 10000 employees who know we need 500 hotel beds every month in certain

Mhm.
Mhm okay, ich kann mir das vorstellen, sagen wir mal für eine Firma die Geschäftsreisen gebucht haben 10000 Mitarbeiter die wissen wir brauchen 500 Hotel Betten jedes jeden Monat in bestimmten Städten ganz klar Spezifizierung hast du die Größe, die Sterne Anzahl vielleicht auch die Bewertung keine Ahnung, was alles einfließt.
Keine Fakten, reine Daten und die sagen so buchen wir in München 5 Zimmer im Zeitraum von bis mit dir und den Spezifikationen und ich muss nichts mehr machen wird gebucht, wenn das richtige Angebot da ist, richtig.

Ribes Vicente, Guillermo 17:30
Ja.

Interviewee 17:30
So wirds funktionieren ne?
In dem Bereich kann ich mir sowas vorstellen, wenn ich richtig verstanden haben, jetzt im Freizeitbereich soll mit dem Familie mit 2 Kindern will auf Fuerteventura.
Nachhaltiges Lokales 4 Sterne Hotel finden mit, wo die Atmosphären Rolle spielt, wohne, wo Bilder eine Rolle spielen, die ich eigentlich gar nicht definieren kann als Leistung, weil ganz viele.
Emotionale Faktoren eine Rolle spielen, da kann ich mir ehrlich gesagt nicht so richtig vorstellen, weil da sage ich dann ich will die und die Faktoren sehen in meiner Buchung.
Und dann?
Kommt das Angebot, das passt alles 1 zu 1 aber am Ende?
Die Deko gefällt mir nicht, die Stimmung gefällt mir nicht. Die Aussicht ist nicht schön gedruckt ne? So sind Faktoren, die man vielleicht nicht definieren kann, dann dann funktioniert es ja vermutlich nicht.

Ribes Vicente, Guillermo 18:17
Nu.
Mhm also ich formuliere es mal so also theoretisch wäre es schon so, also kommen wir doch also auch das Thema können Sie Intelligenz spielt dann noch so ein so ein bisschen mit wie ich also zu also, wie ich zum Beispiel überhaupt auf ein Hotel aufmerksam werde, was mir gefällt, dass das betrachte ich gar nicht und da glaube ich auch und das ist aber nicht Teil meiner Forschung. Da wird sich ganz viel ändern, aber da sind wir tatsächlich eher im Thema künstliche Intelligenz.

Interviewee 18:32
Ja, kommt auch noch?
Ja.

Ribes Vicente, Guillermo 18:50
Was heißt angenommen, es gäbe einen Prozess, und zur Zeit wäre das ja Google letztendlich also Google ist so schlau, mir das richtige Hotel rauszusuchen und das da könnte ich auf die Eingangsfrage auch jetzt könnte man ja direkt bei dem Hotel buchen und wie du gesagt hast das und das und das sind die Gründe, warum die Leute ist nicht tatsächlich das sind die beiden Dinge, die man miteinander betrachten muss. Es geht hier mehr um die, um sozusagen die legi Legitimation eben der der Buchungsplattform, der Vermittler und ihren Provisionen.
Ob wie gesagt, tatsächlich Blockchain, da eine Veränderung im Markt erzeugen könnte, also in der Forschung ich teile meinen Bildschirm, das ist, so ist mein Computer so im besten aller Fälle sollte jetzt ein.

Interviewee 19:30
Mhm.

Ribes Vicente, Guillermo 19:38
Ein Schaubild erscheinen.
So also tatsächlich es gibt sehr viel Forschung. Dieser diese sogenannten Blockchain based Smart Contracts, die eben also die die Zahlungen, die Buchung, sie Verträge aber auch noch die Reviews, also das das Reviews von von Customer, dass man gegen Fake news vorgehen kann, weil jeder Video hat dann eine einzigartige Nummer in der Blockchain und dass das den Status quo, das eigentlich die Consumer.

Interviewee 20:03
Mhm.
Mhm.

Ribes Vicente, Guillermo 20:12
Also zu einem Großteil einfach genau was du beschrieben hast aus den Gründen über die Blockchain buchen und eben das aber in der Forschung gesagt wird ok, die Technologie an sich hat für viele Industrien Chancen, die großen Geldgeber die großen Vermittler zu zu revolutionieren oder vom Markt zu verdrängen, wie hier sozusagen, dass man sagt OK, es wird immer noch Buchungsplattformen geben, die vielleicht weiß ich auch was ganz Spezielles fokussiert haben.
Aber es wird also zu sagen, diese diese sogenannte Utopia, also das wird Menschen anfangen, wieder gegenseitig sozusagen Geschäfte miteinander zu machen. Mithilfe der Blockchain Technologie ausdrücklich ausgeklammert ist. Wie komme ich zu meinem Hotel? Und das das versuche ich eben mit so das so Oh, jetzt hast du die Transkription ausgemacht Moment.

Interviewee 20:47
Mhm.
Mhm.
Okay.

Ribes Vicente, Guillermo 21:10
Ne funktioniert noch so? Also das ist so das das.

Interviewee 21:15
Mhm.

cities, you have the size, the number of stars maybe also the rating, I don't know what all goes into it.
No facts, pure data and they say so we book 5 rooms in Munich in the period from to with you and the specifications and I don't have to do anything more will be booked if the right offer is there, right.

Ribes Vicente, Guillermo 17:30
Yes.

Interviewee 17:30
That's how it will work, right?
In that area I can imagine something like that, if I have understood correctly, now in the leisure area with the family with 2 children wants to go to Fuerteventura.
Finding a sustainable local 4-star hotel with, where the atmosphere plays a role, where images play a role, which I can't really define as performance, because a lot of emotional factors play a role.
To be honest, I can't really imagine emotional factors playing a role, because then I say I want to see these and these factors in my booking.
And then?
The offer comes, everything fits 1 to 1 but in the end?
I don't like the decoration, I don't like the atmosphere. The view isn't printed nicely, is it? These are factors that you might not be able to define, in which case it probably won't work.

Ribes Vicente, Guillermo 18:17
Nu.
Mhm, so I'll put it like this, so theoretically it would be like this, so let's come to the topic of intelligence, you can also play a bit of a role like I do, so how I become aware of a hotel in the first place, for example, what I like, I don't even consider that and I don't think that's part of my research. A lot will change there, but we're actually more interested in artificial intelligence.

Interviewee 18:32
Yes, is that still coming?
Yes.

Ribes Vicente, Guillermo 18:50
What do you mean, assuming there was a process, and at the moment that would be Google, ultimately Google is smart enough to find me the right hotel and I could book directly with the hotel and as you said this and this and this are the reasons why people are not actually these are the two things that you have to look at together. It's more about the legitimisation, so to speak, of the booking platform, the intermediaries and their commissions.
Whether, as I said, blockchain could actually create a change in the market, so in research I share my screen, that's how my computer is so in the best of all cases should now be a.

Interviewee 19:30
Mhm.

Ribes Vicente, Guillermo 19:38
A diagram appears.
So actually there is a lot of research. These so-called blockchain-based smart contracts, which are the payments, the booking, the contracts, but also the reviews, so the reviews from customers, that you can take action against fake news, because each video then has a unique number in the blockchain and that the status quo, which is actually the consumer.

Interviewee 20:03
Mmm.
Mmm.

Ribes Vicente, Guillermo 20:12
So to a large extent, just exactly what you described for the reasons for booking via the blockchain and just that, but research says ok, the technology itself has opportunities for many industries to revolutionise the big financiers or to displace the big intermediaries from the market, like here, so to speak, that you say OK, there will still be booking platforms that maybe have I know something very specific focused.
But this so-called Utopia, in other words, people will start to do business with each other again, so to speak. With the help of blockchain technology, this is explicitly excluded. How do I get to my hotel? And that's what I'm trying to do with this Oh, now you've switched off the transcription.

Interviewee 20:47
Mmm.
Mmm.
Okay.

Ribes Vicente, Guillermo 21:10
Ne still works like that? So that's the way it is.

Interviewee 21:15
Mhm.

Ribes Vicente, Guillermo 21:16

Ribes Vicente, Guillermo 21:16
Solche Inscription läuft.
Ja, das ist so das Thema, mit dem ich mich beschäftige und.

Interviewee 21:24
Was?

Ribes Vicente, Guillermo 21:25
Deswegen noch mal so von der von der Grundidee?
Könnte das ein Einfluss auf die Industrie haben, könntest diese großen Vermittler?
Ja, ich sag mal so, ich glaube, ich glaub Expedia war der erste ich glaube 92 oder sowas.

Interviewee 21:41
Mhm.

Ribes Vicente, Guillermo 21:42
Ja, genau da einen neuen Markt geschaffen haben mit dem sagen Hey.
Ich verbinde den mit dem.

Interviewee 21:48
Mhm.

Ribes Vicente, Guillermo 21:49
Wäre es denkbar, dass ich habe ausdrücklich keinen Zeitraum, wie das passieren könnte? Das ist doch eine große Wendung, weil wir sehen ganz viele Industrien in der Blockchain tatsächlich ist. Supply Chain geht das denn gerade so durch die Decke?

Interviewee 21:54
Ja ja.
Nee, nee.
Ja, kann ich mir schon vorstellen, also halt momentan wahnsinnig abstrakt, das ist wirklich abstrakt, um zu sagen ok, nachher hab ich als Konsument die Wahl ich stehe davor ich ich buche meine Reise.

Ribes Vicente, Guillermo 22:07
Ja.

Interviewee 22:15
Zu den bestehenden Kanälen kommt sozusagen einer dazu so und ist der Wettbewerbsfähigkeit mit meinen Bedürfnissen. Aber was kann ich? Ist da ganz wichtig, dann auch dich zu gucken, wie es gibt? Sogar ich glaube wirklich, dass in manchen Bereichen weiß ich nicht reden. Geschäftsreise, Freizeit, Tourismus was auch immer da ganz unterschiedliche.

Ribes Vicente, Guillermo 22:19
Mhm.
Ja.

Interviewee 22:37
Nachfrage dann auch besteht wahrscheinlich gibt es irgendwie gostenhofer, die da super nutzen, da drin haben und und irgendwann ne aber klar theoretisch kann ich mir schon vorstellen, dass irgendwann die Idee ich hab einen zentralen Vermittler wieder veraltet ist, weil man wenn man neue Technologien hat klar ja.

Ribes Vicente, Guillermo 22:38
Mhm.
Ja.
Genau also, so fand ich ganz spannend was hast du gesagt, das sozusagen als kommt als Kanal dazu und dann schaut man einfach mal, wir haben das ja ganz oft also es gibt viele Vorschläge Einrichtung so Disruption, gehen die einfach sagen ja, aber anfangen wird es einfach eine zusätzliche Kanal sein, der eigentlich schlechter ist, aber er bietet dann andere Vorteile und dann würde es ja sozusagen ausgleichen, also tatsächlich den Teil habe ich aus meiner Forschung bisschen ausgeklammert, weil das ist noch viel zu früh.

Interviewee 23:08
Mhm.
Mhm.
Mhm.

Ribes Vicente, Guillermo 23:25
Aber sprechen aber so ich mach so einen kleinen Schlenker Richtung Disruption.
Und was wäre denn für dich und einfach nur so dahingesagt was wäre denn so Faktoren für dich, die sagen, so etwas würde die Entwicklung von also wir sind ja eher auf einer Metaebene jetzt was wäre der Traktoren, die sozusagen den einen den Einfluß, den Blockchain nehmen könnte, sozusagen beschleunige und welche würdest du sagen Oh, das würde aber den Einfluss behindern oder sogar deren deren Einführung?

Interviewee 23:41
Mhm.
Mhm.

Ribes Vicente, Guillermo 23:56
Was sind so die Punkte, wo du sagst ja gut schlecht?

Interviewee 24:02
Also das eine ist glaub ich so eine gesellschaftliche Frage, ob die Menschen akzeptieren, dass es quasi meta Player gibt, weltweit, die die Dinge diktieren können Gebühren ne.

That kind of inscription is running.
Yes, that's the topic I'm dealing with and.

Interviewee 21:24
What?

Ribes Vicente, Guillermo 21:25
So that's the basic idea again?
Could this have an impact on the industry, could these big intermediaries?
Yeah, I'll put it this way, I think I think Expedia was the first I think in 92 or something.

Interviewee 21:41
Mhm.

Ribes Vicente, Guillermo 21:42
Yes, that's where we created a new market by saying Hey.
I associate it with that.

Interviewee 21:48
Mmm.

Ribes Vicente, Guillermo 21:49
Would it be conceivable that I specifically have no timeframe for how that could happen? That's a big turnaround because we see quite a lot of industries in the blockchain is actually. Supply chain is that going through the roof right now?

Interviewee 21:54
Yes, yes.
No, no.
Yes, I can imagine, so it's just incredibly abstract at the moment, it's really abstract to say ok, afterwards I as a consumer have the choice I stand in front of it I book my trip.

Ribes Vicente, Guillermo 22:07
Yes.

Interviewee 22:15
One channel is added to the existing channels, so to speak, and is the competitive one with my needs. But what can I do? Is it really important to look at what you have? Even I really believe that in some areas I don't know what to say. Business travel, leisure, tourism whatever there quite different.

Ribes Vicente, Guillermo 22:19
Mhm.
Yes.

Interviewee 22:37
There's probably some kind of gostenhofer who make great use of it, who have it in there and at some point ne but of course theoretically I can imagine that at some point the idea of having a central intermediary will become obsolete again, because when you have new technologies, of course yes.

Ribes Vicente, Guillermo 22:38
Mmm.
Yes.
Exactly, so I found it quite exciting what did you say, that, so to speak, comes as a channel and then you just look, we have that quite often, so there are many proposals to set up such disruption, just go and say yes, but start it will simply be an additional channel, which is actually worse, but then it offers other advantages and then it would, so to speak, compensate, so actually I excluded that part from my research a bit, because that's still far too early.

Interviewee 23:08
Mhm.
Mhm.
Mhm.

Ribes Vicente, Guillermo 23:25
But I'm going to take a little detour in the direction of disruption.
And what would be the factors for you that would say something like this would accelerate the development of blockchain, so we're more on a meta level now, what would be the tractors that could, so to speak, accelerate the influence that blockchain could have and which would you say oh, but that would hinder the influence or even its introduction?

Interviewee 23:41
Mmm.
Mmm.

Ribes Vicente, Guillermo 23:56
What are the points where you say yes good bad?

Interviewee 24:02
Well, one thing I think is a social issue, whether people accept that there are quasi meta players, worldwide, who can dictate things like fees.

Ribes Vicente, Guillermo 24:15

Ribes Vicente, Guillermo 24:15
Mhm.

Interviewee 24:15
Inhalte, Werte etc pp ich glaub wenn das so weiter geht. Es gibt immer stärkere Konsolidierung. Am Ende bleiben noch 3 Anbieter übrig. Glaub dann sind viele Menschen auf der Suche nach was neuem, weil das einfach nicht akzeptieren möchten also jetzt nicht nur seitens der Betriebe, sondern auch die Kunden. Also ich glaube, das ist so ne.

Ribes Vicente, Guillermo 24:31
Ja.

Interviewee 24:32
Well gesellschaftliche frage einfach möchte man diese Marktmacht auch die gesellschaftliche Macht noch akzeptieren?

Ribes Vicente, Guillermo 24:38
Mhm.

Interviewee 24:39
Bestimmt förderlich, wenn es dann was Neues gibt.
Was könnte die mit Gegensprechen ist einfach ja, wir bekennen sich das durchsetzen gibt es praktikable.
Anwendungsbeispiele die.
So plakativ sind das ist auch die Masse mitbekommen also also da braucht es ja irgendwo.
Etwas.
Wie auch immer das dann aussieht einen Marktplatz, der so stark ist.
Das war so ein paar Leuchttürme mal setzen kann und die Leute sich dann da beteiligen, dann das begreifen, was die Vorteile sind. Eigentlich braucht greifbare Vorteile und damit das funktioniert.

Ribes Vicente, Guillermo 25:20
Genau also vielleicht noch also es? Es ist zu vermuten, dass kein zentraler Marktplatz entsteht, weil es widerspricht der Dezentralität.

Interviewee 25:30
Wie komme ich denn da drauf? Ich muss ja irgendwie irgendwo muss ich Herrn Zugang haben zu dem Markt dann.

Ribes Vicente, Guillermo 25:36
Genau also sinngemäß also wenn man also also ich, was ich versuche ist was, was mit Bitcoin passiert ist also unabhängig davon, dass das wegen Investment und bla bla, also der Nutzer hat seine persönliche Wallet.
Die Antiblockiersystemen angeschlossen ist und sobald er mit seiner digitalen Wallet auf eine Seite kommt, eines Anbieters, der auch eine Wallet hat, dann können wir den Vertrag schließen.

Interviewee 25:59
Mhm.
Mhm.

Ribes Vicente, Guillermo 26:08
Das heißt nicht Server einfach durchs Netz und dann blinkt irgend in Bangladesch ein Eco Tourist Camp und ich sag, da würde ich gern hingehen, bin aber meine Kreditkarte nicht geben. Dem seine wurde, blickt auf der Seite ist eigentlich ein Code Schnipsel auf der Website nicht mehr und nicht weniger oder unsere Walltes können wir miteinander verbinden, das gibt es faktisch noch nicht. Das kommt auch vielleicht niemals, aber ich untersuche halt.

Interviewee 26:16
Mhm.
Mhm.

Ribes Vicente, Guillermo 26:34
Was?

Interviewee 26:35
Ob sein könnte?

Ribes Vicente, Guillermo 26:36
Ob sein genau einfach nur auf sein könnte? Deswegen ist die Technik ganz spannend, weil das ist ja das jetzt kein klassisches Interviews, das ist ja so ein Austausch von Ideen mit ganz vielen Experten, deswegen ausdrücklich. Es wird nie einen zentralen Blockchain Marktplatz geben.

Interviewee 26:40
Mhm.
Ja.
Ja ja.
OK.
Ok treff.

Ribes Vicente, Guillermo 26:55
Ja.

Interviewee 26:58
Ja klar warum nicht? Also natürlich, wenn man muss ja immer denken was kommt als nächstes ne, was sind den nächsten neuen Entwicklungen? Was ergibt sind? Aber es gibt ja dann Sinn, wenn viele Leute günstiger als einfacher als sicherer ist. Das sind ja so die die Faktoren ne.

Ribes Vicente, Guillermo 27:03
Ja.

Mhm.

Interviewee 24:15
Content, values etc pp I think if it goes on like this. There is more and more consolidation. In the end there will be 3 providers left. I think many people will then be looking for something new because they simply don't want to accept it, not just the companies, but also the customers. So I think that's the case.

Ribes Vicente, Guillermo 24:31
Yes.

Interviewee 24:32
Well, the societal question is simply do you still want to accept this market power and social power?

Ribes Vicente, Guillermo 24:38
Mhm.

Interviewee 24:39
Certainly beneficial if there's something new.
What could they do with counter-speech is simply yes, we acknowledge that there are practicable.
Application examples that.
So striking that the masses are also aware of it, so it needs something somewhere.
Something.
Whatever that looks like, a marketplace that is so strong.
That was able to set a few beacons and then people get involved and realise what the advantages are. You actually need tangible benefits to make it work.

Ribes Vicente, Guillermo 25:20
Exactly, so maybe it still does? It is to be assumed that no centralised marketplace will emerge because it contradicts decentralisation.

Interviewee 25:30
How do I come up with that? I must somehow have access to the market somewhere.

Ribes Vicente, Guillermo 25:36
Exactly, so in other words, what I'm trying to say is what happened with Bitcoin, regardless of the fact that it's because of investment and blah blah blah, so the user has their own personal wallet.
The anti-blocking systems are connected and as soon as he comes to a page with his digital wallet, a provider who also has a wallet, then we can conclude the contract.

Interviewee 25:59
Mmm.
Mmm.

Ribes Vicente, Guillermo 26:08
That doesn't mean servers just go through the net and then some eco tourist camp flashes up in Bangladesh and I say, I'd like to go there, but I can't give them my credit card. The one I was looking at on the page is actually a snippet of code on the website no more and no less or we can connect our wallets with each other, that doesn't actually exist yet. That may never come, but I'm just investigating.

Interviewee 26:16
Mmm.
Mmm.

Ribes Vicente, Guillermo 26:34
What?

Interviewee 26:35
Could it be?

Ribes Vicente, Guillermo 26:36
Could it just be on? That's why the Technology is so exciting, because this isn't a classic interview, it's an exchange of ideas with lots of experts, which is why it's so explicit. There will never be a centralised blockchain marketplace.

Interviewee 26:40
Mhm.
Yes.
Yes, yes.
OK.
Ok meet.

Ribes Vicente, Guillermo 26:55
Yes.

Interviewee 26:58
Yeah, why not? So of course, if you always have to think what's next, what are the next new developments? What are the results? But it makes sense if a lot of people find it easier than safer. Those are the factors, aren't they?

Ribes Vicente, Guillermo 27:03
Yes.

Ja.
Genau.

Interviewee 27:13
Und das bietet momentan die Plattform bieten all das sind einfach sicher und praktisch also da muss man erst mal rüber kommen, also da.

Ribes Vicente, Guillermo 27:16
Ja.
Findest du eigentlich jetzt genau den super Faktoren gesagt, das ist mein nächste Frage so, weil sie einfach was hat einfach sicher und praktisch genau ja, das ist.

Interviewee 27:30
Ja.

Ribes Vicente, Guillermo 27:35
Sonst noch sonst noch Faktoren.

Interviewee 27:35
Genau.
Nee, dafür ist das momentan zu abstrakt, um da irgendwo sagen zu können was könnte es also? Die Vernetzung von Dienstleistungen natürlich ne die sag ich mal entweder ich bin Reiseveranstalter oder ich bin individualreisende, dann hab ich ein Bündel von Dienstleistungen, die ich gemeinsam.

Ribes Vicente, Guillermo 27:41
Ja.

Interviewee 27:56
Benötigen die aber ja auch alle untereinander Beziehungen haben müssen, also der Mietwagenanbieter, der Flug der Hotelier keine Ahnung der Tour Guides, der der auch Anbieter muss ja irgendwo alles in einen sinnvollen Zusammenhang stehen. Und wenn die Technologie das natürlich bietet und ich muss mir nicht mal ausführen verschiedenen Anbietern.

Ribes Vicente, Guillermo 28:07
Mhm.

Interviewee 28:16
Was raussuchen oder auf die Dienste eines weiß ich find angewiesen sein, das wäre natürlich cool.

Ribes Vicente, Guillermo 28:22
Spannend ja.

Interviewee 28:24
Und ich dann noch Qualitätskriterien okay, ich will überall die höchste Qualitätsstufe oder durch Nachhaltigkeit Stufe oder Kinderfreundlichkeit oder Senioren oder Barrierefreiheit, wenn ich solche Merkmal noch angeben könnte und dann stellt mir sozusagen das System da alles zusammen.

Ribes Vicente, Guillermo 28:32
Mhm.

Interviewee 28:38
Oder ich kann es über das Wallet buchen natürlich cool.

Ribes Vicente, Guillermo 28:38
Genau.
Genau also das mit dem Zusammenstellen tatsächlich ist, habe ich ausgeklammert aus meiner Forschung, weil dann dann machst du echt Dinge auf, aber das ist vielleicht nur so, weil wir sind tatsächlich und es hat auch zeitlich, falls ich dachte ich Quatsch mit dir zu viel, aber ich glaube, wir haben Punktlandung gemacht, dann zum Abschluß, dass weil, dann kommen wir das Thema Blockchain 3.0 nämlich mit künstlicher Intelligenz, das heißt du sagst dann einfach also dein deine Wallet weiß, was du möchtest und Filter das aus. Und wenn die Rolle sagt Ich möchte aber nur.

Interviewee 28:48
Denn.
Ja.
Ja.
Mhm.
Mhm.

Ribes Vicente, Guillermo 29:16
Das höchste Nachhaltigkeitskriterium haben, sagt der digitale Vertrag, der erstellt wird, genau das das Hotel verpflichtet ist, das zu machen, aber dann wird es völlig abgedreht und dann verlassen wir diesen Planeten langsam.

Interviewee 29:19
Mhm.
Mhm.
Mhm.
Schon oder also jemand? Das habe ich folgendes vergessen künstliche Intelligenz ist ja klar mit Open Data im Zusammenhang erst recht, wenn das ist eine Frage, die ich mir stelle was wofür? Wo führt das Hin in unserer Branche?
Wenn die Technologie in den nächsten übernächste Stufe kommt, brauch ich dann noch Reise Vermittler brauch ich Reisebüros, brauch ich brauch ich alles nicht mehr so sag ich dir Ki, dass Sie der Urlaub, wenn ich habe, stellen wir das zusammen maximal Preis von bis und dann krieg ich dann meine Angebote und braucht nur noch buchen.

Ribes Vicente, Guillermo 29:53
Hm.

Yes.
Exactly.

Interviewee 27:13
And that offers the platform at the moment offers all that are simply safe and practical so you have to get over there first, so there.

Ribes Vicente, Guillermo 27:16
Yes.
Do you actually find the super factors said right now, that's my next question, because it simply has something simply safe and practical exactly yes, that is.

Interviewee 27:30
Yes.

Ribes Vicente, Guillermo 27:35
Any other factors.

Interviewee 27:35
Exactly.
No, it's too abstract at the moment to be able to say what it could be? The networking of services, of course, I'm either a tour operator or I'm an individual traveller, then I have a bundle of services that I can offer together.

Ribes Vicente, Guillermo 27:41
Yes.

Interviewee 27:56
But they all have to have relationships with each other, so the car hire provider, the flight provider, the hotelier, the tour guide, the provider, everything has to be connected somewhere in a meaningful way. And if the technology offers that, of course, and I don't even have to look at different providers.

Ribes Vicente, Guillermo 28:07
Mhm.

Interviewee 28:16
Picking something out or having to rely on the services of someone I know, that would be cool, of course.

Ribes Vicente, Guillermo 28:22
Exciting yes.

Interviewee 28:24
And then I also have quality criteria okay, I want the highest quality level everywhere or sustainability level or child friendliness or senior citizens or accessibility, if I could still specify such features and then the system puts everything together for me, so to speak.

Ribes Vicente, Guillermo 28:32
Mhm.

Interviewee 28:38
Or I can book it via the wallet of course cool.

Ribes Vicente, Guillermo 28:38
Exactly.
Exactly, so the actual compilation is, I excluded it from my research, because then you really open things up, but maybe that's just because we're actually and it also took time, if I thought I was talking to you too much, but I think we made a precision landing, then at the end that because, then we come to the topic of Blockchain 3.0, namely with artificial intelligence, that means you simply say, so your wallet knows what you want and filters it out. And if the role says I just want to.

Interviewee 28:48
Because.
Yes.
Yes.
Mhm.
Mhm.

Ribes Vicente, Guillermo 29:16
Having the highest sustainability criterion, the digital contract that is created says exactly that the hotel is obliged to do that, but then it's completely turned off and then we slowly leave this planet.

Interviewee 29:19
Mmm.
Mm.
Mhm.
Already or someone? I've forgotten the following artificial intelligence is clearly linked to open data, especially if that's a question I'm asking myself what for what? Where is this going in our industry?
If the technology comes in the next stage after next, do I still need travel agents, do I need travel agencies, do I no longer need anything so I tell you Ki that you have the holiday, if I have, we put it together at a maximum price of up and then I get my offers and only need to book.

Ribes Vicente, Guillermo 29:53
Hm.
Yes.

Ja.

Interviewee 29:58
So also dann brauch ich den ganzen Kram eh nicht mehr.

Ribes Vicente, Guillermo 30:02
Jetzt dann ganz konkret was hast du gerade gesagt hast kann ich super gebrauchen? Als Managing Direktor einer Destination Management Consulting Company befasst ihr euch mit dem Thema Künstliche Intelligenz für ihre Kunden.

Interviewee 30:03
Gleich.

Ribes Vicente, Guillermo 30:18
Wir.
Mhm.

Interviewee 30:49
Dringend geboten, sich da Gedanken zu machen und zwar jetzt nicht nur auf einer Lavaebene, sondern mit Experten aus anderen Bereichen würde ich wahnsinnig gerne machen also.

Ribes Vicente, Guillermo 30:58
Ja.

Interviewee 30:58
Das brennt mir unter den Nägeln, das endlich mal in Angriff zu nehmen und zwar ganz frei zu denkst überlegen, ok, was was Spaß hattest ich kanns nicht absetzen keine Ahnung, ich würde aber gerne.

Ribes Vicente, Guillermo 31:08
Ja, auf jeden Fall ne, das ist tatsächlich also ich hab mir vorgenommen, weil ich hab jetzt wirklich ki ausgeklammert ist meine aus meinem PhD sind aber direkt meine mein erstes Paper sein, weil der Punkt ist eben wenn man sich überlegt wie kommt ein ein ein Kunde zu seinem Hotel zu seiner Destinationen?

Interviewee 31:17
Mhm.

Ribes Vicente, Guillermo 31:27
Der will keine Listen von Webseiten, der will eine Antwort haben. Und das ist tatsächlich gar nicht so weit in die Zukunft geguckt.

Interviewee 31:32
Ja, genau.

Ribes Vicente, Guillermo 31:36
Es aber da reden wir von wenigen Jahren, was ich beschreiben mit Blockchain, das also da muss erstmal erste oder so was dauert also KI brennt mir auf den Nägeln.

Interviewee 31:39
Mhm.
Das.
Ja ne ja ich also hätte total Bock weißt du gar nicht viel irgendwie 1015 20 Leute mal zusammen holen für den Tag und irgendwo verschiedene Impulse, die auch nicht perfekt vorbereitet sein müssen einfach Gedankenspiele, mal mal zu machen da, das finde ich großartig.

Ribes Vicente, Guillermo 31:49
Hab schon.
Sehr gut, prima.

Interviewee 32:04
Nationalen anzuwenden und so also wenn du da irgendeine was hörst ne Idee hast du das was gibt dann sag mal gespannt?

Ribes Vicente, Guillermo 32:10
Sind prima Nein, das das Ende jetzt mit dem mit dem mit dem KI, das kann ich super gebrauchen, weil das das ist tatsächlich Energie. Da haben viele Interviewpartner schon gesagt, da da ist was, da müssen wir dran. Deswegen bringe ich das gerne rein. Hast du noch bevor ich sozusagen Transkription und Video ausmachen aber wir bleiben noch im im Chat noch irgendwas so.

Interviewee 32:30
Genau.
Oh.
Nee, ich glaub, das haben wir jetzt so soweit ich dazu was sagen kann, hab ich das getan.

Ribes Vicente, Guillermo 32:36
Genau super, dann mach ich jetzt Recording und.

Ribes Vicente, Guillermo stopped transcription

Interviewee 29:58
So then I don't need all that stuff any more anyway.

Ribes Vicente, Guillermo 30:02
So what did you just say that I could really use? As Managing Director of a destination management consulting company, you deal with the topic of artificial intelligence for your clients.

Interviewee 30:03
Anon.

Ribes Vicente, Guillermo 30:18
We.
Mhm.

Interviewee 30:49
It's urgently necessary to think about this, and not just at a lava level, but with experts from other areas, so I would love to do that.

Ribes Vicente, Guillermo 30:58
Yes.

Interviewee 30:58
That's what's burning under my nails, to finally tackle that and to think about it completely freely, ok, what fun I had I can't put it down I don't know, but I would like to.

Ribes Vicente, Guillermo 31:08
Yes, in any case, no, that's actually my plan, because I've now really excluded ki from my PhD but it's directly my first paper, because the point is just when you think about how does a customer get to his hotel to his destination?

Interviewee 31:17
Mmm.

Ribes Vicente, Guillermo 31:27
They don't want lists of websites, they want an answer. And that's actually not looking that far into the future.

Interviewee 31:32
Yes, exactly.

Ribes Vicente, Guillermo 31:36
But we're talking about a few years, which is what I'm describing with blockchain, so that must be the first or something like that, so AI is on my mind.

Interviewee 31:39
Mhm.
That.
Yes, no, yes, so I'd really like to get 20 people together for the day, you know, somehow, for the day, and give them different ideas that don't have to be perfectly prepared, just mind games, I think that would be great.

Ribes Vicente, Guillermo 31:49
I already have.
Very good, great.

Interviewee 32:04
I'd like to use nationals and so on, so if you hear anything, do you have any ideas?

Ribes Vicente, Guillermo 32:10
Are great No, the end now with the one with the AI, I can really use that, because that's actually energy. Many interviewees have already said that there's something there, we need to work on it. That's why I like to bring that in. Do you still have time before I do the transcription and video, so to speak, but we'll stay in the chat for a while.

Interviewee 32:30
Exactly.
Oh.
Nah, I think we've done that now as far as I can tell, I've done that.

Ribes Vicente, Guillermo 32:36
Exactly great, then I'll do the recording now and.

Ribes Vicente, Guillermo stopped transcription

Bilingual Interview Transcript Interviewee 3

Austausch mit Guillermo Ribes (PhD cand.)-20230613_181916-Meeting Recording 23m 25s	Exchange with Guillermo Ribes (PhD cand.)-20230613_181916-Meeting Recording 23m 25s
Ribes Vicente, Guillermo 0:06 So. Müsstest einen roten Button jetzt sehen.	Ribes Vicente, Guillermo 0:06 Like this. You should see a red button now.
Interviewee 0:10 Ja, seh ich.	Interviewee 0:10 Yes, I see it.
Ribes Vicente, Guillermo 0:11 Ja perfekt also ganz wichtig bei meiner Studie ist ich meine ich, ich kenne deinen Namen und auch dein Unternehmen. Aber für die Studie jetzt fürs Interview müsstest du mir sagen, wie ich dich anonymisiert bezeichnen soll also du bist Managing Direktor, also wenn schon der Direktor einer Consulting Firma, könnte man das so formulieren? Wer ist damit einverstanden?	Ribes Vicente, Guillermo 0:11 Yes, perfect, so the most important thing for my study is that I know your name and your company. But for the study now for the interview, you would have to tell me how I should refer to you anonymously, i.e. you are Managing Director and Director, so if you are the director of a consulting company, could you formulate it like that? Who agrees with that?
Interviewee 0:32 App. Absolut sehr gerne.	Interviewee 0:32 App. Absolutely very much.
Ribes Vicente, Guillermo 0:34 Genau das ist auch wichtig es sind auch nur Managing Director oder ähnliche Titel sozusagen so. Dann habe ich das notiert.	Ribes Vicente, Guillermo 0:34 That's exactly what's important - it's only Managing Director or similar titles, so to speak. Then I made a note of that.
Interviewee 0:35 Du.	Interviewee 0:35 You.
Ribes Vicente, Guillermo 0:47 Und ich fange einfach mit einer ganz, ganz allgemein Einstiegsfrage an. Ich hab mein meine Notizen hier mit sie form also ich komme vielleicht bisschen durcheinander mit du und sie wie bewertest du den Einfluss von Informationstechnologien? Auf den Tourismus ganz allgemein also wie stark beeinflussen die und mein Fokus liegt dabei auf die Vermittlung von Dienstleistungen, also Hotelbuchungen ist das beste Beispiel also allgemein der Einfluss von Informationstechnologien auf den Tourismus?	Ribes Vicente, Guillermo 0:47 And I'll just start with a very, very general introductory question. I've got my notes here with they form so I might get a bit confused with you and they, how do you rate the influence of information technologies? On tourism in general, so how much influence do they have and my focus is on the provision of services, so hotel bookings is the best example, so in general the influence of information technologies on tourism?
Interviewee 1:18 Also extrem hoch genau also. Ich glaube, wir sind da absoluten Transformation. Prozess und von daher ich glaube, es geht nichts mehr ohne, und das wird immer weiter in diese Richtung laufen.	Interviewee 1:18 Extremely high, exactly. I think we are in an absolute transformation process. process and therefore I believe that nothing will work without it, and it will continue to move in this direction.
Ribes Vicente, Guillermo 1:32 So war kannst du gerne aus holen, also das ist genau darum geht es ja.	Ribes Vicente, Guillermo 1:32 You're welcome to pick that up, that's what it's all about.
Interviewee 1:38 Ja, ich glaube, das war, ob ich das gut finde ich nicht gut finde. Das ist eine zweite Frage, weil für mich ich vermisse dann die menschliche Komponente und ich frage mich, wie wir die menschliche Komponente wieder reinkommen. Du weißt, ich bin für Nachhaltigkeit stehe ich hier und Nachhaltigkeit hat immer was sehr persönliches, was sehr menschliches, was sehr humanes.	Interviewee 1:38 Yes, I think that was whether I think it's good or not. That's a second question, because for me I miss the human component and I wonder how we can get the human component back in. You know, I'm in favour of sustainability here and sustainability always has something very personal, something very human, something very humane.
Ribes Vicente, Guillermo 1:55 Ja.	Ribes Vicente, Guillermo 1:55 Yes.
Interviewee 1:57 Und das leere ich auch und diesen Aspekt, den sehe ich als extreme Herausforderung, weil wir denen einer sehr IT lustigen Welt verlieren.	Interviewee 1:57 And I also empty that and this aspect, I see it as an extreme challenge, because we are losing those from a very IT funny world.
Ribes Vicente, Guillermo 2:08 Lass uns bei den Punkt bleiben, hat ja seinen Grund, warum sich ausgedacht, als Experten sagen, das Thema so neue Technologien und Nachhaltigkeit. Hast du da vielleicht irgendwas, wo du sagst so Hey Gerda könntest vielleicht hingehen?	Ribes Vicente, Guillermo 2:08 Let's stick to the point, there's a reason why experts are talking about new technologies and sustainability. Do you perhaps have something where you say Hey Gerda, maybe you could go there?
Interviewee 2:24 Na ja, für mich ist es viel natürlich, mit Smart Technologie also klar, wir sind viel im Bereich Energieeffizienz unterwegs, also da gibt es schon sehr, sehr smarter Steuerung von Heizungsanlagen, Smarty wie Smart Home also das	Interviewee 2:24 Well, for me it's a lot of course, with smart technology, so of course, we're doing a lot in the area of energy efficiency, so there's already very, very smart control of heating systems, smarty like smart home, so of course that's all a

ist natürlich alles ein Trend, der auch in der Hotellerie definitiv ankommt, was natürlich die Buchungssysteme angeht. Ich meine, da ist auch eine Welt, die quasi mit denen ich mich natürlich ständig auseinandersetzen, weil natürlich die Frage ist ok, ich hab für Veranstalter gearbeitet. Jetzt arbeite ich viel für das Station.

Ribes Vicente, Guillermo 2:29
Wie?
Mhm.

Interviewee 2:58
Und für Hotels? Und die guckt natürlich auf der anderen Seite darauf und sagen ok wie schaffen wir es, uns dort zu positionieren? Was sind die besten Wege, unser Image dort zu transportieren? Das sind die großen Herausforderungen, mit denen ich mich eher auseinander zu.

Ribes Vicente, Guillermo 2:59
Mhm.
Mhm.
Mega spannend sitzt du denn eher sozusagen, dass die Technologie, die ich eben mit durch solche Smart Technology halt eher hilft, bei der Nachhaltigkeit im Tourismus?

Interviewee 3:26
Ja und Nein.

Ribes Vicente, Guillermo 3:27
Okay, ja.

Interviewee 3:28
Also ja, weil du kannst natürlich Prozesse automatisieren.
Ich geh jetzt mal von der Heizungssteuerung an ein aus. Die Gekoppeltes anders Buchungssystem damit hast natürlich Automatisierung des das des Prozesses und so gut kannst du es als Mensch gar nicht machen also das ist schon smart also aber Ende die Steuerung also ich mal die jedes große Hotel hat eine Klima Cloud und steuert quasi die Heizung und die Klimatisierung über diese Klima klaut, weil natürlich zu sagen ganz ok morgen wird es kälter. Ich muss ein bisschen hochfahren. Ich muss also das ist schon extrem smart und das ist auch total Sinn.

Ribes Vicente, Guillermo 4:08
Ja.
Mhm.

Interviewee 4:11
Das Nein bezieht sich auf die Dimension, die wir verlieren, auch jetzt, wenn ich mit ihr Rede, ich verliere eine Dimension, ich verliere die Mission riechen ich verlüre die Dimension Energie, sag ich mal im weitesten Kontext also wenn ich mit dir in einem Raum bin, dann, dann fühle ich dich. Das tue ich jetzt nur also ich verliere halt. Ich bin.

Ribes Vicente, Guillermo 4:23
Mhm.

Interviewee 4:34
Mit mir ist beim optischen Sinn und beim höher sind aber ich verliere halt die Dimensionen, die wir nochmal so haben und dann Nachhaltigkeit geht es viel um diese Dimension, um diese Vielfältigkeit, um wirklich alle Systeme, also ich bin, beschäftige mich sehr mit systemischer Herangehensweise, mit der Regeneration regenerativer Tourismus, da geht es viel darum, das, was wir in der Natur haben, zu fühlen und mit Menschen so zu arbeiten, dass sie sag ich mal in einer Umgebung sind und sich.

Ribes Vicente, Guillermo 4:36
Ja.

Interviewee 5:04
Quasi natürlich finden und dass das verliere ich und deswegen ist das Nein an dieser Stelle also Fluch und Segen, ne Punkt.

Ribes Vicente, Guillermo 5:08
Ja.
Ja okay, jetzt versteh ich auch das Nein auf jeden Fall ja sehr, sehr spannend gegangen du hattest eben ein sehr schönes Stichwort gesagt nicht buchungssysteme, das ist tatsächlich etwas, was ich etwas genauer betrachten, nämlich die Verbindung, Buchungssystem und Technologien und auch

trend that's definitely arriving in the hotel industry, of course, in terms of booking systems. I mean, there's also a world that I'm constantly dealing with, because of course the question is ok, I used to work for event organisers. Now I work a lot for the station,

Ribes Vicente, Guillermo 2:29
How?
Mhm.

Interviewee 2:58
And for hotels? And of course they look at the other side and say ok how do we manage to position ourselves there? What are the best ways to convey our image there? These are the big challenges that I tend to deal with.

Ribes Vicente, Guillermo 2:59
Mmm.
Mmm.
What you find really exciting is that the technology that I'm working with through Smart Technolgy helps with sustainability in tourism

Interviewee 3:26
Yes and no.

Ribes Vicente, Guillermo 3:27
Okay, yes.

Interviewee 3:28
So yes, because of course you can automate processes.
I'm going to start with the heating control. The linked different booking system so of course you have automation of the process and you can't do it that well as a human being, so that's already smart, but at the end of the control system, I mean every big hotel has a climate cloud and controls the heating and air conditioning via this climate control, because of course to say ok tomorrow it will be colder. I need to turn it up a bit. So that's extremely smart and it makes total sense.

Ribes Vicente, Guillermo 4:08
Yes.
Mmm.

Interviewee 4:11
The no refers to the dimension that we lose, even now, when I talk to her, I lose a dimension, I lose the mission smell I lose the dimension energy, I say in the broadest context, so when I'm in a room with you, then, then I feel you. I only do that now, so I just lose. I am.

Ribes Vicente, Guillermo 4:23
Mhm.

Interviewee 4:34
I'm with the optical sense and the higher sense, but I just lose the dimensions that we have again and then sustainability is a lot about this dimension, about this diversity, about really all systems, so I'm, I'm very involved with systemic approaches, with the regeneration of regenerative tourism, it's a lot about feeling what we have in nature and working with people so that they are, let's say, in an environment and feel.

Ribes Vicente, Guillermo 4:36
Yes.

Interviewee 5:04
I find that quasi naturally and that's what I lose and that's why the no at this point is a curse and a blessing, ne point.

Ribes Vicente, Guillermo 5:08
Yes.
Yes okay, now I also understand the no in any case yes very, very exciting you had just said a very nice keyword not booking systems, that is actually something that I look at a little more closely, namely the connection, booking

jetzt mal ne ganz allgemeine Frage so warum buchen den Kunden bei Buchungssystem wie ich sag mir jetzt, weil die üblich verdächtigen HS booking.com und diese ganz warum buchen Kunden bei diesen vermittelt sind ja Vermittler letztendlich nur. Warum tun Sie das?
Deiner Meinung nach?

Interviewee 5:47
Na ja, da gibt es viele Gründe, dass die kennst du ja wahrscheinlich auch alle, also der erste Grund ist natürlich du hast alles auf einem Ort du kannst vergleichen, du kannst sein vor allen Dingen also natürlich primär finanziell vergleichen. Aber wenn ich in die Stadt gehe, ganz ehrlich, ich guck mir auch erstmal booking.com an und sage Okay oder hrs oder hotel.de und sage ok, zeig mir mal die Karte was da ist mein Veranstaltungsort was kann ich hier buchen? Welche Hotels sind Nachhaltigkeit? Was sind die Preise?

Ribes Vicente, Guillermo 5:55
Mhm.
Mhm.

Interviewee 6:17
Was sind die Einrichtung? Also ich hab ja alles an einem Ort, das ist ja, dass das wunderschöne also.

Ribes Vicente, Guillermo 6:21
Mhm.
Mhm.

Interviewee 6:23
Natürlich, das Zweite ist das ja die Marktmacht ausgenutzt wird und quasi ich Stornierung Optionen habe die sag ich mal, die mir sehr viel Freiheit erlauben und die beiden großen Varianten ich persönlich mag das anders ich gucks mir halt da an und geh dann Buch trotzdem direkt, weil ich weiß, was das bedeutet, weil es halt ich möchte eher den menschlichen Kontakt. Ich möchte eher das quasi das gefördert wird, aber das sind natürlich die großen Vorteile.

Ribes Vicente, Guillermo 6:35
Mhm.

Interviewee 6:53
Von IT Buchungssystem müssen sich vormachen.

Ribes Vicente, Guillermo 6:55
Ja, genau jetzt du hattest eben das Wort Marktmacht in die in die Hand genommen, konnten in den Mund genommen, macht von von von den großen Plattformen kannst du mir dazu ein bisschen was sagen wie schätzt Du das ein?

Interviewee 7:11
Na ja klar also, ich meine, du hast heute kein Hotel je mehr das umgehen kann, weil natürlich faktisch die Systeme wachsen durch diese Vorteile, die sie haben. Auch die Marktdurchdringung wächst. Auch die, die die Logik, dass darüber immer mehr Ströme kommen. Das heißt wenn du das Explodierst, bist du nicht mehr, sag ich mal marktfähig, sondern dann musst du schon richtig gut sein. Es gibt ein Paar, die die haben absolutes Alleinstellungsmerkmal, die brauchen das nicht, aber die Masse.
Braucht den Zugang dazu bei dort quasi der Kunde ist heutzutage und damit haben die natürlich eine Marktmacht und die nutzen sie natürlich insofern aus, dass natürlich dann entsprechende Provisionssysteme dahinter haben. Diesen schon ja, die sind schon teilweise sehr, sehr hart ne.

Ribes Vicente, Guillermo 7:59
Okay, danke ja das jetzt kommt ein kleiner Bruch, das war jetzt so sozusagen erst mal so ein paar Grundlagen jetzt so direkt in medias res sozusagen was sind deiner Meinung nach Schlüsseltechnologien, auf die wir bei der Vermittlung von zum Beispiel Hotelbuchungen in Zukunft, also die Einfluss gewinnen können oder mit denen du dich vielleicht auch selber gerade beschäftigt? Das Thema?

Interviewee 8:25
Oh oh.

Ribes Vicente, Guillermo 8:30
Smart zum Beispiel? Na Technologies, kannst du dann noch ein bisschen tiefer einfach nur welche Technologien könnten als Technologien an Einfluss gewinnen und speziell bei der Vermittlung von Hotelleistungen?

system and technologies and also now a very general question so why do customers book with booking systems like I say to myself now, because the usual suspects HS booking.com and these quite why do customers book with these intermediaries are ultimately only intermediaries. Why do they do that? In your opinion?

Interviewee 5:47
Well, there are many reasons, you probably know them all, so the first reason is of course you have everything in one place, you can compare, you can compare primarily financially. But when I go to the city, quite honestly, I first look at booking.com and say okay or hrs or hotel.de and say okay, show me the map, what is my venue, what can I book here? Which hotels are sustainable? What are the prices?

Ribes Vicente, Guillermo 5:55
Mmm.
Mhm.

Interviewee 6:17
What are the facilities? Well, I have everything in one place, that's the beautiful thing.

Ribes Vicente, Guillermo 6:21
Mhm.
Mhm.

Interviewee 6:23
Of course, the second thing is that the market power is exploited and I have cancellation options that allow me a lot of freedom and the two big variants I personally like it differently, I just look at it there and then go directly to the book anyway, because I know what that means, because I would rather have human contact. I'd rather have that kind of support, but of course those are the big advantages.

Ribes Vicente, Guillermo 6:35
Mhm.

Interviewee 6:53
The IT booking system has to make itself known.

Ribes Vicente, Guillermo 6:55
Yes, right now you've just used the word market power, you've just used the word market power, can you tell me a bit about that from the big platforms, what do you think about that?

Interviewee 7:11
Well, of course, I mean, you don't have a hotel today that can get round that, because of course the systems are actually growing due to the advantages they have. Market penetration is also growing. Also the logic that more and more streams are coming through it. This means that if you explode, you are no longer, shall I say, marketable, but then you have to be really good. There are a couple who have an absolutely unique selling point, they don't need it, but the masses do.
They need access to it where the customer is these days, so of course they have market power and they exploit it by having corresponding commission systems behind them.
Yes, they are sometimes very, very tough, aren't they?

Ribes Vicente, Guillermo 7:59
Okay, thank you, yes, now comes a small break, that was a few basics, so to speak, directly in medias res, so to speak, what do you think are the key technologies that we can influence in the future in the mediation of hotel bookings, for example, or that you are perhaps currently working on yourself? The topic?

Interviewee 8:25
Oh oh.

Ribes Vicente, Guillermo 8:30
Smart, for example? Well technologies, can you go a little bit deeper then just what technologies could be gaining traction as technologies and specifically in the procurement of hotel services?

Interviewee 8:45

Interviewee 8:45 Also das große Stichwort hier ist natürlich weißt du auch AI. Also artificial Intelligence also ich glaube, wir haben. Ribes Vicente, Guillermo 8:53 Ja. Interviewee 8:55 Damit eine Tür aufgemacht mit GPT und allem und dran, von der wir heute noch nicht erahnen können, was das für Varianten sind. Also ich glaube, damit wird tatsächlich die gesamte IT Landschaft revolutioniert, oder sag ich mal, das wird Einbruch sein? In der ganzen Logik, wie wir heute denken, wie wir heute arbeiten? Bist du noch da? Jetzt bist du weg. Ribes Vicente, Guillermo 9:22 So jetzt bist du wieder da so Entschuldigung, irgendwie gerade das Internet verabschiedet ich hab noch gehört eine Tür aufgestoßen, ich hab ja auch die das Transkript hier dessen Tür aufgeschlossen, dessen aussuchen wir noch gar nicht kennen soweit hab ich gehört. Interviewee 9:24 Aus du hast kurz weg? Ja. Ja. Ja ja, also ich glaube, dass da ich glaube, das ist ein sehr disruptive Shfti und und und. Das wird ein sehr disruptiver Weg sein, also wenn du dir heute vorstellst, sämtliche Hotelbeschreibung, die dort sind, die werden quasi alle so gemacht werden also und du kannst ja heute dann auch nicht mehr unterscheiden zwischen echt und unecht also du, du hast keine Chance mehr also von daher das wird das wird extrem disruptiv sein. Auch in der Buchung davon gehe ich fest aus. Ribes Vicente, Guillermo 9:54 Ja. Interviewee 10:07 Aber ich fühle mich nicht in der Lage. Einzuschätzen, wo die Reise hingeht also das ist für mich noch so unvorstellbar, dass quasi und es wird einfach es wird Gelb geben zwischen authentischen Dingen und Dingen, die virtuelle I getrieben sind und und ich fürchte oder ich glaube, das ist genauso wie Digitalisierung sein wird. Das ist nicht aufhaltbar und die Frage ist nur, ob wir damit? Ribes Vicente, Guillermo 10:13 Gut. Mhm. Mhm. Interviewee 10:37 Bewusster umgehen als mit der Rhein Digitalisierung, der ich ein bisschen Ethik also zu spreche, aber im Grunde haben die Dynamik haben wir alle unterschätzt? Ribes Vicente, Guillermo 10:47 Mhm also bin ich vollkommen bei dir, also das Thema I das ist tatsächlich, das ist da tun sich auch die Forscher noch sehr schwer. Ich beschäftige mich tatsächlich auch mit I am Rande und das ist ganz spannend, weil der ist gerade so BAM BAM bam. Aber jetzt kommt die kleine Offenbarung. Ich beschäftige mich, dass ich mit Blockchain und tourism Interviewee 10:55 Ja. Oh ja. Ribes Vicente, Guillermo 11:11 Aha ja, hast du dich schon mal mit Blockchain und potenziellen Einfluss auf den Tourismus, speziell auf Vermittlung von Dienstleistungen beschäftigt? Zufällig. Interviewee 11:22 Noch nicht im Detail? Was ich natürlich spannend finde Blockchain ist, dass du ja. Ohne die die sehr bekannten finanzsysteme agierst ne, du reagierst ja komplett im freien Raum.	So the big keyword here is, of course, you know, AI. So artificial intelligence, I think we have. Ribes Vicente, Guillermo 8:53 Yes. Interviewee 8:55 So we've opened a door with GPT and everything else that we can't yet guess what these variants are. So I think this will actually revolutionise the entire IT landscape, or should I say it will be a break-in? In the whole logic of how we think today, how we work today? Are you still there? Now you're gone. Ribes Vicente, Guillermo 9:22 So now you're back, sorry, somehow I just said goodbye to the internet, I've heard a door open, I've also unlocked the transcript here, the door of which we don't even know yet as far as I've heard. Interviewee 9:24 You left for a moment? Yes. Yes. Yes, yes, so I think that I think that's a very disruptive shfti and and and. That will be a very disruptive way, so if you imagine today, all the hotel descriptions that are there, they will all be done like that, so to speak, and you can no longer distinguish between real and fake today, so you, you no longer have a chance, so that will be extremely disruptive. I'm also firmly convinced of that in the booking process. Ribes Vicente, Guillermo 9:54 Yes. Interviewee 10:07 But I don't feel able to. To estimate where the journey is going, so it's still so unimaginable for me that it's going to be yellow between authentic things and things that are virtual and I'm afraid or I think that's just like digitalisation. It's unstoppable and the question is whether we can deal with it? Ribes Vicente, Guillermo 10:13 Good. Mmm. Mmm. Interviewee 10:37 More consciously than with the digitalisation of the Rhine, to which I attribute a bit of ethics, but basically we've all underestimated the dynamics? Ribes Vicente, Guillermo 10:47 Mhm, so I'm completely with you, the topic of I that's actually, that's where researchers are still struggling. I'm actually also working on I in passing and it's really exciting because it's so BAM BAM bam right now. But now comes the little revelation. I'm working on blockchain and tourism Interviewee 10:55 Yes. Oh yeah. Ribes Vicente, Guillermo 11:11 Aha yes, have you ever dealt with blockchain and its potential influence on tourism, especially on the provision of services? By chance. Interviewee 11:22 Not in detail yet? What I find exciting about blockchain, of course, is that yes. Without the very familiar financial systems, you're operating in a completely free space.

Ich ich sehe tatsächlich Blockchain positiver als i weil du durch Blockchain theoretisch.

Ribes Vicente, Guillermo 11:45
Hm.

Interviewee 11:49
Face to face, also humen human to human. Also wenn ich mir jetzt vorstelle keine Ahnung, eine Obstanbauer, der vernünftig wirtschaftet irgendwo am Ende der Welt und hat da Avocados und verkauft mit Blockchain Technologie Dinge an mich dann dann hab ich ohne die hab ich und den Umgehung des gesamten Finanzsystems in eine direkte Kommunikation, das halte ich für extrem smart und seh da auch unglaublich viel produzieren drin.

Ribes Vicente, Guillermo 12:05
Mhm.
Ja.
Das ist exakt, was ich versuche zu erforschen.

Interviewee 12:21
Ja.

Ribes Vicente, Guillermo 12:23
Diesem Schritt weiter also ich damit wir auch also Blockchain sozusagen, was du gerade beschrieben hast, ist sozusagen sozusagen bisschen so Blockchain 1 oder Generation 1 nennen wir das, was ganz spannend ist und ich lese aber den Text vor der wird alle den gleichen Text bekommen.

Interviewee 12:34
Mhm.

Ribes Vicente, Guillermo 12:42
So.
Was du eben sagtest du hast eben irgendwas smart gesagt und noch ein anderes muss ich nachlesen. Das war genau das Stichwort und zwar.
Es geht um die 2. Januar von Blockchain und zwar die Blockchain basierte Smart Contracts, also intelligente Verträge. Das sind im Grunde genommen digitaler Vertrag zwischen 2 Nutzern, der automatisch ausgeführt wird, sobald er bestimmte Bedingungen erfüllt. Ohne Anwalt, ohne Bank, ohne Agentur oder jeglichen anderen Vermittler. Beispiel Hotellerie stellen sie sich vor ein Kunde möchte ein Hotelzimmer buchen, anstatt eine Buchungsplattform als Vermittler verwenden, könnte er direkt über eine Blockchain Plattform interagieren.
Der Buchungsvorgang würde eine Intelligent Vertrag der Blockchain festgehalten mit buchungsinformationen Datum, zimmerpreis, Stornierung, ne und eben das dezentral und transparent ist. Hotel und Kunde können auf die Informationen zugreifen, die sind unveränderlich und vertrauenswürdig, weil sie ja in der Blockchain sind. Also es braucht keinen Vermittler und das könnte nämlich zu viel geringeren Gebühren und schnelleren Transaktionen führen, damit den Vermittler umgeht. Und.
Es ist ein interessanter Effekt, weil.
Man hat gar kein Vertrauen in den anderen Partner braucht man aber nicht das Vertrauen wird ersetzt durch eben die Blockchain und das könnte und dann gibt es eben also die Zahl der Forschung zu dem Thema hat 2019 angefangen mit glaube ich 2 Paper und das geht so hoch, wo alle sagen sag mal, das könnte funktionieren und entspannenden Effekt ist auch in der Forschung wird auch davon gesprochen, nicht nur den Buchungsprozess und den Zahlungsprozess.
So aus das ganze Review System dran zu halten, um Fake Reviews zu bekämpfen, das heißt in der Literatur ich hab darüber 180 Seiten geschrieben. Das könnte spannend sein und jetzt ist eben die Frage so also jetzt frag ich halt eben tourismusexperten so was hältst du davon?

Interviewee 14:51
Naja, es gibt mehrere Gründe, die dafür sprechen also das hab ich ja versucht auch gerade zu sagen, also dass du halt vertrauen schaffst in eine sag ich mal 2 Menschen Beziehung oder sollen wir 2 Parteien Beziehungen ohne diese ganzen Systeme dazwischen und wenn wir ehrlich sind wir sind ja die Systeme dazwischen die Herausforderungen, die wir heute haben, also quasi genau das was wir brauchen. Also das Steuersystem ist super komplex geworden. Unser Finanzsystem super komplex geworden. Unserer Vermittlungssysteme super komplex geworden und da hast du ja die Marktmacht und wenn du die Marktmacht Verteilst über die Blockchain in der Nähe.

Ribes Vicente, Guillermo 15:05
Mhm.
Ja.

I actually see blockchain more positively than i because, theoretically, blockchain allows you to.

Ribes Vicente, Guillermo 11:45
Hm.

Interviewee 11:49
Face to face, so humen human to human. So if I now imagine, I don't know, a fruit grower who farms sensibly somewhere at the end of the world and has avocados there and sells things to me using blockchain technology, then I have direct communication without it and bypassing the entire financial system, I think that's extremely smart and I also see an incredible amount of production in it.

Ribes Vicente, Guillermo 12:05
Mmm.
Yes.
That's exactly what I'm trying to explore.

Interviewee 12:21
Yes.

Ribes Vicente, Guillermo 12:23
So I'm going to take this one step further, so we're also blockchain, so to speak, what you've just described is a bit like blockchain 1 or generation 1, so to speak, which is quite exciting and I'll read out the text, but everyone will get the same text.

Interviewee 12:34
Mmm.

Ribes Vicente, Guillermo 12:42
Like this.
What you just said you just said something smart and another one I have to look up. That was exactly the keyword.
It's about the second January of blockchain, namely blockchain-based smart contracts. These are basically digital contracts between two users that are automatically executed as soon as they fulfil certain conditions. Without a lawyer, without a bank, without an agency or any other intermediary. For example, in the hotel industry, imagine a customer wants to book a hotel room, instead of using a booking platform as an intermediary, they could interact directly via a blockchain platform.
The booking process would be recorded in an intelligent contract on the blockchain with booking information such as date, room price, cancellation, ne and that is decentralised and transparent. The hotel and customer can access the information, which is unchangeable and trustworthy because it is in the blockchain. So there's no need for an intermediary and that could lead to much lower fees and faster transactions, bypassing the intermediary. And. It's an interesting effect because.
You don't have any trust in the other partner, but you don't need the trust to be replaced by the blockchain and that could and then there's the number of research papers on the topic started in 2019 with I think 2 papers and it's going so high that everyone is saying it could work and the relaxing effect is also being talked about in the research, not just the booking process and the payment process.
So from the whole review system to combat fake reviews, that means in the literature I've written 180 pages about it.
That could be exciting and now the question is, so now I'm just asking tourism experts what do you think about it?

Interviewee 14:51
Well, there are several reasons that speak in favour of it, so that's what I've just tried to say, that you create trust in a two-person relationship, or should we say two-party relationships without all these systems in between and if we're honest, the systems in between are the challenges we have today, so that's exactly what we need. So the tax system has become super complex. Our financial system has become super complex. Our intermediary systems have become super complex and you have the market power and if you distribute the market power via the blockchain nearby.

Ribes Vicente, Guillermo 15:05
Mmm.
Yes.

Interviewee 15:25
Eine demokratische Lösung, wo nicht mehr die Marktmacht entscheidend ist, sondern die, die feste Ferien das finde ich total Spaß, das war das, was mich von Anfang an total begeistert hat eine Blockchain.
Es gibt 2 Dinge, die dich herausfordern, finde an der Logik das eine ist in einer sehr emotionalen Touristik Welt ist Blockchain, wenn immer ich das erwähne, so ein rotes Buch. Nach dem Motto Alter finde ich ich glaube nicht daran. Ich glaube also das das ist, das ist eine, weil du kommst aus der sehr sag mal rechts hönigen Seite und du kommst jetzt mit der extrem links Hörning Logik also von daher das ist Herausforderung und das zweite was ich herausfordernde ist.

Ribes Vicente, Guillermo 15:59
Mhm.

Interviewee 16:07
Also wenn ich mich ein bisschen mit Blockchain beschäftigt, aber dann weiß ich, dass du unmenschliche Serverkapazitäten brauchst, die unmenschlich viel Energie besorgen und wenn ich brauchen und das heißt wenn ich drüber nachdenke, wo die Reise hingeht energetisch, dann weiß ich, dass das ein weiterer soll ich mal Katapult in Richtung Klimawandel sein kann, also das sind die beiden Dinge, die ich schwierig finde. In dem in dem in der Reflexion aber ich bin dann Uhr Experte also ich find deine Gedanken total spannend.

Ribes Vicente, Guillermo 16:13
Ja.
Mhm.
Mhm.
Hm.

Interviewee 16:37
Weil sie halt einfach die sind, ja eine kleine Revolution also. Sie sind diesen Fall Back quasi in 3 Mal zurückgehen in der Art und Weise, wie wir Kapitalismus entwickelt haben, hinzu fast wieder und das ist Demokratisierung des gesamten Prozesses bis zur hin zur Ja, das ist ja eigentlich Kommunismus im Kapitalismus, aber gut gedacht.

Ribes Vicente, Guillermo 16:52
Ja.
Ja, genau ne ganz spannend, das muss jetzt du hast eigentlich meine nicht eigentlich bloß mein nächsten beiden Fragen beantwortet, nämlich was ist der positive Einfluss, den hast du direkt gesagt und den negativen auch jetzt der Methodik halber zeig ich dir aber noch ein Schaubild, weil ich das allen zeige. Im besten aller Fälle solltest du das gleich sehen. Also ich forsche, es lädt noch.
So sie sind Schaubild.

Interviewee 17:28
Ja.

Ribes Vicente, Guillermo 17:29
Genau also ich forsche genau darüber, also Blockchain,
Blockchain based distributed ledger for smart payment contract and Reviews. Das darüber forsche ich Status Quo ist einfach diese Marktmacht der Vermittler, die die ganze Welt ich, ich darf nicht emotionale Wörter sagen, aber die eine Marktmacht eine globale entwickelt haben und die Frage ist könnte es eben dann wie in du? Bild 2 sieht, dass Menschen sich anfangen über Blockchain?
Ich selber miteinander zu verbinden, wie das technologisch funktioniert, klammer ich tatsächlich aus in meiner Doktorarbeit, das ist mein nächstes Paper. Das ist nämlich gar nicht so schwer ehrlich gesagt also weil Blockchain ist. Das ist nicht
Rocket Science, das ist eigentlich super simpel, aber spannend das soeben auch noch gesagt, dass es im Tourismus diese Technologie, das ist noch zu abstrakt deswegen, wenn du das Schaubild jetzt siehst, weißt du noch irgendwas ergänzen, aber du hast es eigentlich schon beantwortet.

Interviewee 18:33
Ja, du hast es gut, also sehr schön dargestellt, muss ich sagen.
Dass du ja komplett die, die die Logik änderst und und quasi alle, sich an einem Ort treffen, der neutral ist.

Ribes Vicente, Guillermo 18:46
Mhm.

Interviewee 18:50

Interviewee 15:25
A democratic solution, where market power is no longer the deciding factor, but rather the fixed holidays - I find that totally fun, that's what got me totally excited about a blockchain right from the start.
There are 2 things that challenge you, one is logic in a very emotional tourism world is blockchain, whenever I mention it, it's such a red book. I don't think I believe in it. So I think that's, that's one thing, because you come from the very, let's say, right-wing side and you're now coming with the extremely left-wing hearing logic, so that's a challenge and the second thing I find challenging.

Ribes Vicente, Guillermo 15:59
Mhm.

Interviewee 16:07
So when I look into blockchain a little bit, but then I know that you need inhuman server capacities that provide inhuman amounts of energy and when I need and that is when I think about where the journey is going energetically, then I know that this can be another catapult towards climate change, so these are the two things that I find difficult. In that in that in the reflection but then I'm a clock expert so I find your thoughts totally exciting.

Ribes Vicente, Guillermo 16:13
Yes.
Mmm.
Mmm.
Hm.

Interviewee 16:37
Because they are simply, yes, a small revolution. They are this case back quasi in 3 times going back in the way we have developed capitalism, adding almost again and that is democratisation of the whole process up to the Yes, that is actually communism in capitalism, but well thought.

Ribes Vicente, Guillermo 16:52
Yes.
Yes, exactly ne quite exciting, you must have answered my next two questions, namely what is the positive influence, which you said directly and the negative one now for the sake of methodology I'll show you a diagram, because I'll show it to everyone. In the best of all cases, you should see it straight away. So I'm researching, it's still loading.
So they are chart.

Interviewee 17:28
Yes.

Ribes Vicente, Guillermo 17:29
Exactly so I'm researching exactly about that, so blockchain,
blockchain based distributed ledger for smart payment contract and reviews. That's what I'm researching status quo is simply this market power of the intermediaries that have developed the whole world I, I must not say emotional words, but that have a market power a global one and the question is could it then just as in you? Figure 2 sees that people are starting to connect via blockchain?
I'm actually leaving out how this works technologically in my doctoral thesis, that's my next paper. It's not that difficult, to be honest, because blockchain is. It's not Rocket Science, it's actually super simple, but it's exciting to have just said that this technology exists in tourism, it's still too abstract, so if you see the diagram now, you'll know something else to add, but you've actually already answered it.

Interviewee 18:33
Yes, I have to say that you've presented it very well.
The fact that you completely change the logic and everyone meets in a place that is neutral.

Ribes Vicente, Guillermo 18:46
Mhm.

Die Frage ist halt wirklich für die Menschen im Tourismus ist ja neutral, aber ganz ehrlich wir leben in einer Welt, die die Social Media mäßig uns soll ich mir besorgt, die dieser von sämtlichen Portalen uns ab sorgt also von daher was ist neutral in der Welt also aber ich kanns total nachvollziehen meine Frage an dich wäre aber gut, das war nicht meine das ja nicht meine Arbeitsordnung gibt es schon solche Dinge gibt es schon solche Ansätze gibt es schon, weil die Touristic lebt immer von von.
Dingen, die die ist, die es schon gibt, also aber ich find den anderes also intellektuell.

Ribes Vicente, Guillermo 19:21
Mhm.
Mhm.

Interviewee 19:25
Finde ich also könnte ich könnte ich die ganze Zeit darüber nachdenken, dass das wirklich ein mega mega Ansatz ist, ne weil er wirklich wieder hingeht.
Zu zu der Variante du glaubst mir, ich glaub dir und du kannst natürlich darüber.

Ribes Vicente, Guillermo 19:37
Mhm.

Interviewee 19:39
Auch überlegen, dass wir meine Frage dann wahrscheinlich jetzt ohne Arbeit wie kannst du diesen Prozess, der ja sehr dem seiner technisch orientiertes Techniker findest? Wie kannst du den emotionalisieren? Das wäre, das war eine spannende Frage.

Ribes Vicente, Guillermo 19:51
Genau also, als ich damit würde ich mich in der nächsten Arbeit auseinandersetzen, es gibt ja schon verschiedene Möglichkeiten. Ich hab die hat hier einfach ausklammern müssen, weil allein diese beiden Themen Blockchain und Thorium zusammenzubringen. Das war schon schwer genug und ausdrücklich ich musste das sogar ausklammern, also die praktische Umsetzung. Es ist also nur ein Gedankenspiel, sozusagen, dass ich jetzt einfach Experten in Deutschland also wirklich also von destinationsmanagern hoteldirektoren hotelbesitzern.

Interviewee 20:09
Ja.

Ribes Vicente, Guillermo 20:21
Morgen habe ich noch mit dem Reisejournalisten also ganz was anderes und einfach mal aus so Ziel ist es, von vielen verschiedenen Menschen zuhören so hä, ach so, das ist das Ziel. Deswegen wär hätt ich das sich nur noch eine Abschlußfrage so jetzt so du hast ja sogar nicht damit schlagen, jetzt wirst du jetzt für dein eigenes Unternehmen, also als Consultant letztendlich dich auch noch mehr mit diesem Thema auseinandersetzen nach diesem Gespräch.

Interviewee 20:51
Ich also ich, ich würde auf jeden Fall das total spannend finden, da in diese Richtung zu denken, weil es ja tatsächlich sehr auf das einzahlt, was ich was ich tue ne ich höre immer wieder, wie schwierig es ist, das quasi die Menschen sich im Markt positionieren können, also von daher finde ich das total spannend und ich glaube schon, dass ich mich damit tiefer aus als würde, wenn es die Möglichkeit gäbe.

Ribes Vicente, Guillermo 21:02
Ja.

Interviewee 21:17
Ich glaube aber, dass mein Job ist, eher etwas zu erschaffen, wo dann diese Technik helfen könnte, das schaffen was ich ich gehe eher in Richtung humane Welt und dann die Frage wie kann diese humane Welt unterstützt werden mit Technologie also? Und ich sehe es nicht bei der klassischen IT, aber Blockchain habe ich das Gefühl also ich hätte mal Bock, wenn du richtig geiles Buch mir empfehlen kannst zu Blockchain das würde ich super gerne lesen definitiv.

Ribes Vicente, Guillermo 21:28
Die.
Ja.
Na, das ist das ist ja der Punkt ich meine, es gibt halt ganz viel, die halt sehr weit elastisch sind aber halt ich sag mal im Tourismusbereich, dass man für

Interviewee 18:50
The question is really for the people in tourism is neutral, but quite honestly we live in a world that the social media is supposed to worry us, which this from all the portals us so from there what is neutral in the world so but I can totally understand my question to you would be good, but that was not my not my work order there are already such things there are already such approaches there are already, because tourism always lives from.
Things that already exist, but I find the other intellectual.

Ribes Vicente, Guillermo 19:21
Mhm.
Mhm.

Interviewee 19:25
I think so I could think about it all the time, that this is really a mega mega approach, no, because he's really going there again.
To the variant you believe me, I believe you and you can of course about it.

Ribes Vicente, Guillermo 19:37
Mhm.

Interviewee 19:39
Also consider that my question is probably now without work, how can you find this process, which is very similar to that of his technically orientated technician? How can you emotionalise it? That would be, that was an exciting question.

Ribes Vicente, Guillermo 19:51
Exactly, so I would deal with that in my next work, there are already various possibilities. I just had to leave it out here, because bringing these two topics of blockchain and thorium together was difficult enough. That was difficult enough and I even had to exclude the practical . So it's just a mind game, so to speak, that I'm now simply asking experts in Germany, i.e. really destination managers, hotel managers, hotel owners.

Interviewee 20:09
Yes.

Ribes Vicente, Guillermo 20:21
Tomorrow I have another interview with the travel journalist, so something completely different and just from so the aim is to hear from lots of different people so, oh, that's the aim. That's why I would have just asked a final question, so now you haven't even beaten it, now you're going to deal with this topic even more for your own company, as a consultant, after this interview.

Interviewee 20:51
So I, I would definitely find it really exciting to think in this direction, because it really pays off in terms of what I do and I keep hearing how difficult it is for people to position themselves in the market, so I find it really exciting and I think I would delve deeper into it if I had the opportunity.

Ribes Vicente, Guillermo 21:02
Yes.

Interviewee 21:17
But I think that my job is more to create something where this technology could help to create what I am going more in the direction of a humane world and then the question of how can this humane world be supported with technology? And I don't see it with classic IT, but blockchain I have the feeling, so I'd be interested if you could recommend a really cool book on blockchain that I would definitely love to read.

Ribes Vicente, Guillermo 21:28
The.
Yes.
Well, that's the point, I mean, there are a lot of things that are very elastic, but I'll say that in the tourism sector, for example, or in the service sector, the topic has fortunately not yet arrived to my advantage and I also have to say

sich oder im Servicebereich da ist das Thema halt noch nicht so angekommen zum Glück mein Vorteil und ich muss auch sagen ich hab werd en kleinen Schwenker auch Richtung KI machen deswegen das was du eher am Anfang gesagt hast das kommt mit rein. Ich muss das aber so n bisschen ausklammern, weil. Als ich die Arbeit angefangen hab, war die dritte Generation durch Blockchain und KI, das lag noch weit in der Zukunft. Das war für mich nur an, das ist für mich eine halbe Seite gewesen. Blöderweise sind wir eigentlich schon der dritten Generation, weil ChatGPT so schnell vorangegangen, aber das ist tatsächlich ganz spannend bald irgendwas Spannendes für dich hab schick ich dir gerne was zu. Im Zweifel verdutzt mein meine meine meine Doktorarbeit oder eben mein nächstes Paper sein. Interviewee 22:43 Cool, das ist doch geil, machen wir nochmal ganz kurz, wenn du sagst dritte Relation was waren die erste und die zweite Generation? Ribes Vicente, Guillermo 22:43 Aber naja. Also die erste Generation ist das, was man sagt Ja, Satoshi Nakamoto hätte das entwickelt. Diese große, anonyme Person die Basis für Bitcoin, das hat er ja nicht erfunden. Er hat es nochmal als White Paper die Idee der Blockchain und Distributed Legends, also Verteilung von Daten einfach mal durchexerziert, um den Banken mal 1 auf wo ich würde dann jetzt die Aufzeichnung stoppen, weil das ist jetzt, das ist ja genau. Interviewee 22:58 Ja. Ja. Ribes Vicente, Guillermo 23:16 Weil, dann können wir alles so Stop. Ribes Vicente, Guillermo stopped transcription	that I'm going to make a small shift towards AI, which is why what you said at the beginning comes into play. But I have to leave that out a bit, because. When I started the work, the third generation was still a long way in the future thanks to blockchain and AI. That was only half a page for me. Unfortunately, we're actually already in the third generation because ChatGPT have progressed so quickly, but it's actually quite exciting, I'll be happy to send you something exciting soon. If in doubt, it could be my doctoral thesis or my next paper. Interviewee 22:43 Cool, that's cool, let's do it again very briefly, when you say third relation what were the first and second generation? Ribes Vicente, Guillermo 22:43 But well. So the first generation is what you say yes, Satoshi Nakamoto would have developed that. This big, anonymous person, the basis for Bitcoin, he didn't invent it. He has it again as a white paper the idea of blockchain and distributed legends, so distribution of data simply times durchexeriert to the banks times 1 on where I would then now stop the recording, because that is now, that is exactly. Interviewee 22:58 Yes. Yes. Ribes Vicente, Guillermo 23:16 Because then we can stop everything like this. Ribes Vicente, Guillermo stopped transcription

Bilingual Interview Transcript Interviewee 4

Austausch mit Guillermo Ribes (PhD-Kandidat) - 20230614_122006-Meeting Recording	Exchange with Guillermo Ribes (PhD candidate) - 20230614_122006-Meeting Recording
Ribes Vicente, Guillermo: (0:06)	Ribes Vicente, Guillermo: (0:06)
So und die Transkription hat auch gestartet, perfekt. Dann ja, ähm, Dennis, wir bräuchten jetzt eine anonymisierte Berufsbezeichnung oder Jobtitel.	So and the transcription has also started, perfect. Then yes, um, Dennis, we would now need an anonymised job title or job title.
Interviewee: (0:12)	Interviewee: (0:12)
Okay.	Okay.
Ribes Vicente, Guillermo: (0:18)	Ribes Vicente, Guillermo: (0:18)
Wie sollen wir dich dann nennen?	What should we call you then?
Interviewee: (0:20)	Interviewee: (0:20)
Du kannst ruhig meinen normalen Jobtitel verwenden, also das ist "Director of Operational Excellence".	You can use my normal job title, which is "Director of Operational Excellence".
Ribes Vicente, Guillermo: (0:27)	Ribes Vicente, Guillermo: (0:27)
Wundervoller Titel, dann nehmen wir den. Dann habe ich das jetzt im Transkript. Prima. Ich habe zur Zeit ganz allgemeine Einstiegsfragen. Wenn ich immer so nach links gucke, habe ich natürlich meine Notizen. Ich versuche immer, möglichst die gleichen Fragen zu stellen. Wie bewertest du allgemein den Einfluss von Informationstechnologie auf den Tourismus?	Wonderful title, let's go with that. Then I have that in the transcript now. Great. I currently have very general introductory questions. If I always look to the left, I have my notes, of course. I always try to ask the same questions as much as possible. How do you generally assess the influence of information technology on tourism?
Interviewee: (0:50)	Interviewee: (0:50)
Ja, genau. Hm. Mhm. Mhm.	Yes, exactly. Hm. Mhm. Mhm.
Ribes Vicente, Guillermo: (0:56)	Ribes Vicente, Guillermo: (0:56)
Mein Schwerpunkt ist die Vermittlung von Dienstleistungen, wie Hotelbuchungen als einfachstes Beispiel. Insgesamt, Informationstechnologie und Tourismus.	My main focus is the provision of services, like hotel bookings as the simplest example. Overall, information technology and tourism.
Interviewee: (1:05)	Interviewee: (1:05)
Mhm. Ganz kurz, Guillermo, ich bin bei einem Finanzdienstleister, das hatte ich dir auch geschrieben. Wir haben nichts mehr mit Tourismus zu tun. Ich kann natürlich aus meiner Tourismus-Brille erzählen, aber das hat vermutlich nicht so viel mit meiner Finanzdienstleistungs-Brille zu tun.	Mhm. Very briefly, Guillermo, I'm with a financial services provider, I wrote that to you too. We no longer have anything to do with tourism. Of course I can tell you from my tourism perspective, but that probably doesn't have that much to do with my financial services perspective.

Ribes Vicente, Guillermo: (1:21)

Ja, genau, aber ihr macht doch auch dieses, wie heißt das, Geschäftsreisemanagement?

Interviewee: (1:23)

Nein, wir haben Finanzprodukte für hauptsächlich Business Travel, also wir vermitteln Kreditkarten und Bezahllösungen.

Ribes Vicente, Guillermo: (1:32)

Das Thema Finanzen ist extrem querschnittlich, kurz gesagt. Ihr seid ein Teil davon, weil du hattest mir geschrieben und ich dachte mir, ich hätte das falsch verstanden, aber da hab ich richtig verstanden. Das passt schon.

Interviewee: (1:41)

Genau. Mhm, mhm. Ja, wir sind Finanzdienstleister und bieten Kapital-Lösungen, nicht nur im Bereich Business Travel, damit Buchungen bezahlt werden können, Flüge, etc., sondern auch im Bereich Procurement. Wir sind nicht auf Tourismus spezialisiert.

Ribes Vicente, Guillermo: (2:03)

Okay, ja, das ist kein Problem. Du bist für mich ein Tourismusexperte und du arbeitest in einem Sektor, der mit dem Tourismus verbunden ist.

Interviewee: (2:04)

Mhm. Okay.

Ribes Vicente, Guillermo: (2:19)

Also ganz allgemein, deiner Meinung nach: Informationstechnologien und Tourismus? Wie bewertest du den Einfluss von Technologie auf Tourismus, speziell im Bereich Hotelbuchungen?

Interviewee: (2:23)

Mhm. Ja, absolut. Immer größerer Einfluss. Wenn wir mal überlegen, was im klassischen Tourismus früher gezählt hat, z.B. der Papierkatalog, ist heute ein absolutes Auslaufmodell. Es gibt unfassbare Möglichkeiten mit Informationstechnologie, gerade im Bereich der Inspiration. In der Customer Journey kann man extrem viel machen mit Videos, Augmented Reality und solchen Themen. Wir haben ein Produkt, das nicht greifbar ist, und das ist nicht nur im Tourismus so, sondern auch bei Finanzdienstleistungen. Die Frage ist, wie wir das nutzen können. Es hat sehr hohen Einfluss.

Ribes Vicente, Guillermo: (3:26)

Sehr gut. Welche Technologien beschäftigst du dich im Bereich Inspiration?

Interviewee: (3:37)

In meinem derzeitigen Job geht es hauptsächlich um B2B, also Inspiration über klassische Wege wie Newsletter und Kundenakquise per Email. Relevanter im Servicebereich nutzen wir Informationstechnologie. Wir haben ein komplexes Produkt mit unseren Finanzdienstleistungen. Wir benutzen künstliche Intelligenz im Kundenservice, um Anfragen schneller zu beantworten, weil viele Anfragen für uns klar sind, aber für den Kunden schwer verständlich. KI hilft uns, schneller zu antworten und standardisierte Antworten zu geben, die nicht mehr hundertprozentig von einem Menschen abhängig sind.

Ribes Vicente, Guillermo: (4:39)

Okay. Gibt es noch andere Technologien, die für euch oder für dich als Experte interessant sind?

Interviewee: (5:11)

Wir schauen uns im Kundenservice auch Video Bots an, um Kundenanfragen persönlicher und trotzdem standardisiert zu beantworten. Wir haben Kunden auf der ganzen Welt, daher nutzen wir solche Technologien, um in der jeweiligen Landessprache zu antworten. Trotzdem bleibt der persönliche Kontakt wichtig, da wir von der BaFin reguliert sind und nicht direkt automatisiert antworten können. Unsere Produkte sind komplex und individualisiert. Wir können ein Framework mit Informationstechnologie bilden, müssen es aber mit menschlichem Know-how anreichern.

Ribes Vicente, Guillermo: (6:24)

Mega spannend. Ich muss jetzt einen kleinen Schlenker machen. Deine persönliche Einschätzung: Warum buchen Menschen bei Buchungsplattformen? Was ist deren Motivation?

Interviewee: (6:51)

Ich glaube, man hat den besseren Vergleich. Man hat das Gefühl, die Kontrolle zu haben und ist nicht abhängig von jemandem, der eventuell Provisionen bekommt. Man hat Transparenz bei Kundenbewertungen und Preisen. Man kann sich Bilder, Videos anschauen und hat bessere Vergleichsmöglichkeiten.

Ribes Vicente, Guillermo: (7:46)

Ribes Vicente, Guillermo: (1:21)

Yes, exactly, but you also do this, what's it called, business travel management?

Interviewee: (1:23)

No, we have financial products for mainly business travel, so we arrange credit cards and payment solutions.

Ribes Vicente, Guillermo: (1:32)

The topic of finance is extremely cross-sectional, in short. You are part of it, because you wrote to me and I thought I had misunderstood, but I got it right. That fits.

Interviewee: (1:41)

Exactly. Mhm, mhm. Yes, we are a financial services provider and offer capital solutions, not only in the area of business travel, so that bookings can be paid for, flights, etc., but also in the area of procurement. We are not specialised in tourism.

Ribes Vicente, Guillermo: (2:03)

Okay, yes, that's not a problem. For me, you are a tourism expert and you work in a sector that is linked to tourism.

Interviewee: (2:04)

Mhm. Okay.

Ribes Vicente, Guillermo: (2:19)

So in general, in your opinion: Information technologies and tourism? How do you assess the influence of technology on tourism, especially in the area of hotel bookings?

Interviewee: (2:23)

Mhm. Yes, absolutely. More and more influence. If we think about what used to be important in traditional tourism, e.g. the paper catalogue, is now a completely obsolete model. There are incredible possibilities with information technology, especially in the area of inspiration. You can do a lot in the customer journey with videos, augmented reality and topics like that. We have a product that is intangible, and that's not just the case in tourism, but also in financial services. The question is how we can utilise this. It has a very high impact.

Ribes Vicente, Guillermo: (3:26)

Very good. What technologies are you working on in the area of inspiration?

Interviewee: (3:37)

In my current job, it's mainly about B2B, i.e. inspiration via traditional channels such as newsletters and customer acquisition by email. More relevant in the service sector, we use information technology. We have a complex product with our financial services. We use artificial intelligence in customer service to answer enquiries more quickly, because many enquiries are clear to us but difficult for the customer to understand. AI helps us to respond faster and provide standardised answers that are no longer 100% dependent on a human being.

Ribes Vicente, Guillermo: (4:39)

Okay. Are there any other technologies that are interesting for you or for you as an expert?

Interviewee: (5:11)

We are also looking at video bots in customer service in order to answer customer enquiries in a more personal yet standardised way. We have customers all over the world, so we use such technologies to respond in the local language. Nevertheless, personal contact remains important, as we are regulated by BaFin and cannot respond directly by automated means. Our products are complex and individualised. We can create a framework with information technology, but we have to enrich it with human expertise.

Ribes Vicente, Guillermo: (6:24)

Mega exciting. I have to take a little detour now. Your personal assessment: Why do people book on booking platforms? What is their motivation?

Interviewee: (6:51)

I think you have a better comparison. You have the feeling that you are in control and are not dependent on someone who may receive commission. You have transparency when it comes to customer reviews and prices. You can look at pictures and videos and have better comparison options.

Ribes Vicente, Guillermo: (7:46)

Warum buchen Menschen nicht direkt bei Hotels?	Why don't people book directly with hotels?
Interviewee: (7:51)	Interviewee: (7:51)
Ich glaube, die Hotels bieten noch nicht so bequeme Buchungswege an. Über booking.com weiß man, dass es funktioniert, man hat kostenlose Stornierungen, etc. Die Websites der Hotels sind oft nicht gut genug, außer bei großen Hotelketten. Ich persönlich buche auch bei großen Hotelketten eher über booking.com, weil ich dort eine bessere Auswahl und transparente Preise bekomme.	I don't think hotels offer such convenient booking channels yet. With booking.com you know that it works, you have free cancellations, etc. The hotel websites are often not good enough, except for large hotel chains. I personally prefer to book through booking.com, even with large hotel chains, because I get a better selection and transparent prices there.
Ribes Vicente, Guillermo: (8:49)	Ribes Vicente, Guillermo: (8:49)
Genau. Hast du dich mit dem Thema Blockchain auseinandergesetzt, besonders Blockchain und Tourismus?	Exactly. Have you looked into the topic of blockchain, especially blockchain and tourism?
Interviewee: (8:55)	Interviewee: (8:55)
Zum Thema Blockchain und Tourismus nicht direkt. Wir sind als Finanzdienstleister Teil der Blockchain, da unsere Transaktionen über Blockchain-Technologie laufen, aber im Bereich Tourismus haben wir damit noch nicht viel gemacht.	Not directly on the topic of blockchain and tourism. As a financial services provider, we are part of the blockchain, as our transactions run via blockchain technology, but we have not yet done much with it in the tourism sector.
Ribes Vicente, Guillermo: (9:31)	Ribes Vicente, Guillermo: (9:31)
Erzähl mir mehr über Blockchain bei euch.	Tell me more about blockchain in your company.
Interviewee: (9:38)	Interviewee: (9:38)
Wir sind bankenreguliert und müssen Daten an verschiedenen Stellen verschlüsseln. Nur bestimmte Menschen dürfen bestimmte Daten sehen. Wir haben viel mit Kreditkartendaten zu tun, die höchste Sicherheitsstufe haben. Blockchain hilft uns, vor Angriffen geschützt zu sein, da wir Daten auf mehreren Stellen verteilt haben. Wir arbeiten auch mit großen Anbietern wie MasterCard zusammen, und dort ist Blockchain-Technologie Standard.	We are bank-regulated and have to encrypt data in different places. Only certain people are allowed to see certain data. We deal a lot with credit card data, which has the highest level of security. Blockchain helps us to be protected from attacks as we have data distributed in several places. We also work with large providers such as MasterCard, and blockchain technology is standard there.
Ribes Vicente, Guillermo: (10:31)	Ribes Vicente, Guillermo: (10:31)
Genau. Könntest du dir vorstellen, was Forschung zum Thema Blockchain und Tourismus ergeben könnte?	Exactly. Could you imagine what research on blockchain and tourism could lead to?
Interviewee: (10:43)	Interviewee: (10:43)
Absolut, eine Blockchain könnte helfen, auf die gleichen vollständigen Daten zuzugreifen. Im Buchungsprozess könnte Blockchain Überbuchungen oder Doppelbuchungen vermeiden. Auch in der Personalisierung nach der Reise wäre das sinnvoll. Warum muss ich bei booking.com und beim nächsten Mal direkt auf der Hotelwebsite meine Daten erneut eingeben? Eine Kundennummer, die auf allen Plattformen eingesetzt werden kann, wäre sinnvoll.	Absolutely, a blockchain could help to access the same complete data. In the booking process, blockchain could prevent overbooking or double bookings. It would also be useful for personalisation after the trip. Why do I have to enter my details again at booking.com and the next time directly on the hotel website? A customer number that can be used on all platforms would be useful.
Ribes Vicente, Guillermo: (12:07)	Ribes Vicente, Guillermo: (12:07)
Spannend. Ich muss dir noch einen kleinen Text vorlesen, um das Interview zu vervollständigen.	Exciting. I have to read you a little text to complete the interview.
Interviewee: (12:14)	Interviewee: (12:14)
Mhm.	Mhm.
Ribes Vicente, Guillermo: (12:30)	Ribes Vicente, Guillermo: (12:30)
Eine zentrale Stelle kontrolliert die Daten und ermöglicht Transaktionen zwischen Nutzern, die sich nicht kennen. Das ist die Grundidee der Blockchain. In der Finanzindustrie ist das seit 2008 ein großes Thema, um Vermittler auszuschalten. Mein Thema ist Blockchain-basierte Smart Contracts für die Vermittlung von Dienstleistungen in der Tourismusbranche. Ein Smart Contract ist ein intelligenter Vertrag, der automatisch ausgeführt wird, sobald bestimmte Bedingungen erfüllt sind, ohne Anwalt, Bank, Agentur oder Plattform. Ein Kunde könnte direkt mit dem Hotel über eine Blockchain-Plattform interagieren. Der Buchungsvorgang würde in einem intelligenten Vertrag auf der Blockchain festgehalten, der Zimmerpreis, Zahlungsdetails und Stornierungen beinhaltet.	A centralised body controls the data and enables transactions between users who don't know each other. That's the basic idea behind blockchain. It has been a big topic in the financial industry since 2008 in order to eliminate intermediaries. My topic is blockchain-based smart contracts for the provision of services in the tourism industry. A smart contract is an intelligent contract that is automatically executed as soon as certain conditions are met, without a lawyer, bank, agency or platform. A customer could interact directly with the hotel via a blockchain platform. The booking process would be recorded in a smart contract on the blockchain, including room rate, payment details and cancellations.
Interviewee: (13:32)	Interviewee: (13:32)
Mhm.	Mhm.
Ribes Vicente, Guillermo: (14:03)	Ribes Vicente, Guillermo: (14:03)
Durch Dezentralisierung und Sicherheit würde man ohne Vermittler arbeiten. Die Blockchain schafft Vertrauen, obwohl sie keinen zentralen Vermittler braucht.	Decentralisation and security would allow you to work without intermediaries. The blockchain creates trust, even though it doesn't need a central intermediary.
Interviewee: (14:14)	Interviewee: (14:14)
Mhm.	Mhm.
Ribes Vicente, Guillermo: (14:34)	Ribes Vicente, Guillermo: (14:34)
Wenn mehr Menschen das nutzen würden, könnte das zu einer Veränderung im Markt führen. Ich zeige dir jetzt ein Schaubild. Es zeigt die theoretische Möglichkeit. Was denkst du darüber?	If more people were to use it, it could lead to a change in the market. I'll show you a diagram now. It shows the theoretical possibility. What do you think about that?
Interviewee: (16:28)	Interviewee: (16:28)

Ja, absolut. Ich glaube, dass noch viel in Richtung Usability getan werden muss. Der normale Kunde weiß oft nicht, dass booking.com Provisionen verlangt. Das Bewusstsein ist nicht da. Wenn du damit in die Öffentlichkeit gehst, wirst du nicht sofort verstanden. Es ist einfach erklärt, aber die Nutzerfreundlichkeit und das Bewusstsein müssen wachsen. Heute denkt man an eine Blockchain als Technologie, die den Kunden nicht interessiert. Als Vision sehe ich, dass man keinen großen Apparat im Hintergrund hat und sofortige Transaktionen möglich sind, ohne lange zu warten oder doppelte Buchungen zu vermeiden. Es wäre großartig, auch die Datensicherheit zu gewährleisten. Ribes Vicente, Guillermo: (18:24) Absolut. Ich habe ein paar Artikel und Studien gelesen. Ein Problem ist, dass Blockchain-Nutzer oft wenig Verständnis haben, aber es ist eine spannende Möglichkeit. Hast du spezielle Empfehlungen oder Ratschläge? Interviewee: (18:53) Für das ganze Thema oder spezifisch für dein Thema? Ribes Vicente, Guillermo: (18:58) Für mein Thema. Interviewee: (19:01) Ich glaube, es ist wichtig, einfach zu erklären, was Blockchain ist, was sie kann und was nicht. Kläre auf, dass sie eine gute Sache ist, Vertrauen schafft, Daten sicher hält und die Nutzerfreundlichkeit verbessert. Wenn du es auf einfache Beispiele herunterbrichst, kannst du die Leute abholen. Auch gute Use-Cases und Studien, die zeigen, dass es funktioniert, sind wichtig. Wenn du in deinem Forschungsansatz darauf eingehst, könnte es gut sein. Blockchain wird in anderen Bereichen akzeptiert, warum also nicht auch im Tourismus? Mit guten Argumenten und Aufklärung kann man sicherlich überzeugen. Ribes Vicente, Guillermo: (21:11) Sehr gut. Die Blockchain könnte die Reiselandschaft verändern. Es ist ein faszinierendes Thema und ich freue mich auf die Forschungsergebnisse. Ich danke dir für das Interview und deine Einblicke. Interviewee: (21:29) Gern geschehen. Viel Erfolg bei deiner Arbeit, Guillermo. Ribes Vicente, Guillermo: (21:31) Vielen Dank. Wir bleiben in Kontakt. Interviewee: (21:32) Auf jeden Fall.	Yes, absolutely. I believe that a lot still needs to be done in terms of usability. The normal customer often doesn't realise that booking.com charges commissions. The awareness is not there. When you go out in public, you are not immediately understood. It is simply explained, but the user-friendliness and awareness need to grow. Today, people think of blockchain as a technology that doesn't interest the customer. The vision I see is that you don't have a big machine in the background and instant transactions are possible without having to wait a long time or avoid double bookings. It would also be great to guarantee data security. Ribes Vicente, Guillermo: (18:24) Absolutely. I've read a few articles and studies. One problem is that blockchain users often have little understanding, but it's an exciting opportunity. Do you have any specific recommendations or advice? Interviewee: (18:53) For the whole topic or specifically for your topic? Ribes Vicente, Guillermo: (18:58) For my topic. Interviewee: (19:01) I think it's important to simply explain what blockchain is, what it can and cannot do. Explain that it's a good thing, creates trust, keeps data secure and improves the user experience. If you break it down into simple examples, you can pick people up. Good use cases and studies that show that it works are also important. If you address this in your research approach, it could be good. Blockchain is accepted in other areas, so why not in tourism too? With good arguments and education, you can certainly convince people. Ribes Vicente, Guillermo: (21:11) Very good. Blockchain could change the travel landscape. It's a fascinating topic and I'm looking forward to the research results. Thank you for the interview and your insights. Interviewee: (21:29) You're very welcome. Good luck with your work, Guillermo. Ribes Vicente, Guillermo: (21:31) Thank you very much. We'll stay in touch. Interviewee: (21:32) In any case.

Bilingual Interview Transcript Interviewee 5

Austausch mit Guillermo Ribes (PhD cand.)-20230614_141630-Meeting Recording 28m 39s Ribes Vicente, Guillermo started transcription Interviewee 0:04 Okay, ich wollte grad schon sagen, da muss ich aber sehr deutlich sprechen. Ribes Vicente, Guillermo 0:09 Sag der die, der ist wirklich gut und tatsächlich, ich muss dazu sagen, ich muss das ja eh alles nochmal durchgehen, aber dann hast du schon mal einen Text und dann kannst du im Video nochmal dahin springen, wo du sagst, das und das genau. Ja, vielen Dank, dass du dabei bist. Ausdrücklich die Studie oder die Experten bleiben anonym. Ich muss aber da stellen, wenn du mir, ich sag mal, eine Berufsbezeichnung, vielleicht sogar auf Englisch direkt, weil ich dich sozusagen markieren kann, wie möchtest du da benannt werden? Interviewee 0:11	Exchange with Guillermo Ribes (PhD cand.)-20230614_141630-Meeting Recording 28m 39s Ribes Vicente, Guillermo started transcription Interviewee 0:04 Okay, I was about to say, but I have to speak very clearly. Ribes Vicente, Guillermo 0:09 Say that one, it's really good and actually, I have to say, I have to go through it all again anyway, but then you already have a text and then you can jump back in the video to where you say this and that exactly. Yes, thank you very much for being there. The study or the experts expressly remain anonymous. But I have to ask, if you give me, I'll say, a job title, maybe even in English directly, because I can sort of tag you, what would you like to be called? Interviewee 0:11

Okay. Ja. Also, meine Stelle ist hier das Stabstelle in Richtung touristisches Nachhaltigkeitsmanagement. Wie man das jetzt auf Englisch am einfachsten übersetzt? Wir haben keine englischen Stellenbezeichnungen Tourismus, Sustainability oder sowas.	Okay. Yes. So, my job here is the staff position for tourism sustainability management. What's the easiest way to translate that into English? We don't have any English job titles for tourism, sustainability or anything like that.
Ribes Vicente, Guillermo 0:55 Ja, genau, also du bist Stabstelle, aber du leitest die Stabstelle auch?	Ribes Vicente, Guillermo 0:55 Yes, exactly, so you are a staff unit, but you also manage the staff unit?
Interviewee 1:04 Ja.	Interviewee 1:04 Yes.
Ribes Vicente, Guillermo 1:05 Gut, ich such dir mal was raus also der ja eigentlich Department, dann wärst du eigentlich Head of Department Sustainable Tourism Management.	Ribes Vicente, Guillermo 1:05 Right, I'll pick something out for you, so actually the department, then you would actually be Head of Department Sustainable Tourism Management.
Interviewee 1:07 Ja.	Interviewee 1:07 Yes.
Ribes Vicente, Guillermo 1:17 Ja, ich glaube, das passt auf jeden Fall.	Ribes Vicente, Guillermo 1:17 Yes, I think that definitely fits.
Interviewee 1:19 Das passt auf jeden Fall.	Interviewee 1:19 That definitely fits.
Ribes Vicente, Guillermo 1:21 Dann hab ich schon der Transkription, weil du Stabstelle wärst, wäre für mich halt Department oder Head of.	Ribes Vicente, Guillermo 1:21 Then I already have the transcription, because you would be a staff position, for me that would be Department or Head of.
Interviewee 1:27 Ja ne wenn das einfach mal.	Interviewee 1:27 Yes, no, if that's easy.
Interviewee 1:29 Ja, ist direkt angesiedelt bei der Tourismusdirektion und hat daneben Auswirkungen auf alle Bereiche.	Interviewee 1:29 Yes, it's directly attached to the Tourism Directorate and also has an impact on all areas.
Ribes Vicente, Guillermo 1:32 Mhm. Genau super, ja auch mega wichtiges Thema. Ja, ich schreibe oder forsche zum Thema Technologien im Tourismus ausdrücklich. Ich habe jetzt nicht Touristiker eingeladen, die irgendwie so technologisches Expertenwissen haben, sondern ich forsche in einer ganz speziellen Sache, die es so auch noch nicht gibt, muss man dazu sagen und ich will einfach nur von Experten erfahren. Was hält man von der Idee ausdrücklich?	Ribes Vicente, Guillermo 1:32 Mhm. Exactly great, yes, also a very important topic. Yes, I write or research specifically on the topic of technologies in tourism. I haven't invited tourism experts who have some kind of technological expertise, but I'm researching a very specific topic that doesn't exist yet, it has to be said, and I just want to hear from experts. What do you specifically think of the idea?
Interviewee 1:57 Okay.	Interviewee 1:57 Okay.
Ribes Vicente, Guillermo 2:04 Das ist kein klassisches Interview, sondern ich frag mal Fragen und ich erkläre dir auch ein paar Sachen und alle Interviews, die ich durch habe, wird das dann das nennt sich Delphi Technik komprimiert und dann kriegen alle mit ihnen gesprochen haben, aggregiert. Die Aussagen der anderen Experten und dann kann man seine Meinung nochmal ändern. Also vielleicht sagst du in 2 Wochen so, ich hab mal drüber nachgedacht.	Ribes Vicente, Guillermo 2:04 This is not a classic interview, but I ask questions and I also explain a few things and all the interviews that I have done are then summarised using the Delphi technique and then everyone who has spoken to them is aggregated. The statements of the other experts and then you can change your opinion again. So maybe in two weeks you'll say, I've thought about it.
Interviewee 2:09 Mhm.	Interviewee 2:09 Mhm.
Ribes Vicente, Guillermo 2:29 Völlig okay, am Ende möchte ich einfach nur sozusagen von 12 Experten eine Art Konsens, eine Expertenmeinung als Konsens, die ich dann in so einem Framework einbauen und deswegen habe ich so ein paar Einstiegsfragen einfach nicht, aber später sozusagen mehr Einfluss ermöglichen. Ich gucke zur Seite, weil ich lese natürlich meine Notizen noch nebenbei. Also die erste Frage:	Ribes Vicente, Guillermo 2:29 Totally okay, in the end I just want a kind of consensus, so to speak, from 12 experts, an expert opinion as a consensus, which I then incorporate into such a framework and that's why I simply don't have a few introductory questions, but allow more influence later, so to speak. I look to the side, because of course I'm still reading my notes on the side. So the first question:

Interviewee 2:45 Nee. Klar.	Interviewee 2:45 Nope. Sure.
Ribes Vicente, Guillermo 2:51 Wie bewertest du den Einfluss generell von Informationstechnologien auf die Tourismusindustrie? Gerne speziell in Bezug auf Hotelbuchung, das ist so das, wo wir uns hauptsächlich bewegen, also Informationstechnologie und deren Einfluss auf den Tourismus.	Ribes Vicente, Guillermo 2:51 How do you assess the influence of information technology on the tourism industry in general? Especially in relation to hotel bookings, that's where we mainly operate, i.e. information technology and its influence on tourism.
Interviewee 3:08 Ja. Sehr gewinnbringend. Es gibt ja zum Beispiel die Technik schon länger, diese Rich Profiles, wo man dann schon sehr personalisierte, individualisierte Angebote machen kann, aber das auch noch weiter gedacht auf Zusatzangebote. Je besser man den Gast kennt, umso besser kann man ihn bedienen, Kundenbindung und alles was dranhängt, führt zu motivierteren Mitarbeitern und alles.	Interviewee 3:08 Yes, very profitable. For example, the technology has been around for a long time, these rich profiles, where you can make very personalised, individualised offers, but you can also extend this to additional offers. The better you know the guest, the better you can serve them, customer loyalty and everything that goes with it leads to more motivated employees and everything.
Ribes Vicente, Guillermo 3:40 Ja.	Ribes Vicente, Guillermo 3:40 Yes.
Interviewee 3:40 Also clever eingesetzt kann es sehr gewinnbringend sein.	Interviewee 3:40 So if used cleverly, it can be very profitable.
Ribes Vicente, Guillermo 3:45 Mhm und wie willst du noch so generell also auch immer so ein bisschen in die Vergangenheit gucken? Wie haben Technologien unsere Branche insgesamt beeinflusst?	Ribes Vicente, Guillermo 3:45 Mhm and how do you want to look back into the past in general? How have technologies influenced our industry as a whole?
Interviewee 4:00 Der ganze Trend weg von dem stationären Reisebüro hin zu den Online Buchungen, nicht nur Hotels, sondern auch gerade die Airlines, die Kreuzfahrten. Das macht vieles einfacher. Man macht das nebenbei vom Sofa aus. Das macht vieles schneller, aber auch eben undurchsichtiger.	Interviewee 4:00 The whole trend away from stationary travel agencies towards online bookings, not just hotels, but also airlines and cruises. That makes a lot of things easier. You can do it from the comfort of your sofa. It makes a lot of things faster, but also more opaque.
Ribes Vicente, Guillermo 4:20 Ich nehme den Faden direkt auf. Es geht um Buchungen. Kannst du mir erklären warum doch viele Menschen, und es gibt da verschiedene Studien, die Einrichtung immer mehr Menschen, eben Buchungsplattformen nutzen, um zu buchen. Warum tun Kunden das? Was glaubst du, dass der Motivation?	Ribes Vicente, Guillermo 4:20 I'll pick up the thread directly. It's about bookings. Can you explain to me why many people, and there are various studies that show that more and more people are using booking platforms to make bookings? Why do customers do that? What do you think is the motivation?
Interviewee 4:21 Okay. Ja. In erster Linie würde ich jetzt sagen, weil es eben simpel und einfach ist. Und man hat natürlich die direkte Vergleichbarkeit gerade bei den großen Portalen. Man braucht ja nur eben 2-3 Angaben machen und hat sofort das komplette Portfolio. Kann es nach jedem beliebigen Faktor sortieren, man kann Filter setzen, was einem wichtig ist. Es macht halt einfach mal eben so nebenbei vom Sofa in der Bahn recht simpel.	Interviewee 4:21 Okay. Yes. First and foremost, I would say because it's simple and easy. And of course you have direct comparability, especially with the big portals. You only need to enter 2-3 details and you immediately have the complete portfolio. You can sort it by any factor, you can set filters for what is important to you. It's just really easy to do from the sofa on the train.
Ribes Vicente, Guillermo 5:03 Ja. Und jetzt mal andersherum gefragt, warum buchen viele Menschen nicht direkt bei Hotels?	Ribes Vicente, Guillermo 5:03 Yes, and now let's ask the other way round, why don't many people book directly with hotels?
Interviewee 5:23 Es ist, glaube ich, die Bequemlichkeit.	Interviewee 5:23 I think it's the convenience.
Ribes Vicente, Guillermo 5:25 Ja.	Ribes Vicente, Guillermo 5:25 Yes.
Interviewee 5:26 Und dadurch verdient natürlich ein Mittelsmann zwischen drin mit, was über Umwege dann natürlich auch wieder hintenrum komplizierter macht, nicht für den Anwender.	Interviewee 5:26 And that of course means that a middleman earns money in the middle, which of course makes things more complicated at the back, not for the user.

Ribes Vicente, Guillermo 5:34 Ja, stimmt. Mittelsmann, perfektes Stichwort. Meine nächste Frage betrifft diese Mittelsmänner.	Ribes Vicente, Guillermo 5:34 Yes, that's right. Middleman, perfect keyword. My next question concerns these middlemen.
Interviewee 5:39 Nein.	Interviewee 5:39 No.
Ribes Vicente, Guillermo 5:41 Wie booking.com, Expedia. Also es geht um diese Art von Playern. Wie würdest du deren Marktmacht beschreiben, auf die Tourismusindustrie?	Ribes Vicente, Guillermo 5:41 Like booking.com, Expedia. So it's about these kind of players. How would you describe their market power on the tourism industry?
Interviewee 5:54 Ja, die ist enorm, alleine durch das Ranking. Und was wir im Moment erleben, wir führen ja gerade hier der Nachhaltigkeit, Zertifizierung ein. Bei booking.com kann ein Anbieter einfach von sich selbst behaupten, er ist nachhaltig und wird direkt besser gerankt, ohne jegliche Kontrolle. Das ist eine verdammte Marktmacht, die die ist brutal.	Interviewee 5:54 Yes, it's enormous, just because of the ranking. And what we are experiencing at the moment is that we are introducing sustainability certification. At booking.com, a provider can simply claim to be sustainable and is immediately ranked higher, without any control. That's bloody market power, it's brutal.
Ribes Vicente, Guillermo 6:16 Okay, dann danke, das war sehr deutliches Statement. Die anderen haben sich auch sehr zurückgehalten, aber das war ein deutliches Statement, sehr gut.	Ribes Vicente, Guillermo 6:16 Okay, thanks then, that was a very clear statement. The others were also very restrained, but that was a clear statement, very good.
Interviewee 6:20 Ja, und das führt dazu, dass dann Betriebe als nachhaltig gerankt bei Booking. Die Menschen kommen hierhin mit einer gewissen Erwartungshaltung, die nicht erfüllt wird und damit kriegt der, der sich für nachhaltig dort einstellt, ja auch direkt die Quittung in Form von negativen Bewertungen. Also das ganze Spiel geht nach hinten los.	Interviewee 6:20 Yes, and that leads to businesses being ranked as sustainable in booking. People come here with a certain expectation that isn't met and the person who advertises themselves as sustainable gets the receipt in the form of negative reviews. So the whole game backfires.
Ribes Vicente, Guillermo 6:42 Stimmt, tolles Beispiel, das war mir nicht klar, das Problem da sozusagen, aber es hat genau dein Thema. Deswegen finde ich es gut, Experten aus verschiedenen Themen zu haben. Den Punkt habe ich komplett noch nicht in meiner Arbeit. Super. Also wir sind im Thema Technologien und Buchungen. Da will ich gerade immer tiefer. Und hast du dich mit Technologien oder Schlüsseltechnologien auseinandergesetzt, die in Zukunft mehr Einfluss bekommen werden?	Ribes Vicente, Guillermo 6:42 Right, great example, I hadn't realised that, the problem there so to speak, but it has exactly your theme. That's why I think it's good to have experts from different subjects. I don't have that point in my work yet. Super. So we're on the subject of technologies and bookings. That's where I want to go deeper and deeper. And have you looked into technologies or key technologies that will become more influential in the future?
Interviewee 7:22 Ich habe auf jeden Fall schon diverse Beispiele in die Richtung gesehen, die ich spannend finde und über die ich auch schon mit unserem technischen Projektmanagement gesprochen habe, die wir definitiv einbauen wollen. Ein Beispiel ist zum Beispiel, auf das ich aufmerksam geworden bin, ist die Plattform Fly es. Flyer spock.com. Das ist Blockchain-basierte Flüge, wo es kein Mittelsmann gibt, wo komplette Transparenz ist, wo direkter Kontakt zwischen Passagier und Airline, angeblich keine Chance auf Fehlbuchung.	Interviewee 7:22 I have definitely already seen various examples in this direction that I find exciting and that I have already discussed with our technical project management team, which we definitely want to incorporate. One example that has caught my attention is the platform Fly es. Flyer spock.com. This is blockchain-based flights, where there is no middleman, where there is complete transparency, where there is direct contact between passenger and airline, supposedly no chance of incorrect booking.
Ribes Vicente, Guillermo 7:53 Na.	Ribes Vicente, Guillermo 7:53 Na.
Interviewee 7:59 Das ist ein super spannendes Projekt, das ich verfolge. Dann hatte Dubai ein cooles Projekt, das nennt sich Dubai Ten X Project. Das soll so eine Art wie Tobi Marktplatz werden, alles auch auf Blockchain basierend, wo auch dann Startups die Chance haben, sich direkt auf dem Markt zu etablieren. Und da gibt es dann halt diese komplette all-inclusive Blockchain-Lösung mit maßgeschneiderten Reisen, egal ob es ein Big Player oder kleiner Stadtführer ist. Das sind so spannende Projekte, wo wir dann versuchen, das für uns umzusetzen, wie können wir sowas nutzen? Und wir haben letztes Jahr den großen Wechsel von der klassischen Papier-Gästekarte.	Interviewee 7:59 That's a super exciting project that I'm following. Then Dubai had a cool project called the Dubai Ten X Project. It's supposed to be a kind of Tobi marketplace, also based on blockchain, where start-ups have the chance to establish themselves directly on the market. And then there's this complete all-inclusive blockchain solution with customised trips, regardless of whether it's a big player or a small city guide. These are such exciting projects where we then try to implement this for ourselves, how can we use something like this? And last year we made the big switch from the classic paper guest card.
Ribes Vicente, Guillermo 8:12	Ribes Vicente, Guillermo 8:12

Mhm.	Mmm.
Interviewee 8:44 Gekriegt zur digitalen Gästekarte. Die ist mittlerweile gut etabliert, aber die hat natürlich noch viel mehr Potenzial und wir integrieren gerade diese sogenannte Pia-Funktion, diesen Personal Interest Assistent.	Interviewee 8:44 Switched to the digital guest card. It's now well established, but of course it has a lot more potential and we're currently integrating this so-called Pia function, this Personal Interest Assistant.
Ribes Vicente , Guillermo 8:50 Mhm.	Ribes Vicente Guillermo 8:50 Mmm.
Interviewee 8:58 Und? Ja, da kann man natürlich schon sehr viel mit Besucherlenkung betreiben und nicht nur Besucherlenkung im Sinne von.	Interviewee 8:58 And? Yes, of course you can do a lot with visitor guidance and not just visitor guidance in the sense of.
Ribes Vicente, Guillermo 9:03 Ja.	Ribes Vicente, Guillermo 9:03 Yes.
Interviewee 9:09 Projektion von Menschenansammlungen, die zu bestimmten Zeitpunkten immer wieder auftreten und da dann mit gezielten Angeboten einige wegzulenken oder auch aus sensiblen Umweltbereichen wegzulenken. Sondern auch über die Standort-Funktion, dann so Gefahrenradar auszuspielen. Wir haben diesen riesengroßen Sandstrand, wo auch immer mal wieder eine Sturmflut oder ein höheres Hochwasser kommt. Da kann man Leben retten und man kann gleichzeitig auch die Einsätze von Feuerwehr, DLRG und sowas alles deutlich runterfahren. Also solche Funktionen alle einzubinden, wäre mit dieser Papierkarte niemals denkbar gewesen. Aber jetzt haben wir die digitale Gästekarte und die kann man so massiv noch erweitern. Auch Lenkung. Wir wissen ja wann die Hotspots sind, das sind bei schönem Wetter und tagsüber haben wir überhaupt keine Probleme. Der Strand ist so riesig, die verteilen sich.	Interviewee 9:09 Projecting crowds of people that repeatedly appear at certain times and then steering some away with targeted offers or steering them away from sensitive environmental areas. But also using the location function to play out hazard radar. We have this huge sandy beach, where a storm surge or high tide occurs from time to time. You can save lives there and at the same time significantly reduce the number of fire brigade and DLRG call-outs. Integrating all these functions would never have been possible with this paper map. But now we have the digital guest card and it can be massively expanded. Including guidance. We know when the hotspots are, that's when the weather is nice and we have no problems at all during the day. The beach is so huge, they are spread out.
Ribes Vicente, Guillermo 10:04 Mhm.	Ribes Vicente, Guillermo 10:04 Mmm.
Interviewee 10:05 Verbote und da dann gezielte Angebote zu streuen, nochmal auch vielleicht zeitlich zu differenzieren, das wäre eine super Option, die man noch einbinden kann. Oder auch einfach die Empfehlung, Randzeiten zu nutzen. Über ein monetäres Anreizsystem. Das bietet total viel Potenzial, so eine digitale Gästekarte und da versuchen wir halt immer zu gucken, ok, was passiert auf der ganzen großen Welt, mit technischem Fortschritt und wie können wir das für uns adaptieren?	Interviewee 10:05 Bans and then spreading targeted offers, perhaps differentiating again in terms of time, that would be a great option that could be incorporated. Or simply the recommendation to use off-peak times. Via a monetary incentive system. A digital guest card offers so much potential and we always try to see what's happening around the world with technological progress and how we can adapt it for ourselves.
Ribes Vicente, Guillermo 10:32 Super, da waren jetzt ganz tolle Informationen dabei. Ich komm tatsächlich nochmal zurück zu Blockchain. Es geht um Technologien. Ich sag mal, im Moment sind KI und Blockchain aktuell. Ich muss mir vor einem Jahr entscheiden, ob KI oder Blockchain. Da hab ich mich für Blockchain entschieden. KI ist natürlich noch aktuell, aber ist wie es ist. Genau dieses Fly. Es kenne ich tatsächlich nicht.	Ribes Vicente, Guillermo 10:32 Great, that was some great information. I'll actually come back to blockchain. It's about technologies. I'll say that AI and blockchain are hot at the moment. A year ago, I had to decide whether to use AI or blockchain. I decided in favour of blockchain. AI is still relevant, of course, but it is what it is. Exactly this Fly. I actually don't know it.
Interviewee 10:53 Hm.	Interviewee 10:53 Hm.
Ribes Vicente, Guillermo 11:01 Super, das muss ich mir angucken. Das geht genau in die Richtung, die ich forsche.	Ribes Vicente, Guillermo 11:01 Great, I'll have to have a look at that. That's exactly the direction I'm researching.
Interviewee 11:03 Mhm.	Interviewee 11:03 Mmm.
	Ribes Vicente, Guillermo 11:05

Ribes Vicente, Guillermo 11:05 Ich hab jetzt, ich musste Verständnisfragen stellen. Ist dir die Funktionsweise von Blockchain grundsätzlich bewusst?	I have now, I had to ask comprehension questions. Are you fundamentally aware of how blockchain works?
Interviewee 11:17 Nicht die volle technische Funktionsweise, aber ich weiß im Prinzip, dass da quasi jeder Block immer wieder angegangen wird. Das ist quasi unveränderbar. Es gibt keinen Informationsverlust. Das Ganze dezentralisiert, alle sind gleichberechtigt, alle haben immer stets die aktuellste Version. Kein Mittelsmann, direkte Transaktionen und ja, im Prinzip viel schnellere Abläufe, weniger Kosten bei gleicher oder höherer Qualität.	Interviewee 11:17 Not the full technical functionality, but I do know in principle that every block is started again and again. It's virtually unchangeable. There is no loss of information. The whole thing is decentralised, everyone has equal rights, everyone always has the latest version. No middleman, direct transactions and yes, in principle much faster processes, lower costs with the same or higher quality.
Ribes Vicente, Guillermo 11:41 Ja.	Ribes Vicente, Guillermo 11:41 Yes.
Interviewee 11:47 Und ja, Nachteile natürlich Strom- und Ressourcenverbrauch muss ich jetzt sagen, aus meiner Perspektive heraus, insbesondere bei der ganzen Validierung der Transaktionen.	Interviewee 11:47 And yes, disadvantages of course in terms of electricity and resource consumption, I have to say, from my perspective, especially with the whole validation of transactions.
Ribes Vicente, Guillermo 11:47 Mhm. Ja, genau. Hm.	Ribes Vicente, Guillermo 11:47 Mmm. Yes, exactly. Hm.
Interviewee 12:01 Ja, ich habe auch so ein Problem mit der Skalierbarkeit, also wenn man jetzt so, was an Visa-Buchungen gerade abgeht, wenn man das jetzt einfach mal umwandeln würde auf Blockchain. Der Speicheraufwand. Ich weiß nicht, wie skalierbar das ist, wie da die Technik hinterher kommt, die Hardwarelandschaft.	Interviewee 12:01 Yes, I also have a problem with scalability, i.e. if you look at what's happening with Visa bookings right now, if you were to simply convert that to blockchain. The storage effort. I don't know how scalable that is, how the technology will keep up, the hardware landscape.
Ribes Vicente, Guillermo 12:14 Ja. Genau. Spannende Fragen. Meine Doktorväter haben mich ausdrücklich gebeten, nicht über die praktische Umsetzung zu forschen, weil dann würde es also würde ich meinen Doktor jetzt alleine machen, wo der Theorie-Praxis-Transfer wichtig wäre. Dann wären wir praktische Anwendung am Ende, aber wir haben das komplett ausgeschlossen. Das sind mega Fragen und der Ressourcenverbrauch ist unfassbar, das ist ganz, ganz, ganz wichtiger Punkt. Deswegen vielleicht noch eine Ergänzung. Das Spannende ist, dass jeder Block.	Ribes Vicente, Guillermo 12:14 Yes, exactly. Exciting questions. My doctoral supervisors specifically asked me not to do research on practical , because then I would be doing my doctorate alone, where the theory-practice transfer would be important. Then we would end up with practical application, but we completely ruled that out. These are mega questions and the consumption of resources is unbelievable, that is a very, very, very important point. That's why I'd like to add one more thing. The exciting thing is that every block.
Interviewee 12:29 Okay.	Interviewee 12:29 Okay.
Ribes Vicente, Guillermo 12:51 Eine Codierung des vorherigen hat und dadurch wird es eine Kette, weil die Information wird übertragen und sobald man ein Glied rausnehmen, also ein Blockhaus nehmen würde, würden alle anderen dezentral sagen, was ist da kaputt? Das ist noch ein bisschen der Punkt und das Spannende ist dieses Prinzip hast du gerade vollkommen richtig beschrieben. Das wird bei uns in der Forschung als Blockchain 1.0 bezeichnet. Das ist so die Basis, wo ich sage das ist theoretisch 2008 entstanden. Wir sind faktisch jetzt in der zweiten Generation mit den sogenannten Smart Contracts. Hast du dich damit mal beschäftigt?	Ribes Vicente, Guillermo 12:51 has a coding of the previous one and that makes it a chain, because the information is transmitted and as soon as you take out a link, i.e. take out a blockhouse, everyone else would say in a decentralised way, what's broken there? That's a bit of the point and the exciting thing is that you've just described this principle quite correctly. We call it Blockchain 1.0 in research. That's the basis on which I say it was theoretically created in 2008. In fact, we are now in the second generation with smart contracts. Have you ever looked into that?
Interviewee 13:31 Unter dem Begriff sagt mir jetzt gerade nichts.	Interviewee 13:31 The term doesn't mean anything to me right now.
Ribes Vicente, Guillermo 13:34 Du hast ihn aber eben beschrieben. Das ist nämlich genau das was macht. Es ist letztlich eine Buchung also ich lese dir der Methodik habe einen ganz kurzen Text vor, weil alle müssen diesen so ich muss nämlich ein bisschen. Ein Smart Contract, intelligenter Vertrag ist im Grunde genommen ein digitaler Vertrag direkt zwischen zwei Nutzern, der automatisch ausgeführt wird, sobald Bedingungen erfüllt sind. Ohne Anwalt, Bank, Agentur oder jeglichen	Ribes Vicente, Guillermo 13:34 But you've just described it. That's exactly what it does. It's ultimately a booking, so I'm going to read you a very short text about the methodology, because everyone has to do this so I have to do a bit. A smart contract is basically a digital contract directly between two users that is automatically executed as soon as conditions are met. Without a lawyer, bank, agency or any

anderen Vermittler. Beispiel. Stellen sie sich vor, ein Kunde möchte ein Hotelzimmer buchen.

Interviewee 13:36
Okay. Ok. Ja.

Ribes Vicente, Guillermo 14:04
Anstatt eine Buchungsplattform als Vermittler zu verwenden, könnte er direkt mit dem Hotel über eine Blockchain-Plattform interagieren. Der Buchungsvorgang würde in einem intelligenten Vertrag auf der Blockchain festgehalten. In diesem Fall könnten Informationen wie Buchungsinformationen, Datum, Zimmerpreis, Zahlungsziel, Stornierung enthalten sein. Sowohl das Hotel als auch der Kunde können auf diese Operation intelligent angreifen und sicherstellen, dass diese unveränderlich und vertrauenswürdig sind. Das eliminiert das Risiko von Betrug und Manipulation. Und es braucht keinen Vermittler. Das mit Fly. Es kenne ich nicht, das ist genau das, wo ich herausfinden will, bei Experten. Wie wird das in Zukunft die Tourismusbranche verändern? Und jetzt würde ich dir gerne ein Schaubild zeigen und dann sagst du mir einfach so, du hast nämlich schon alles beantwortet, aber ich brauch das sozusagen nochmal, wenn du das Schaubild gesehen hast. Ich arbeite nicht mit Hypothesen, aber das ist so, dass die Basis ist dieses Schaubild.

Interviewee 15:08
Okay.

Ribes Vicente, Guillermo 15:21
Ballett und du verbindest es daneben mit einem Hotel und kannst natürlich auch dann sicher. Also es ist auch für die Anbieter wichtig, gegen Fake Reviews vorzugehen. Weil das ist dann in der Blockchain drin. Mein Thema hat einen furchtbar langen Titel, also Blockchain-based distributed Ledger for smart payment contract and reviews. Status quo, genau wie du eben beschrieben hast. Das haben viele Experten gesagt, die Bequemlichkeit ist ein großer Punkt und eben das rechte Schaubild der mögliche.

Interviewee 16:25
Noch seh ich nichts.

Ribes Vicente, Guillermo 16:26
Oh tatsächlich nicht.

Interviewee 16:28
Ne, ich sehe nur unsere Kameras.

Ribes Vicente, Guillermo 16:29
Okay. Er behauptet, er hätte es dir geteilt. Ich mach nochmal aus und an.

Interviewee 16:37
Ja.

Ribes Vicente, Guillermo 16:39
Da bin ich sogar extra mit schnellem Hotel-WLAN.

Interviewee 17:01
Nee.

Ribes Vicente, Guillermo 17:03
Dann machen wir es anders, dann mach ichs lokal auf und spiegel einfach mein Bildschirm.

Interviewee 17:08
Oder so.

Ribes Vicente, Guillermo 17:10
So. Oder im Zweifel schnell per E-Mail oder irgendwie so.

other intermediary. Example. Imagine a customer wants to book a hotel room.

Interviewee 13:36
Okay. Okay. Yes.

Ribes Vicente, Guillermo 14:04
Instead of using a booking platform as an intermediary, he could interact directly with the hotel via a blockchain platform. The booking process would be recorded in a smart contract on the blockchain. In this case, information such as booking information, date, room price, payment term, cancellation could be included. Both the hotel and the customer can intelligently access this operation and ensure that it is immutable and trustworthy. This eliminates the risk of fraud and manipulation. And there is no need for an intermediary. That with Fly. I don't know, that's exactly what I want to find out from experts. How will this change the tourism industry in the future? And now I'd like to show you a diagram and then you just tell me, because you've already answered everything, but I need it again, so to speak, once you've seen the diagram. I don't work with hypotheses, but the basis is this diagram.

Interviewee 15:08
Okay.

Ribes Vicente, Guillermo 15:21
Ballet and you combine it with a hotel next to it and then of course you can safely. So it's also important for the providers to take action against fake reviews. Because that's then in the blockchain. My topic has an awfully long title: Blockchain-based distributed ledger for smart payment contract and reviews. Status quo, exactly as you just described. A lot of experts have said that convenience is a big point and the right diagram is the possible one.

Interviewee 16:25
I don't see anything yet.

Ribes Vicente, Guillermo 16:26
Oh actually not.

Interviewee 16:28
No, I can only see our cameras.

Ribes Vicente, Guillermo 16:29
Okay. He claims he shared it with you. I'll switch it off and on again.

Interviewee 16:37
Yes.

Ribes Vicente, Guillermo 16:39
I'm even there with fast hotel WiFi.

Interviewee 17:01
Nope.

Ribes Vicente, Guillermo 17:03
Then we'll do it differently, I'll open it locally and just mirror my screen.

Interviewee 17:08
Or like this.

Ribes Vicente, Guillermo 17:10

Ribes Vicente, Guillermo 17:14 Genau das. So Schaubild PPT. Ich war so glücklich, weil bis jetzt Teams hat. So, es ist nie irgendwas schief gegangen, aber irgendwas ist ja immer.	Or, if in doubt, quickly by e-mail or something. Ribes Vicente, Guillermo 17:14 Exactly that. So chart PPT. I was so happy because until now teams has. So, nothing has ever gone wrong, but something always does.
Interviewee 17:31 Eigentlich finde ich Teams auch recht gut.	Interviewee 17:31 I actually think teams are pretty good too.
Ribes Vicente, Guillermo 17:33 Also ich bin nicht völlig begeistert, aber es wird immer besser.	Ribes Vicente, Guillermo 17:33 Well, I'm not completely thrilled, but it's getting better and better.
Interviewee 17:34 Ja. Da tut sich was.	Interviewee 17:34 Yes, something is happening.
Ribes Vicente, Guillermo 17:42 Da tut sich was und dann jetzt. Siehst du jetzt das Schaubild?	Ribes Vicente, Guillermo 17:42 Something is happening and then now. Can you see the diagram now?
Interviewee 17:52 Also ich sehe einen komplett weißen Screen.	Interviewee 17:52 I see a completely white screen.
Ribes Vicente, Guillermo 17:54 Das ist krass. So.	Ribes Vicente, Guillermo 17:54 That's blatant. Like this.
Interviewee 18:06 Jetzt seh ich jetzt jetzt sehe ich tatsächlich dein Teams Bildschirm.	Interviewee 18:06 Now I can actually see your team screen.
Ribes Vicente, Guillermo 18:11 Okay. Schön. So jetzt.	Ribes Vicente, Guillermo 18:11 Okay, nice. There we go.
Interviewee 18:26 Jetzt seh ich.	Interviewee 18:26 Now I can see.
Ribes Vicente, Guillermo 18:27 Gut, das ist, ich habe einfach den ganzen Bildschirm geteilt. Oben links Introduction, da beschreibe ich eben so Blockchain-based distributed Ledger for Smart Reviews. Links der Status quo, das hast du ja selber gesagt, die Bequemlichkeit ist ein großer Punkt. Und eben das rechte Schaubild der mögliche.	Ribes Vicente, Guillermo 18:27 Well, that's, I just split the whole screen. At the top left introduction, I'm describing blockchain-based distributed ledger for smart reviews. On the left, the status quo, as you said yourself, convenience is a big point. And the diagram on the right shows the potential.
Interviewee 18:49 Mhm.	Interviewee 18:49 Mhm.
Ribes Vicente, Guillermo 18:53 Einfluss, weil immer mehr Forscher sagen, Blockchain an sich als Technologie setzt sich in immer mehr Branchen durch. Wenn wir das auf den Tourismus projizieren, das tue ich, könnten wir sagen, dass es einen massiven Einfluss haben könnte. Was denkst du, kann das also passieren?	Ribes Vicente, Guillermo 18:53 Influence, because more and more researchers are saying that blockchain as a technology is becoming established in more and more sectors. If we project that onto tourism, which I do, we could say that it could have a massive impact. So what do you think could happen?
Interviewee 19:18 Absolut, das sehe ich total. Speziell wenn wir die ganze technische Umsetzung erstmal ausblenden, dann definitiv.	Interviewee 19:18 Absolutely, I can totally see that. Especially if we ignore the whole technical realisation for now, then definitely.
Ribes Vicente, Guillermo 19:26 Ja. Gut.	Ribes Vicente, Guillermo 19:26 Yes, good.
Interviewee 19:29 Also es gibt diese Plattform ja schon, die findet man natürlich nur, wenn man gezielt danach sucht oder man findet sie nicht, weil diese Technik einfach im Hintergrund angewendet wird. Als ich das Thema gelesen hab, habe ich direkt Winding Tree gefunden. Das sagt dir mit Sicherheit was.	Interviewee 19:29 So this platform already exists, but of course you only find it if you search for it specifically or you don't find it because this technology is simply used in the background. When I read the topic, I immediately found Winding Tree. That will certainly tell you something.
Ribes Vicente, Guillermo 19:35	

Ja. Ja, ich weiß, aber hatten die das schon wieder eingestellt? Es gibt so viele Projekte, aber ich bin auf die Seite gegangen und hatte nicht den Eindruck, dass das wirklich läuft. Schreibst du mir nochmal auf? Was hast du denn noch gefunden?	Ribes Vicente, Guillermo 19:35 Yes. Yes, I know, but had they already cancelled it? There are so many projects, but I went to the site and didn't get the impression that it was really up and running. Will you write to me again? What else did you find?
Interviewee 20:23 Also Winding Tree, dann Fly S und aus Estland DeskBell.	Interviewee 20:23 So Winding Tree, then Fly S and from Estonia DeskBell.
Ribes Vicente, Guillermo 20:26 Ja. DeskBell.	Ribes Vicente, Guillermo 20:26 Yes, DeskBell.
Interviewee 20:30 Das soll wohl auch eine App sein, die auf der ganzen Blockchain-Technologie basiert mit dem Ziel, Hotels und Gäste besser zu vernetzen. Dass weitere Services angeboten werden. Hinweise auf Events und umliegende Lokalitäten und all sowas und eben alles auf direkten Weg. Dadurch sparen Sie sich die Vermittlungsgebühr und können dem Gast sogar Rabatte für direkte Buchung und sowas alles geben.	Interviewee 20:30 That's also supposed to be an app based on the whole blockchain technology with the aim of better connecting hotels and guests. That further services are offered. Information on events and neighbouring locations and all that sort of thing, and everything directly. This saves you the agency fee and you can even give the guest discounts for direct bookings and all that sort of thing.
Ribes Vicente, Guillermo 20:57 Mega, ich gucke nochmal nach, ob das in meiner Liste drin ist, weil ich muss jetzt auch schnell mit meiner Doktorarbeit fertig werden. Ich merke, dass da was passiert. Wenn ich 2 Monate nicht nach Plattformen geguckt habe oder Anwendungen, ist ja schon eine neue da. Super, danke für die Tipps. Du hast auch sehr deutlich gesagt, dass du dir das als Einfluss vorstellen kannst. Was wären denn Faktoren, die sozusagen den Einfluss vergrößern würden, also dass es schneller und größer wird und was wären Faktoren, die das eher behindern würden?	Ribes Vicente, Guillermo 20:57 Mega, I'll check again to see if that's in my list, because I have to finish my dissertation quickly now. I realise that something is happening. If I haven't looked at platforms or applications for 2 months, there's already a new one. Great, thanks for the tips. You also said very clearly that you can imagine this as an influence. What would be factors that would increase the influence, so to speak, so that it becomes faster and bigger and what would be factors that would rather hinder it?
Interviewee 21:41 Ja also, es braucht erstmal Akzeptanz und Vertrauen. Das ist, glaube ich, ein ganz wichtiger Faktor. Und auch Verständnis und Wissen. Es geht ja so ein bisschen ineinander über: Verständnis, Wissen, Akzeptanz, Vertrauen.	Interviewee 21:41 Yes, it needs acceptance and trust first. I think that's a very important factor. And also understanding and knowledge. It goes a bit one into the other: Understanding, knowledge, acceptance, trust.
Ribes Vicente, Guillermo 21:59 Mhm.	Ribes Vicente, Guillermo 21:59 Mhm.
Interviewee 22:02 Er kann man dazu schon Datenethik sagen, also Vertrauen in die Daten.	Interviewee 22:02 You could call it data ethics, trust in the data.
Ribes Vicente, Guillermo 22:08 Ja.	Ribes Vicente, Guillermo 22:08 Yes.
Interviewee 22:11 Was gespeichert wird, unveränderbar. Ne das ist auch und generell einfach Vertrauen in diese ganze Komplexität dahinter.	Interviewee 22:11 What is stored, unchangeable. No, that's also and generally simply trust in all this complexity behind it.
Ribes Vicente, Guillermo 22:21 Mhm Datenethik ist ein tolles Wort, auf jeden Fall.	Ribes Vicente, Guillermo 22:21 Mhm Data ethics is a great word, definitely.
Interviewee 22:22 Und? Was war der zweite Teil der Frage?	Interviewee 22:22 So, what was the second part of the question?
Ribes Vicente, Guillermo 22:31 Was wären Faktoren, die den Einfluss behindern würden, also was würdest du sagen?	Ribes Vicente, Guillermo 22:31 What would be factors that would hinder influence, so what would you say?
Interviewee 22:45 Ja, im Prinzip natürlich der technische Fortschritt, Verfügbarkeit von Ressourcen auf allen Bereichen, sei es Strom, sei es Datenspeicherung, runtergebrochen bis seltene Erden.	Interviewee 22:45 Yes, in principle, of course, technical progress, availability of resources in all areas, be it electricity, be it data storage, broken down to rare earths.
Ribes Vicente, Guillermo 22:56 Mhm.	Ribes Vicente, Guillermo 22:56 Mhm.

Interviewee 23:00 Ich überleg grad noch, ob es da rein passt. Natürlich auch das Thema Fachkräfte, Menschen, Personal der ganze Wandel des Arbeitsmarkts. Man braucht ja im Prinzip in jeder Branche trotzdem also das reicht jetzt nicht, wenn wir jetzt ganz viele IT-Leute haben. Das muss ja schon branchenspezifisch dann auch funktionieren. Und das ganze Thema Fachkräfte würde ich da auch mit reinnehmen, diese Problematik.	Interviewee 23:00 I'm still thinking about whether it fits in there. Of course, the topic of skilled workers, people, personnel, the whole change in the labour market. In principle, you still need people in every industry, so it's not enough if we have a lot of IT people now. It has to work in a sector-specific way. And I would also include the whole issue of skilled labour, this problem.
Ribes Vicente, Guillermo 23:25 Schön, hab ich bis jetzt noch nicht gehabt. Ein toller neuer Punkt, definitiv klar, hab ich mir offen gesagt auch noch keine Gedanken drüber gemacht, aber dafür hab ich ja meine Experten, die auf neue Ideen kommen. Super, ja Fachkräfte.	Ribes Vicente, Guillermo 23:25 Nice, I haven't had that yet. A great new point, definitely clear, frankly I haven't thought about it either, but that's why I have my experts who come up with new ideas. Great, yes experts.
Interviewee 23:36 Ja, ich finde ich, ich bin da gerade in dem Thema drin, hier wird ja ganz in der Nähe diese Oswald-Fabrik gebaut. Diese schwedische Batteriefabrik und die haben auf einen Schlag mal eben 3000 Jobs ausgeschrieben.	Interviewee 23:36 Yes, I think I'm in the middle of it, this Oswald factory is being built very close by. This Swedish battery factory and they've just advertised 3000 jobs in one fell swoop.
Ribes Vicente, Guillermo 23:46 Wow, das ist krass ja, aber die dann auch zu besetzen, kommen die aus Deutschland oder aus der ganzen Welt?	Ribes Vicente, Guillermo 23:46 Wow, that's amazing, but then to fill them, do they come from Germany or from all over the world?
Interviewee 23:47 Mhm. Ja. Genau, und das ist das ja, wenn Technologien exponentiell wachsen, dann gibt es auf einmal ganz viele Jobs, aber es gibt eben die Leute dafür nicht.	Interviewee 23:47 Mhm. Yes. Exactly, and that's the thing, when technologies grow exponentially, there are suddenly a lot of jobs, but there just aren't the people for them.
Ribes Vicente, Guillermo 24:02 Das ist ein ganz spannender Punkt, den hab ich wirklich komplett noch nicht beachtet.	Ribes Vicente, Guillermo 24:02 That's a very interesting point, I really haven't considered it at all.
Interviewee 24:10 Ja und diese Kombination aus IT plus Branchenkenntnis in dem Moment.	Interviewee 24:10 Yes, and this combination of IT plus industry knowledge at that moment.
Ribes Vicente, Guillermo 24:14 Mhm. Ja. Definitiv ja, sehr gut.	Ribes Vicente, Guillermo 24:14 Mmm. Yes. Definitely yes, very good.
Interviewee 24:20 Ja, und natürlich im Prinzip, dann ist, was ich eben als Vorteil genannt habe, auch gleichzeitig ein Nachteil. Die gesellschaftliche Akzeptanz von solchen Lösungen, aber im Prinzip ändert sich ja nicht viel für den, der bucht. Es ist ja eigentlich nur die Hintergrundtechnologie und wer es dann am Ende marketingtechnisch gut verkaufen kann, der verkauft wahrscheinlich auch noch als "wir sparen uns die Zwischenplattformen und geben den ersparten Betrag auch noch weiter."	Interviewee 24:20 Yes, and of course in principle, what I've just mentioned as an advantage is also a disadvantage. The social acceptance of such solutions, but in principle not much changes for those who book. It's really just the background technology and whoever can sell it well in terms of marketing at the end will probably also sell it as "we'll save ourselves the intermediate platforms and pass on the amount saved."
Ribes Vicente, Guillermo 24:47 Genau, jetzt muss ich aber noch mal nachfragen, der gesellschaftliche Einfluss, ist es einfach nur Neuer, der eine macht's, der andere nicht?	Ribes Vicente, Guillermo 24:47 Exactly, but now I have to ask again, the social influence, is it just new, one does it, the other doesn't?
Interviewee 24:49 Ja.	Interviewee 24:49 Yes.
Ribes Vicente, Guillermo 24:58 Ist das der Gesellschaft also? Oder gibt's da vielleicht noch mehr?	Ribes Vicente, Guillermo 24:58 So is that society? Or is there perhaps something more?
Interviewee 25:06 Naja, es ist einmal. Die gesellschaftliche Akzeptanz dieser Datensammlung im Hintergrund von der Technologie, wenn man darüber Bescheid weiß. Aber auch die gesellschaftliche Akzeptanz in Richtung, dass diese ganzen Mittelsmänner auf einmal überflüssig werden.	Interviewee 25:06 Well, it is once. The social acceptance of this data collection in the background of the technology, if you know about it. But also the social acceptance that all these middlemen will suddenly become superfluous.

Ribes Vicente, Guillermo 25:28 Ja. Genau, das ist nämlich der Punkt, das werd ich in meiner Arbeit nicht weiter beleuchten, das vielleicht beim nächsten Paper. Das könnte tatsächlich ein Thema sein. Gesellschaftlicher Impact bei Blockchain, da rührt noch keiner dran. Ein Forscher hat ein tolles Wort gesagt: Blockchain ist die mögliche Demokratisierung des Internets. Wir haben in den Sechzigern mit dem Internet angefangen, um Menschen zu verknüpfen, und jetzt sind überall Gatekeeper, nämlich diese Milliardenunternehmen, die das Internet sozusagen übernommen haben, und wir bezahlen noch mit unseren Daten. Das ist ein, das ist ein Ried und Datenethik, das Wort, das ist super. Das ist genau der Punkt. Datenethik und Blockchain, das ist ein Riesenthema. Ich werde das zwar am Rand streifen, weil ich fokussiert bleibe, aber das ist toll.	Ribes Vicente, Guillermo 25:28 Yes, exactly, that's the point, I'm not going to go into that in my work, maybe in the next paper. That could actually be a topic. The social impact of blockchain, nobody is touching that yet. One researcher said a great thing: blockchain is the potential democratisation of the internet. We started the internet in the 1960s to connect people, and now there are gatekeepers everywhere, namely these billion-dollar companies that have taken over the internet, so to speak, and we are still paying with our data. That's a, that's a reed and data ethics, the word, that's great. That's exactly the point. Data ethics and blockchain, that's a huge topic. I'm going to touch on it in the margins because I'm staying focussed, but it's great.
Interviewee 26:11 Mhm. Ja, aber das gesellschaftliche Thema. Wir hatten letztens einen Future TI Workshop, da ging es um die Touristen-Infos. Wie entwickelt sich das ganze Geschäft? Brauchst du das überhaupt noch? Das ist auch ein Riesenthema, weil die Leute kommen ja, das haben wir vor ein paar Jahren schon gesagt, informiert wie nie in die Destinationen und wissen eigentlich genau, was sie wollen.	Interviewee 26:11 Mhm. Yes, but the social issue. We recently had a Future TI workshop, which was about tourist information centres. How is the whole business developing? Do you still need it at all? That's also a huge issue because, as we said a few years ago, people come to the destinations better informed than ever and actually know exactly what they want.
Ribes Vicente, Guillermo 26:47 Ja.	Ribes Vicente, Guillermo 26:47 Yes.
Interviewee 26:48 Trotzdem muss man sagen. Unabhängig von Altersstrukturen. Unsere sind weiter rappelvoll. Sie wollen andere Informationen als vor 10 Jahren, ganz klar, aber sie sind immer noch rappelvoll, da kann man keine einzige Personalstelle einsparen. Deshalb, Tourismus ist irgendwie immer noch ein Bereich, wo die zwischenmenschlichen Beziehungen und die persönliche Beratung ein ganz relevanter Punkt sind.	Interviewee 26:48 Nevertheless, you have to say. Regardless of age structures. Ours are still full to bursting. They want different information than 10 years ago, of course, but they're still full to bursting, you can't cut a single staff position. That's why tourism is somehow still an area where interpersonal relationships and personal advice are very relevant.
Ribes Vicente, Guillermo 26:56 Mhm. Toller Satz.	Ribes Vicente, Guillermo 26:56 Mmm. Great sentence.
Interviewee 27:13 Das kann. Auch beim Thema Wegfall der Mittelsmänner. Wer ist der direkte Ansprechpartner? Ich kann ja nicht mehr bei Booking einfach sagen, storniere. Ich kann es wahrscheinlich auf einer Plattform, die das dann direkt mit dem Hotel macht, nur dieses Vertrauen in dieser Einfachheit, wie sie jetzt da ist, wenn es auf einmal heißt booking.com gibt es nicht mehr. Im Idealfall nutzt Booking einfach diese Technologie und man merkt das als Anwender vielleicht nicht mal, aber wie will man dann Geld verdienen? Da muss man sich ja ein ganz neues Geschäftsmodell überlegen.	Interviewee 27:13 That can be. Also on the subject of cutting out the middlemen. Who is the direct contact person? I can no longer simply say cancel at Booking. I can probably do it on a platform that does it directly with the hotel, but there is no longer this trust in the simplicity that is there now when it's suddenly booking.com. Ideally, Booking would simply use this technology and the user might not even realise it, but how would they then earn money? You'd have to come up with a whole new business model.
Ribes Vicente, Guillermo 27:25 Ja. Genau, also mein Vorschlag wäre, das soll ich aber in meiner Arbeit nicht bearbeiten, da würd ich dann gerne gleich noch 5 Minuten darauf antworten, das ist nämlich mega spannend. Hast du denn sonst noch zum Thema Blockchain im Tourismus noch eine Idee, die du mit uns teilen möchtest? In 3-4 Wochen werde ich nochmal auf dich zurückkommen, nochmal so einen 5 Minuten Call, wo die aggregierten Ergebnisse von den anderen Experten bekommst und dann kannst du auch sagen, mir ist was eingefallen oder?	Ribes Vicente, Guillermo 27:25 Yes, exactly, so my suggestion would be, but I shouldn't work on that in my thesis, I'd like to spend another 5 minutes on it, because it's really exciting. Do you have any other ideas on the topic of blockchain in tourism that you would like to share with us? I'll come back to you in 3-4 weeks, another 5-minute call where I'll get the aggregated results from the other experts and then you can say I've come up with something, right?
Interviewee 28:01 Hey.	Interviewee 28:01 Hey.
Ribes Vicente, Guillermo 28:20 Ich habe meine Meinung geändert, aber wenn du jetzt noch etwas sagen möchtest.	Ribes Vicente, Guillermo 28:20 I've changed my mind, but if you want to say something now.
Interviewee 28:27 Spontan fällt mir gerade nichts ein.	Interviewee 28:27 I can't think of anything off the top of my head. Ribes Vicente, Guillermo stopped transcription

Ribes Vicente, Guillermo stopped transcription	

Bilingual Interview Transcript Interviewee 6

Austausch mit Guillermo Ribes (PhD cand.)-20230623_162357-Meeting Recording 32m 41s	Exchange with Guillermo Ribes (PhD cand.)-20230623_162357-Meeting Recording 32m 41s
Ribes Vicente, Guillermo 0:05 Und ich sehne mich schon, die Transkription ist perfekt. Du musst nur vorher sagen, in welcher Sprache du redest, dann hast du direkt ganz, ganz deutsch. Genau, so hatte ich das unter auf Deutsch. Ja, prima, dann stell dich mal kurz vor, also es geht nicht um Namen, sondern um deine Position.	Ribes Vicente, Guillermo 0:05 And I'm already longing, the transcription is perfect. You just have to say beforehand what language you're speaking in, then you'll have all, all German. Exactly, that's how I had it in German. Yes, great, then introduce yourself briefly, so it's not about names, but about your position.
Interviewee 0:11 Deutsch. Genau, ich bin tätig als Senior Consultant Hotelservices für ein deutsches Maklerhaus.	Interviewee 0:11 German. Exactly, I work as a Senior Consultant Hotel Services for a German estate agent.
Ribes Vicente, Guillermo 0:33 Ja perfekt. Prima, also danke, dass du Zeit gefunden hast. Wie gesagt, mir geht jetzt ein paar Fragen durch und einfach, was dir dazu einfällt und meine Einstiegsfrage dazu ist immer: Wie bewertest du den Einfluss von Informationstechnologien auf die Vermittlung von Dienstleistungen, zum Beispiel Hotelbuchungen? Den Einfluss generell von Technologien, auch gerne in die Vergangenheit geschaut, wie war der Impact dieser Technologien auf unsere Branche?	Ribes Vicente, Guillermo 0:33 Yes, perfect. Great, thanks for finding the time. As I said, I'm going to go through a few questions and just see what you can think of and my initial question is always: How do you rate the influence of information technologies on the provision of services, for example hotel bookings? The influence of technologies in general, also looking back into the past, what was the impact of these technologies on our industry?
Interviewee 1:07 Mhm. Ich würde mal sagen, dass wesentlich mehr Anbieter die Chance bekommen haben, ihre Dienstleistungen an den Markt zu bringen, überhaupt verkaufen zu können. Also Beispiel: Der Landgasthof war angewiesen auf die Leute, die in der Nähe wohnen, mittlerweile, wenn der Landgasthof investiert, ein bisschen hipper wurde, hätte der ohne die Informationstechnologie wahrscheinlich Schwierigkeiten gehabt, überregional, national Gäste anzusprechen. Also vielleicht kann man das subsumieren unter dem Punkt Bekanntheitsgrad. Viele andere Worte stimmen wahrscheinlich auch. Aber das ist das Erste, was mir einfällt. Zweites Thema: Preispolitik. Preise sind einerseits transparenter geworden, was ein Nachteil sein kann für den Anbieter, auf der anderen Seite auch ein großer Vorteil, da eben so überhaupt begonnen werden konnte, dynamische Preise zu haben. Das war jetzt, wenn ich es vergleiche mit früher, auch nicht so. Und wenn ich jetzt noch mal aus der anderen Brille gucke, also weg vom Anbieter, jetzt aus der Konsumentensicht: Größere Transparenz: Was gibt es wo, wo kann ich hinreisen? Ich kann dadurch neue Destinationen finden oder in einer bestimmten Destination neue Anbieter finden. Und ich kann wesentlich schneller buchen.	Interviewee 1:07 Mhm. I would say that many more providers have been given the opportunity to bring their services to the market, to be able to sell them at all. For example: the country inn was reliant on people who lived nearby, but now, when the country inn has invested and become a bit more hip, it would probably have had difficulties attracting guests on a national, supra-regional level without information technology. So perhaps that can be subsumed under the heading of brand awareness. Many other words are probably also true. But that's the first thing that comes to mind. Second topic: pricing policy. On the one hand, prices have become more transparent, which can be a disadvantage for the provider, but on the other hand it can also be a great advantage, as this is how we were able to start having dynamic prices in the first place. If I compare it with the past, that wasn't the case either. And if I look at it from the other perspective, i.e. away from the provider, now from the consumer's point of view: greater transparency: what is available where, where can I travel? I can find new destinations or find new providers in a particular destination. And I can book much faster.
Ribes Vicente, Guillermo 2:35 Hallo. Mhm, ja super. Wenn du jetzt überlegst, so unsere Branche, also Hotellerie und Tourismus, der Einfluss, den Informationstechnologien auf unsere Branche gehabt haben, so im Vergleich zu anderen Branchen, hast du da eine Meinung zu?	Ribes Vicente, Guillermo 2:35 Hi, mmm, great. When you think about our industry, the hotel and tourism industry, the influence that information technology has had on our industry compared to other industries, do you have an opinion on that?
Interviewee 2:51 Das funktioniert langsamer als in anderen Branchen.	Interviewee 2:51 It works more slowly than in other sectors.
Ribes Vicente, Guillermo 2:54 Ja, okay.	Ribes Vicente, Guillermo 2:54 Yes, okay.
Interviewee 2:58 Leider, das ist das erste, was mir einfällt.	Interviewee 2:58 Unfortunately, that's the first thing that comes to mind.
Ribes Vicente, Guillermo 3:00 Ja.	Ribes Vicente, Guillermo 3:00 Yes.
Interviewee 3:03 Es gibt sicherlich noch andere, die auch eher langsamer damit klarkommen, aber die Hotellerie, Gastronomie, Tourismus zählen halt irgendwie dazu. Ich glaube, es ist noch nicht angekommen, dass wir es zu 100% nutzen. Wir verlassen uns immer noch sehr auf analoge Techniken. Also die Digitalisierung, gerade nicht, wahrscheinlich sogar 50%, gefühlte Wahrheit, ja.	Interviewee 3:03 There are certainly others who are slower to come to terms with it, but the hotel, catering and tourism industries are somehow part of it. I don't think it's sunk in yet that we're using it 100%. We still rely heavily on analogue technologies. So digitalisation, just not, probably even 50%, perceived truth, yes.
Ribes Vicente, Guillermo 3:36 Sehr gut. Wie gesagt, das Gute ist, wenn dir später noch was einfällt, wir machen ja noch ein Meeting und dann kannst du zu den aggregierten Aussagen noch etwas hinzufügen. Aber da waren schon ein paar spannende Sachen dabei. Wenn wir jetzt auf die Informationstechnologie gucken, da	Ribes Vicente, Guillermo 3:36 Very good. As I said, the good thing is, if you think of something later, we'll have another meeting and then you can add something to the aggregated statements. But there were a few exciting things in there. If we now look at information technology, there were also some positive things. Can you also think of any negative impacts of information technology on tourism and the hotel industry?

waren ja auch positive Sachen dabei. Fallen dir auch negative Impact von Informationstechnologien für Tourismus und Hotellerie ein?	
Interviewee 3:46 Mhm. Ja. Mhm. Mhm.	Interviewee 3:46 Mhm. Yes. Mhm. Mhm.
Ribes Vicente, Guillermo 4:09 Spontan?	Ribes Vicente, Guillermo 4:09 Spontaneously?
Interviewee 4:14 Spontan nicht, aber mir fallen gleich bestimmt welche ein. Mhm, spontan nicht. Also ich müsste jetzt wirklich ein bisschen grübeln.	Interviewee 4:14 Not spontaneously, but I'm sure I can think of some in a minute. Mhm, not spontaneously. I'd really have to think about it a bit.
Ribes Vicente, Guillermo 4:26 Okay, hier muss keiner grübeln, es sollte einfach ein lockeres Gespräch sein. Dann biegen wir mal ab: Wie siehst du denn zum Beispiel die Macht der Vermittler wie booking.com, HRS, diese Vermittlungsplattformen? Stichwort Marktmacht.	Ribes Vicente, Guillermo 4:26 Okay, nobody has to ponder here, it should just be a relaxed conversation. Let's take a turn: how do you see the power of intermediaries like booking.com, HRS, these intermediary platforms? Keyword market power.
Interviewee 4:28 Ja. Ja. Ja, okay. Ja, das ist tatsächlich einer der großen Punkte. Hängt so ein bisschen zusammen mit dem Bekanntheitsgrad. Wenn ich jetzt eben unbekannt bin, dann bin ich fast gezwungen, mich einem von den Großen anzuschließen. Wenn ich das nicht tue, habe ich vielleicht 200% der Rate für mich, aber ich würde weniger buchen. Im Zweifel bin ich also fast gezwungen, wenn ich nicht super bekannt bin wie B&B, die irgendwie ihre eigene Plattform aufgebaut haben. Mich den Bookings dieser Welt anzuschließen, und das kostet dann halt irgendwie 15 bis 30%, je nachdem wo ich bin.	Interviewee 4:28 Yes, yes. Yes, okay. Yes, that's actually one of the big issues. It's a bit to do with how well known you are. If I'm unknown now, then I'm almost forced to join one of the big ones. If I don't do that, I might have 200% of the rate to myself, but I would book less. So when in doubt, I'm almost forced to if I'm not super well known like B&B, who have somehow built their own platform. I have to join the bookings of this world, and that somehow costs 15 to 30%, depending on where I am.
Ribes Vicente, Guillermo 5:31 Mhm.	Ribes Vicente, Guillermo 5:31 Mmm.
Interviewee 5:37 Und dem ist man irgendwie ausgeliefert, ja.	Interviewee 5:37 And you're kind of at the mercy of that, yes.
Ribes Vicente, Guillermo 5:40 Mhm, ja.	Ribes Vicente, Guillermo 5:40 Mhm, yes.
Interviewee 5:40 Das ist ein riesen Vorteil für den Kunden, weil er hat auf einer Plattform fast alles, augenscheinlich alles.	Interviewee 5:40 That's a huge advantage for the customer, because they have almost everything, apparently everything, on one platform.
Ribes Vicente, Guillermo 5:47 Ja.	Ribes Vicente, Guillermo 5:47 Yes.
Interviewee 5:50 Und kann vergleichen. Und einige wenige Spitzfindige gucken auf Booking, buchen dort und rufen dann im Hotel an und sagen, Hey komm, wir teilen uns die Differenz.	Interviewee 5:50 And can compare. And a few clever people look on Booking, book there and then call the hotel and say, hey come on, we'll split the difference.
Ribes Vicente, Guillermo 6:05 Ja, spannend. Lass es genau dabei bleiben. Warum buchen Menschen überhaupt bei Buchungsplattformen?	Ribes Vicente, Guillermo 6:05 Yes, exciting. Let's leave it at that. Why do people book on booking platforms in the first place?
Interviewee 6:08 Okay.	Interviewee 6:08 Okay.
Ribes Vicente, Guillermo 6:16 Warum?	Ribes Vicente, Guillermo 6:16 Why?
Interviewee 6:17 Einfach.	Interviewee 6:17 Simple.
Ribes Vicente, Guillermo 6:18 Einfach?	Ribes Vicente, Guillermo 6:18 Simple?
Interviewee 6:19 Es ist einfacher.	Interviewee 6:19 It's easier.
Ribes Vicente, Guillermo 6:21 Ja, genau.	Ribes Vicente, Guillermo 6:21 Yes, exactly.
Interviewee 6:22 Wesentlich einfacher. Man kann buchen, vergleichen, stornieren. Ich kriege vielleicht noch einen Gutschein.	Interviewee 6:22 Much easier. You can book, compare, cancel. I might even get a voucher.
Ribes Vicente, Guillermo 6:29 Warum glaubst du, dass der Markt diese Buchungsplattformen braucht, warum bucht man nicht bei den Hotels selber? Das war nicht genau deine spitzfindige Bemerkung. Ich finde gar nicht spitzfindig.	Ribes Vicente, Guillermo 6:29 Why do you think the market needs these booking platforms, why don't people book with the hotels themselves? That wasn't exactly your sophistical remark. I don't think it's sophistry at all.
Interviewee 6:48	Interviewee 6:48

Mhm. Warum die gekommen sind oder warum wir die wahrscheinlich brauchen?	Mhm. Why did they come or why we probably need them?
Ribes Vicente, Guillermo 6:54 Nee also, wenn du jetzt überlegst, wieso der Buchungsprozess bei Hotels ohne Buchungsplattformen ist, also gut oder schlecht, was ist deine Meinung dazu?	Ribes Vicente, Guillermo 6:54 No, so if you think about why the booking process for hotels without booking platforms is good or bad, what's your opinion on that?
Interviewee 7:12 Es ist eigentlich gut, weil er sehr schlank ist. Es gibt auf der einen Seite den Bucher, es gibt auf der anderen Seite den Dienstleister direkt.	Interviewee 7:12 It's actually good because it's very streamlined. On the one hand there's the booker, on the other hand there's the service provider directly.
Ribes Vicente, Guillermo 7:20 Mhm.	Ribes Vicente, Guillermo 7:20 Mmm.
Interviewee 7:22 Das ist eine gute Sache.	Interviewee 7:22 That's a good thing.
Ribes Vicente, Guillermo 7:24 Mhm.	Ribes Vicente, Guillermo 7:24 Mhm.
Interviewee 7:24 Wie digital der am Schluss abgewickelt wird, ist dann etwas anderes. Ich bin der Bucher, du bist das Hotel. Ich nehme eine E-Mail oder ein Telefon, ich rufe an, ich schreibe dir, du sagst, ja, haben wir noch frei, kostet 100€. Und dann ist die Frage, trägst du das in ein System ein oder schreibst es auf einen Zettel? Prinzipiell ist das Direkteste und Einfachste unabhängig davon, wie die Information verarbeitet wird.	Interviewee 7:24 How it's handled digitally at the end is something else. I'm the booker, you're the hotel. I take an email or a phone, I call, I write to you, you say, yes, we still have availability, costs €100. And then the question is, do you enter it into a system or write it on a piece of paper? In principle, the most direct and simplest option is the one that is independent of how the information is processed.
Ribes Vicente, Guillermo 7:56 Ja.	Ribes Vicente, Guillermo 7:56 Yes.
Interviewee 8:01 Aber es ist eingeschränkt. Wenn ich auf eine größere Kundengruppe zugreifen will, Beispiel: Ich bin eher unbekannt oder noch unbekannt.	Interviewee 8:01 But it's limited. If I want to access a larger customer group, for example: I'm rather unknown or still unknown.
Ribes Vicente, Guillermo 8:11 Mhm.	Ribes Vicente, Guillermo 8:11 Mhm.
Interviewee 8:12 Der andere Weg ist halt, ich logge mich bei einem Drittanbieter ein, der Verträge mit 1000 Hotels in der Region hat und vermittelt. Problem ist, wenn der Gast an der Rezeption ankommt und etwas nicht stimmt oder die Nacht verkürzen oder verlängern will, wird das nicht funktionieren. Der Rezeptionist muss sagen, mach das über Booking.	Interviewee 8:12 The other way is to log in with a third-party provider who has contracts with 1000 hotels in the region and acts as an intermediary. The problem is that if the guest arrives at reception and something is wrong or wants to shorten or extend the night, it won't work. The receptionist has to say, do it through Booking.
Ribes Vicente, Guillermo 8:45 Ganz spannender Punkt, den hatten wir bis jetzt so noch nicht.	Ribes Vicente, Guillermo 8:45 Very interesting point, we haven't had that before.
Interviewee 8:50 Es ist kompliziert für den Gast. Am Schluss denkt der Gast, das Hotel ist doof, obwohl das Hotel nichts dafür kann, weil der Prozess so ist wie er ist.	Interviewee 8:50 It's complicated for the guest. In the end, the guest thinks the hotel is stupid, even though it's not the hotel's fault because the process is the way it is.
Ribes Vicente, Guillermo 9:00 Ja.	Ribes Vicente, Guillermo 9:00 Yes.
Interviewee 9:00 Aber vorgegeben ist.	Interviewee 9:00 But it's predetermined.
Ribes Vicente, Guillermo 9:03 Ja. Super. Jetzt nehmen wir einen Dreh in Richtung Technologien, allgemein. Hast du dich beruflich oder privat mit Technologien auseinandergesetzt, die in Zukunft einen Einfluss auf die Tourismus- oder Hotelbranche haben könnten, speziell bei der Vermittlung von Dienstleistungen?	Ribes Vicente, Guillermo 9:03 Yes, great. Now let's take a turn towards technologies in general. Have you dealt professionally or privately with technologies that could have an impact on the tourism or hotel industry in the future, especially in the provision of services?
Interviewee 9:32 Hm. Mich beschäftigt beruflich oder privat nicht bewusst. Ein paar Sachen gehört. Wie zum Beispiel Kartendienstleister, irgendwie Google Maps oder Karten von Apple. Können das sicherlich kombinieren. Soziale Medien.	Interviewee 9:32 Hm. I'm not consciously involved professionally or privately. I've heard a few things. Such as map service providers, somehow Google Maps or maps from Apple. Can certainly combine that. Social media.
Ribes Vicente, Guillermo 10:02 Hm.	Ribes Vicente, Guillermo 10:02 Hm.
Interviewee 10:02 Aber. Bin ich nicht drin, muss ich gestehen.	Interviewee 10:02 But. I'm not in it, I must confess.
Ribes Vicente, Guillermo 10: 09 Okay, hast du dich schon mal mit dem potenziellen Einfluss der Blockchain-Technologie auf den Tourismus und speziell die Vermittlung von Dienstleistungen auseinandergesetzt?	Ribes Vicente, Guillermo 10: 09 Okay, have you ever considered the potential impact of blockchain technology on tourism and specifically on the provision of services?
Interviewee 10:22	Interviewee 10:22 Mhm, no, actually not yet.

Mhm, nee, da tatsächlich noch nicht.

Ribes Vicente, Guillermo 10:25
Genau, jetzt machen wir es so. Ich hab einen kleinen Text und den lese ich vor, damit alle ungefähr das Gleiche bekommen. Blockchain als Technologie: Informationen werden in Form von digitalen Blöcken gespeichert, das heißt, es kommt ein Dateneintrag in einen Block. Wenn der Block voll ist, wird ein neuer Block gebildet. Spannend dabei ist, dass diese Blöcke miteinander verknüpft werden. Ganz einfach erklärt: Stellen Sie sich ein digitales Logbuch vor, in dem alle Transaktionen oder Aufzeichnungen gespeichert werden. Aber es gibt keine zentrale Autorität, sondern die liegt auf ganz vielen Rechnern. In dem Moment, wo der sogenannte Blockchain-Block auf vielen Rechnern liegt, wird dieser Datenblock eine codierte Information mit dem Block davor verknüpft. Das heißt, dieser Code zwischen zwei Blöcken, der auf vielen Rechnern liegt, bildet die Blockchain. Das hat den Riesenvorteil, dass es schwierig wird, Informationen zu manipulieren oder zu löschen, weil wenn einer versucht, das zu manipulieren, bricht auf einem Rechner die Kette, die anderen sehen das aber und sagen "so nicht". So ist es wahnsinnig schwierig, das zu manipulieren. Ein wichtiges Merkmal ist die Dezentralisierung, anstatt dass einer die Kontrolle über die Daten hat, werden sie über das Netzwerk immer wieder verifiziert und gespeichert. Das ist ein wichtiges Sicherheitsfeature gegen Hacking und Manipulation durch Einzelne. Jetzt eine Zwischenfrage: Könntest du dir einen Einsatz für Blockchain im Tourismus oder Hotellerie vorstellen?

Interviewee 12:44
Ja. Ich bleib wieder bei dem Beispiel: Ich buche entweder direkt oder über einen Dritten. Das ist ja dann so ein bisschen egal. Und in dem Moment, wo Kunde und Produkt zusammenkommen, jedenfalls in der Buchung, entsteht eine gewisse Verbindung. Dann fehlt mir nur an der Stelle die Phantasie, wie das dann weiterverfolgt wird. Vielleicht eher das Zimmer, das immer wieder verkauft wird, macht das Sinn. Oder ist es eher die Bezahlung?

Ribes Vicente, Guillermo 13:22
Es geht nicht um Bezahlung, ausdrücklich. Blockchain wird sehr schnell mit Bitcoin und Bezahlung assoziiert, das ist ein Teil meines Themas, aber ausdrücklich nicht die Bezahlung. Die Idee mit dem Zimmer ist spannend.

Interviewee 13:25
Okay. Ja.

Ribes Vicente, Guillermo 13:43
Das ist eine spannende Idee.

Interviewee 13:48
Ja.

Ribes Vicente, Guillermo 13:51
Es ist ja ein Semi-Structured Interview, du hast gesagt, egal ob es das Hotel oder die Buchungsplattform ist. Ich wiederhole nochmal: Das Entscheidende ist, es ist ein dezentrales System.

Interviewee 13:53
Ja.

Ribes Vicente, Guillermo 14:09
Wo viele drauf gucken können. Diese Dezentralität, es gibt nicht mehr eine zentrale Stelle.

Interviewee 14:18
Das heißt, ich habe weniger Abhängigkeit von Drittanbietern.

Ribes Vicente, Guillermo 14:26
Genau, wie könnte das funktionieren?

Interviewee 14:29
Es ist ein Sharing-Community von Beherbergungskapazitäten. Alle Anbieter, die möchten, können darauf zugreifen. Alle Kunden können darauf zugreifen. Dort werden Kunde und Produkt zusammengebracht. Aber warum sollte das jemand anbieten? Werbung auf dieser allumfassenden Website?

Ribes Vicente, Guillermo 15:08
Tatsächlich praktische Umsetzung. Ob sie mit oder ohne Werbung spielt für mein Thema keine Rolle. Das sind wichtige Fragen. Blockchain ist darauf angelegt, dass da keine Werbung ist, sondern die Idee ist tatsächlich Peer-to-Peer, Menschen oder Produkte, die sich verbinden. Blockchain hat eine Dezentralisierungsfunktion. Es wurde in der Finanzindustrie entwickelt, um Banken bei einer Währung auszuschalten. Genau dieses Konzept versuche ich in meiner Forschung auf den Tourismus zu übertragen.

Interviewee 16:11
Ja.

Ribes Vicente, Guillermo 16:26

Ribes Vicente, Guillermo 10:25
Exactly, that's how we do it now. I have a short text and I read it out so that everyone gets roughly the same thing. Blockchain as a technology: information is stored in the form of digital blocks, which means that a data entry is made in a block. When the block is full, a new block is created. The exciting thing is that these blocks are linked together. To put it simply, imagine a digital logbook in which all transactions or records are stored. But there is no central authority, instead it is stored on many computers. The moment the so-called blockchain block is stored on many computers, this block of data is linked to the block before it with coded information. In other words, this code between two blocks, which is stored on many computers, forms the blockchain. This has the huge advantage that it is difficult to manipulate or delete information, because if someone tries to manipulate it, the chain breaks on one computer, but the others see this and say "not like that". This makes it incredibly difficult to manipulate. An important feature is the decentralisation; instead of one person having control over the data, it is verified and saved over and over again via the network. This is an important security feature against hacking and manipulation by individuals. Now an interim question: could you imagine blockchain being used in tourism or the hotel industry?

Interviewee 12:44
Yes, I'll stick with the example again: I either book directly or via a third party. That doesn't really matter. And the moment customer and product come together, at least in the booking, a certain connection is created. The only thing I don't have the imagination for is how this is then followed up. Perhaps it's the room that is sold again and again, does that make sense? Or is it more the payment?

Ribes Vicente, Guillermo 13:22
It's not about payment, explicitly. Blockchain is very quickly associated with Bitcoin and payment, that's part of my topic, but explicitly not payment. The idea of the room is exciting.

Interviewee 13:25
Okay. Yes.

Ribes Vicente, Guillermo 13:43
That's an exciting idea.

Interviewee 13:48
Yes.

Ribes Vicente, Guillermo 13:51
It's a semi-structured interview, you said, regardless of whether it's the hotel or the booking platform. I repeat again: the crucial thing is that it's a decentralised system.

Interviewee 13:53
Yes.

Ribes Vicente, Guillermo 14:09
Where many can look at it. This decentralisation, there is no longer a central point.

Interviewee 14:18
That means I'm less dependent on third-party providers.

Ribes Vicente, Guillermo 14:26
Exactly, how could that work?

Interviewee 14:29
It's a sharing community of accommodation capacity. All providers who want to can access it. All customers can access it. Customers and products are brought together there. But why should anyone offer this? Advertising on this all-encompassing website?

Ribes Vicente, Guillermo 15:08
Practical realisation indeed. Whether it is with or without advertising does not matter for my topic. These are important questions. Blockchain is designed so that there is no advertising, but the idea is actually peer-to-peer, people or products connecting. Blockchain has a decentralisation function. It was developed in the financial industry to eliminate banks from a currency. This is exactly the concept I'm trying to transfer to tourism in my research.

Interviewee 16:11
Yes.

Ribes Vicente, Guillermo 16:26

Du wirst vieles wiedererkennen. Stellen Sie sich vor, sie möchten ein Hotelzimmer buchen. Anstatt eine Buchungswebsite oder eine Plattform zu verwenden, die als Vermittler fungiert, können sie direkt mit dem Hotel über eine Blockchain-Plattform interagieren. Der Buchungsvorgang würde in einem sogenannten intelligenten Vertrag, einem Smart Contract, festgehalten. Das ist ein digitaler Vertrag, der automatisch ausgeführt wird, sobald bestimmte Bedingungen erfüllt sind, zum Beispiel Buchungsinformationen, Datum, Anreise, Abreise, Zimmerpreis, Stornierung, Zahlungsdetails. Dieser Vertrag würde sich von alleine ausführen. Da die Blockchain dezentral und transparent ist, können sowohl Hotel als auch Kunde auf die Informationen zurückgreifen und sicher sein, dass diese Informationen unveränderlich sind. Das eliminiert Betrug oder Manipulation. Wenn ich in New York bin und meine Daten über die Blockchain an eine Ecolodge in Bangladesch schicke, würde ich ohne eine Zwischenagentur meine Daten, meine Kreditkartendaten, dorthin schicken. Blockchain im Tourismus ist ein heißes Thema in der Forschung. Es gibt immer mehr Literatur dazu. Jetzt würde ich dir aus methodischen Gründen ein Schaubild zeigen, wo du einfach deine Meinung dazu sagst. Das ist der Kern meiner Forschung.	You'll recognise a lot of things. Imagine you want to book a hotel room. Instead of using a booking website or a platform that acts as an intermediary, they can interact directly with the hotel via a blockchain platform. The booking process would be recorded in what is known as a smart contract. This is a digital contract that is automatically executed as soon as certain conditions are met, for example booking information, date, arrival, departure, room rate, cancellation, payment details. This contract would execute itself. As the blockchain is decentralised and transparent, both the hotel and the customer can access the information and be sure that this information is unchangeable. This eliminates fraud or manipulation. If I am in New York and send my data to an ecolodge in Bangladesh via the blockchain, I would send my data, my credit card details, there without an intermediary agency. Blockchain in tourism is a hot topic in research. There is more and more literature on it. Now, for methodological reasons, I would show you a diagram where you simply give your opinion. That's the core of my research.
Interviewee 18:03 Mhm.	Interviewee 18:03 Mhm.
Ribes Vicente, Guillermo 18:28 Jetzt lädt er, jetzt lädt er das Schaubild.	Ribes Vicente, Guillermo 18:28 Now he loads, now he loads the chart.
Interviewee 19:02 Mhm.	Interviewee 19:02 Mhm.
Ribes Vicente, Guillermo 19:03 Er behauptet, du würdest ein Schaubild sehen.	Ribes Vicente, Guillermo 19:03 He says you're going to see a diagram.
Interviewee 19:20 Ich sehe Status quo.	Interviewee 19:20 I see status quo.
Ribes Vicente, Guillermo 19:21 Super. Also mein Thema geht um Blockchain-based distributed Ledger for Smart Payment Contract and Reviews. Das hab ich eben vergessen. Du kannst auch die Reviews über die Blockchain speichern, das heißt es bald eine individuelle Bewertung und die kann man nicht manipulieren.	Ribes Vicente, Guillermo 19:21 Super. So my topic is about blockchain-based distributed ledger for smart payment contract and reviews. I just forgot about that. You can also save the reviews via the blockchain, which means that there will soon be an individual rating that cannot be manipulated.
Interviewee 19:36 Mhm.	Interviewee 19:36 Mhm.
Ribes Vicente, Guillermo 19:42 Und der Status quo? Du hattest Marktmacht am Anfang des Interviews erwähnt. Es ist tatsächlich so: 15 bis 30 Prozent nehmen sie für die Vermittlung. Der Potential Influence der Blockchain, das Eliminieren des Mittelmanns, könnte Kunden und Anbieter direkt verbinden. Du hast eben auch gesagt, dass es die Idee ist.	Ribes Vicente, Guillermo 19:42 And the status quo? You mentioned market power at the beginning of the interview. It's actually like this: they take 15 to 30 per cent for brokerage. The potential influence of blockchain, the elimination of the middle man, could connect customers and providers directly. You also just said that this is the idea.
Interviewee 20:20 Okay.	Interviewee 20:20 Okay.
Ribes Vicente, Guillermo 20:22 Nicht mehr große Gatekeeper, sondern Plattformen wie AirBnB oder Booking.com, die dann andere Services anbieten müssten.	Ribes Vicente, Guillermo 20:22 No longer big gatekeepers, but platforms like Airbnb or Booking.com, which would then have to offer other services.
Interviewee 20:47 Ja.	Interviewee 20:47 Yes.
Ribes Vicente, Guillermo 20:52 Was hältst du davon?	Ribes Vicente, Guillermo 20:52 What do you think of that?
Interviewee 20:57 Ich interpretiere es so, dass der größte Teil der Blockchain läuft, in der Darstellung aber 10% praktisch trotzdem noch über die Plattformen laufen. Ist das so?	Interviewee 20:57 My interpretation is that most of the blockchain is running, but in the illustration 10% is still practically running through the platforms. Is that the case?
Ribes Vicente, Guillermo 22:07 Ja, es gibt keine feste Zahl. Es geht eher darum, dass es eine Nische wird, in der sie sich dann bewegen und nicht mehr den Großteil der Buchungen abwickeln.	Ribes Vicente, Guillermo 22:07 Yes, there is no fixed figure. It's more a question of it becoming a niche in which they then operate and no longer handle the majority of bookings.
Interviewee 22:19 Im Gegensatz zum Start des Projekts. Die Nische, wie B&B, die du niemals auf Booking finden wirst. Die Nische sind die, die jetzt die Macht haben.	Interviewee 22:19 As opposed to the start of the project. The niche, like B&B, that you'll never find on Booking. The niche are the ones that have the power now.
Ribes Vicente, Guillermo 22:31 Ja.	Ribes Vicente, Guillermo 22:31 Yes.
Interviewee 22:33 Aber die Marktmacht liegt nach wie vor bei den Plattformen. In dem System wirklich die Nische.	Interviewee 22:33 But the market power is still with the platforms. Really the niche in the system.

Ribes Vicente, Guillermo 22:44 Ja, genau. Die Forschung spricht auch von Disruption, also einer Technologie, die minderwertig anfängt, aber die ersten Early Adopter nutzen es. Jetzt die offizielle Frage: Wie wahrscheinlich hältst du das Konzept Blockchain-based Smart Contracts in den nächsten Jahren für wahrscheinlich? Also nicht nächstes Jahr, aber in 5 bis 10 Jahren?	Ribes Vicente, Guillermo 22:44 Yes, exactly. The research also talks about disruption, so it's a technology that starts out inferior, but the first early adopters are using it. Now the official question: How likely do you think the concept of blockchain-based smart contracts is in the next few years? So not next year, but in 5 to 10 years?
Interviewee 23:18 Definitiv ja.	Interviewee 23:18 Definitely yes.
Ribes Vicente, Guillermo 23:35 Genau.	Ribes Vicente, Guillermo 23:35 Exactly.
Interviewee 23:35 Das Thema KI hat dieses Jahr große Fortschritte gemacht, das wird hier genauso schnell gehen.	Interviewee 23:35 AI has made great progress this year, it's going to be just as fast here.
Ribes Vicente, Guillermo 23:45 Mhm.	Ribes Vicente, Guillermo 23:45 Mhm.
Interviewee 23:55 Die junge Generation wird das einfacher verstehen als die ältere.	Interviewee 23:55 The younger generation will understand it more easily than the older generation.
Ribes Vicente, Guillermo 24:04 Ja.	Ribes Vicente, Guillermo 24:04 Yes.
Interviewee 24:12 Vielleicht deswegen auch mit in die Nische rutschen. Die 70+, die Flusskreuzfahrt wird jetzt auch eher in der Nische gebucht. Die Frage ist, wie schnell können die Hotels das darstellen.	Interviewee 24:12 Maybe that's why they're also slipping into the niche. The 70+, the river cruise is now also more likely to be booked in the niche. The question is how quickly the hotels will be able to cater for this.
Ribes Vicente, Guillermo 24:27 Mhm.	Ribes Vicente, Guillermo 24:27 Mhm.
Interviewee 24:30 Die Motivation, wegzukommen von den großen Marktbeherrschern, ist bei den Hoteliers natürlich massiv.	Interviewee 24:30 The motivation to get away from the big market dominators is of course massive for the hoteliers.
Ribes Vicente, Guillermo 24:45 Ja.	Ribes Vicente, Guillermo 24:45 Yes.
Interviewee 24:53 Aber ja.	Interviewee 24:53 But yes.
Ribes Vicente, Guillermo 24:54 Positive und negative Auswirkungen. Motivation gerne.	Ribes Vicente, Guillermo 24:54 Positive and negative effects. Motivation with pleasure.
Interviewee 24:54 Ja. Motivation bei den Anbietern: Kostenersparnis. 15 bis 30 Prozent. Sagen wir 15 Prozent bei 100€ verkauft. Netto bleibt mehr Gewinn übrig.	Interviewee 24:54 Yes. Motivation for the providers: cost savings. 15 to 30 per cent. Let's say 15 per cent on a €100 sale. That leaves more net profit.
Ribes Vicente, Guillermo 25:28 Ja.	Ribes Vicente, Guillermo 25:28 Yes.
Interviewee 25:38 Ich muss nicht mit Marketing arbeiten, meine eigene Buchungsplattform aufbauen, sondern über das Open Source Blockchain Smart Contracts. Nachteil ist, sie müssen sich umstellen das System anpassen. Ein Interface muss hergestellt werden. Aber die neue Technologie könnte weniger komplex sein als die aktuellen Plattformen. Auf Kundenseite: Transparenz und Breite. Neue Dinge finden. Sicherheit für den Kunden, wie bei einer Ecolodge in Namibia. Sicherheit für beide Seiten.	Interviewee 25:38 I don't have to work with marketing, build my own booking platform, but via the open source blockchain smart contracts. The disadvantage is that you have to changeadapt the system. An interface has to be created. But the new technology could be less complex than the current platforms. On the customer side: transparency and breadth. Finding new things. Security for the customer, as with an ecolodge in Namibia. Security for both sides.
Ribes Vicente, Guillermo 27:33 Ja.	Ribes Vicente, Guillermo 27:33 Yes.
Interviewee 27:36 Nachteile: Man muss damit umgehen können. Aber Digitalisierung, da wächst jeder rein.	Interviewee 27:36 Disadvantages: You have to be able to deal with it. But digitalisation, everyone grows into it.
Ribes Vicente, Guillermo 27:50 Mhm.	Ribes Vicente, Guillermo 27:50 Mhm.
Interviewee 27:57 Spontan ist das erstmal das, was mir einfällt.	Interviewee 27:57 Off the top of my head, that's what comes to mind.
Ribes Vicente, Guillermo 28:01 Super, echt. Vielleicht noch etwas Negatives?	Ribes Vicente, Guillermo 28:01 Great, really. Maybe something negative?
Interviewee 28:12 Kann ausgenutzt werden. Etwas mächtiger als jetzt Booking und AirBnB. Alle überprüfen sich gegenseitig. Scheinbar sicher. Unmöglich, dass sich alle zusammentun und uns veräppeln.	Interviewee 28:12 Can be exploited. A bit more powerful than Booking and Airbnb now. Everyone checks each other. Seemingly safe. Impossible for everyone to get together and take the piss.

Ribes Vicente, Guillermo 28:40 Ja. Schöne Metapher.	Ribes Vicente, Guillermo 28:40 Yes, nice metaphor.
Interviewee 28:45 Ja.	Interviewee 28:45 Yes.
Ribes Vicente, Guillermo 28:55 Ja.	Ribes Vicente, Guillermo 28:55 Yes.
Interviewee 28:56 Mhm. Ja.	Interviewee 28:56 Mhm. Yes.
Ribes Vicente, Guillermo 29:00 Es gibt tatsächlich einen negativen Punkt, aber wenn der jetzt nicht fällt, ist nicht schlimm.	Ribes Vicente, Guillermo 29:00 There is actually a negative point, but if it doesn't fall now, it's not bad.
Interviewee 29:01 Shutdown. Wenn 10% der Rechner ausfallen, gibt es ja noch 90%. Aber was ist bei einem europaweiten Blackout?	Interviewee 29:01 Shutdown. If 10% of the computers are down, there's still 90%. But what about a Europe-wide blackout?
Ribes Vicente, Guillermo 29:28 Ja.	Ribes Vicente, Guillermo 29:28 Yes.
Interviewee 29:41 Der Telefonanruf und der Zettel bleiben.	Interviewee 29:41 The phone call and the note remain.
Ribes Vicente, Guillermo 29:45 Ja.	Ribes Vicente, Guillermo 29:45 Yes.
Interviewee 29:46 Ja, ne. Bisher. Okay.	Interviewee 29:46 Yes, no. So far. Okay.
Ribes Vicente, Guillermo 30:08 Das ist ein Fakt. Aber du musst jetzt warten, bis du die aggregierten Ergebnisse siehst. Ich melde mich Mitte, Ende Juli mit den aggregierten Ergebnissen. Ich habe noch eine Schlussfrage: Unternimmt eure Organisation Schritte, um sich auf Blockchain und deren Einfluss auf Hotel und Tourismus vorzubereiten? Forschungsteam?	Ribes Vicente, Guillermo 30:08 That's a fact. But you'll have to wait until you see the aggregated results. I'll get back to you in the middle or end of July with the aggregated results. I have one final question: Is your organisation taking steps to prepare for blockchain and its impact on hotels and tourism? Research team?
Interviewee 30:16 Mhm. Haben wir nicht.	Interviewee 30:16 Mhm. We have not.
Ribes Vicente, Guillermo 31:00 Genau, tatsächlich. Von meiner Seite aus alles perfekt. Ich danke dir.	Ribes Vicente, Guillermo 31:00 Exactly, actually. Everything is perfect from my point of view. Thank you.

Bilingual Interview Transcript Interviewee 7

Austausch mit Guillermo Ribes (PhD cand.)-20230630_092148-Meeting Recording June 30, 2023, 7:21 AM 41m 21s	Exchange with Guillermo Ribes (PhD cand.)-20230630_092148-Meeting Recording June 30, 2023, 7:21 AM 41m 21s
Interviewee 0:03 Genau, das heißt, die Aufnahme ist nur für dich.	Interviewee 0:03 Exactly, that means the recording is just for you.
Ribes Vicente, Guillermo started transcription	Ribes Vicente, Guillermo started transcription
Ribes Vicente, Guillermo 0:07 Genau.	Ribes Vicente, Guillermo 0:07 Exactly.
Interviewee 0:08 Und ich nenne auch keine großen Kunden oder sowas. Also, ich halte mich ziemlich neutral, und wenn etwas stört, nimmst du es raus.	Interviewee 0:08 And I don't name any big clients or anything like that. So, I keep myself pretty neutral, and if something bothers you, you take it out.
Ribes Vicente, Guillermo 0:16 Genau. Also Kunden zu nennen ist relativ unwahrscheinlich, das fällt ja nicht. Ich nutze nur die Transkription und gehe diese manuell nochmal durch und streiche dann deinen Namen raus oder was auch immer.	Ribes Vicente, Guillermo 0:16 Exactly. So naming clients is relatively unlikely, it doesn't fall. I just use the transcription and go through it again manually and then delete your name or whatever.
Interviewee 0:23 Ja, gut.	Interviewee 0:23 Yes, good.
Ribes Vicente, Guillermo 0:35 Genau, super, funktioniert. Ich sehe die Transkription, du siehst sie nicht, aber du musst ein kleines rotes Lämpchen sehen. Deswegen fangen wir ganz allgemein an. Ich muss immer wieder so ein bisschen nach links gucken, weil ich meine Notizen habe und den Verlauf des Gesprächs einhalten will. Die erste Einschätzungsfrage ist: Wie bewertest du ganz allgemein	Ribes Vicente, Guillermo 0:35 Exactly, great, works. I see the transcription, you don't see it, but you must see a little red light. That's why we start in general. I have to keep looking a bit to the left because I have my notes and I want to keep the conversation on track. The first assessment question is: How do you generally rate the

den Einfluss von Informationstechnologien auf die Vermittlung von Dienstleistungen, zum Beispiel Hotelbuchung? Das kann auch eine Spar-Anwendung sein. Einfach allgemein der Einfluss auf die Vermittlung und den Verkauf.	influence of information technologies on the provision of services, for example hotel bookings? This can also be a savings application. Simply the general influence on the brokerage and sales.
Interviewee 1:18 Mittlerweile ist es ohne gar nicht mehr zu denken oder machbar, außer man hat vielleicht ganz kleine Pensionen oder einen ganz kleinen Betrieb. Ansonsten ist es grundlegend, Basis und unersetzlich.	Interviewee 1:18 In the meantime, it's no longer conceivable or feasible without it, unless you have very small guesthouses or a very small business. Otherwise, it's fundamental, basic and irreplaceable.
Ribes Vicente, Guillermo 1:35 Wenn wir da ein bisschen tiefer gehen: Wenn du deine Branche oder unsere Branche und den Einfluss der Technologien auf unsere Branche vergleichst mit vielleicht anderen Branchen, die du kennst, wie würdest du das gewichten?	Ribes Vicente, Guillermo 1:35 If we go a little deeper: If you compare your industry or our industry and the impact of technologies on our industry to maybe other industries that you know, how would you weigh that?
Interviewee 1:51 Unsere Branche hängt wirklich in vielen Themen hinterher. In meinem Segment betrachte ich ja einmal das Thema Hotel und einmal das Thema Spa. Hotel war schon immer spät dran, ist mittlerweile schon sehr gut unterwegs, auch was die Webseiten und alles betrifft. Spa ist noch weiter zurück. Es gibt mittlerweile gute Technologien, aber viele Kunden, viele Hotels sperren sich vor dieser Automatisierung, weil sie wirklich noch selbst Hand anlegen wollen.	Interviewee 1:51 Our industry is really lagging behind in many areas. In my segment, I look at the topic of hotels and the topic of spas. Hotels have always been late, but are now doing very well, also in terms of websites and everything else. Spa is even further behind. There are now good technologies, but many customers, many hotels are reluctant to use this automation because they really still want to do it themselves.
Ribes Vicente, Guillermo 2:25 Spannend. Erzähl mir mal mehr, wogegen sperren sie sich?	Ribes Vicente, Guillermo 2:25 That's exciting. Tell me more, what are they against?
Interviewee 2:28 Gerade im Bereich Spa geht es zum Beispiel darum, dass sie sich davor sperren, dass jeder meine Termine sozusagen buchen kann. Sie haben das Gefühl, die Spa-Manager haben nicht mehr die Hand darauf, die optimalen Termine den optimalen Menschen zuzuordnen. Sie haben auch das Gefühl, durch den nicht direkten Kontakt Verkaufsargumente nicht anbringen zu können und dass der Kalender quasi zerstückelt wird.	Interviewee 2:28 In the spa sector, for example, it's about the fact that they don't want anyone to be able to book my appointments, so to speak. They have the feeling that the spa managers no longer have a hand in allocating the best appointments to the best people. They also feel that the lack of direct contact means they can't put forward sales arguments and that the calendar is being fragmented.
Ribes Vicente, Guillermo 3:03 Mhm.	Ribes Vicente, Guillermo 3:03 Mmm.
Interviewee 3:04 Das sind die Ängste.	Interviewee 3:04 Those are the fears.
Ribes Vicente, Guillermo 3:05 Spannend, ja. Tolles Beispiel. So ein Beispiel hatten wir bis jetzt noch nicht. Du hast ja gesehen, ich nutze auch dieses Kalenderbuchungstool. Spannend. Ich weiß nicht, ob das auch für Spa-Buchungen gilt, aber bei Hotelbuchungen haben wir diese großen Vermittler wie HRS und Booking. Wir könnten gerne erst mit Hotelbuchungen anfangen oder, wenn du Input aus dem Spa-Bereich hast, gerne auch dazu. Wie schätzt du den Einfluss der Vermittler auf die Tourismusindustrie ein?	Ribes Vicente, Guillermo 3:05 Exciting, yes. Great example. We haven't had an example like that before. As you've seen, I also use this calendar booking tool. That's exciting. I don't know if that also applies to spa bookings, but for hotel bookings we have these big intermediaries like HRS and Booking. We could start with hotel bookings first or, if you have input from the spa sector, we could do that too. How do you rate the influence of intermediaries on the tourism industry?
Interviewee 3:45 Gerade für Hotels, die keine großen USPs haben, die nicht eine besondere Lage oder einen besonderen Ruf haben, geht es ohne diese Vermittler nicht. Durch die verbesserte Technologie in den letzten Jahren sind aber immer mehr Hotels mit ihren Webseiten selbst optimiert und besser geworden. Trotzdem, um die Masse abzudecken, wenn sie auch groß sind, brauchen sie die Vermittler. Je individueller das Hotel ist, je eher es schafft, über die eigenen Kanäle auch Stammgäste zu binden und nicht austauschbar zu sein, desto unabhängiger wird es von den großen Vermittlern. Im Spa-Bereich spielen die großen Vermittler kaum eine Rolle, sondern nur sehr indirekt. Für den Spa eines Hotels ist es extrem wichtig, welche Gäste ins Hotel kommen. Wenn das Hotel mit einem der großen Vermittler einfach nur Gäste über Preise anlockt, ist es für den Spa schlechter. Wenn man über Spezialvermittler, die auf das Thema Wellness spezialisiert sind, Gäste anspricht, profitiert der Spa mehr davon. Es gibt aber auch ein paar Portale, wo man Spa-Leistungen einstellen kann, spielt aber nicht so eine große Rolle. Es ist immer eher im Paket mit der Hotelleistung.	Interviewee 3:45 Especially for hotels that don't have any major USPs, that don't have a special location or a special reputation, it wouldn't work without these intermediaries. However, thanks to improved technology in recent years, more and more hotels have optimised and improved their websites themselves. Nevertheless, to cover the masses, even if they are large, they need intermediaries. The more individualised the hotel is, the sooner it manages to retain regular guests via its own channels and not be interchangeable, the less dependent it will be on the large intermediaries. In the spa sector, the large intermediaries hardly play a role, but only very indirectly. For a hotel's spa, it is extremely important which guests come to the hotel. If the hotel simply uses one of the large intermediaries to attract guests via prices, it is worse for the spa. If guests are approached via special agents who specialise in wellness, the spa benefits more. However, there are also a few portals where you can advertise spa services, but it doesn't play such a big role. It is always more of a package with the hotel service.
Ribes Vicente, Guillermo 5:18 Ganz, ganz spannend. Wenn du jetzt die Größe des Einflusses dieser Vermittler wie booking.com oder HRS auf die Branche insgesamt betrachtest, wie würdest du das einschätzen?	Ribes Vicente, Guillermo 5:18 Very, very exciting. If you now consider the extent of the influence of these intermediaries such as booking.com or HRS on the industry as a whole, how would you assess this?
Interviewee 5:38 In den letzten 20 Jahren ist der Einfluss extrem gestiegen. Ich habe das Gefühl, durch die individualisierte Technologie in den Hotels, dadurch, dass diese besser geworden ist, ist der Einfluss mittlerweile nicht mehr so wie vor 5 bis 7 Jahren. Es fällt wieder ab, besonders in der Leisure-Hotellerie. Ich bin kein Experte für Business- und City-Hotellerie, aber in der Leisure-Hotellerie nimmt das ab, weil jeder aus diesen Knebelverträgen und dieser Kralle entfliehen möchte.	Interviewee 5:38 In the last 20 years, the influence has increased dramatically. I have the feeling that due to the individualised technology in the hotels and the fact that it has improved, the influence is no longer what it was 5 to 7 years ago. It's falling again, especially in the leisure hotel industry. I'm not an expert in the business and city hotel industry, but in the leisure hotel industry it's decreasing because everyone wants to escape from these gagging contracts and this claw.
Ribes Vicente, Guillermo 6:07	Ribes Vicente, Guillermo 6:07

Hm.

Interviewee 6:21
Aber ohne geht es nicht.

Ribes Vicente, Guillermo 6:23
Super. Knebelvertrag und Kralle werde ich dann zitieren, da kannst du dir sicher sein. Genau das ist es, genau so läuft es. Ich will so ein bisschen das Meinungsbild haben. Wie kannst du denn erklären, dass die Hotellerie in diese Kralle und Knebelverträge reingekommen ist?

Interviewee 6:46
Die Technologie von den Hotels selbst. Man sieht immer noch Webseiten, bei denen man die Hände über dem Kopf zusammenschlägt, wo ein Gast viel Zeit investieren muss, um Informationen zu bekommen. Die Gäste sind durch die Technologieentwicklung, als dann Google und Co. quasi normal wurden, verwöhnt worden, schnell Informationen zu finden und Preise zu vergleichen. Das haben die großen Portale den Gästen sehr einfach gemacht. Ich möchte in eine Region, möchte günstig reisen und gebe drei Kriterien an und bekomme schnell eine Auswahl. Trotzdem hat man dann im zweiten Schritt als Gast immer nochmal recherchiert. Wenn man bei jedem Haus der Rat sucht, braucht man mehr Zeit. Die Entwicklung der Technologie und Social Media hat es den Hotels ermöglicht, fitter zu werden, nicht um den Suchenden schnell zu befriedigen, sondern eher den zu inspirieren, der gar nicht sucht. Langfristig Impulse zu setzen. Wenn ich auf Social Media unterwegs bin, merke ich mir, dass ich etwas machen möchte. Wenn es dann soweit ist, dass ich die Auszeit suche, erinnere ich mich daran. Dann schaue ich mir das Hotel genauer an.

Ribes Vicente, Guillermo 8:24
Mhm. Ganz, ganz spannend. Vielleicht für den Block die letzte Frage: Wenn du die Kundenperspektive einnimmst, steckt in der Antwort gerade drin, ich muss das nochmal haben. Warum bucht der Kunde nicht direkt beim Hotel?

Interviewee 8:41
Es ist im ersten Moment das Thema Zeitersparnis und Transparenz. Ich sehe sofort, wo ich den besten Preis bekomme. Wenn man tiefer schaut, merkt man, dass man trotzdem sehr viel Zeit investiert. Es ist das Gefühl, den besten Preis schneller zu finden. Es ist für die erste Orientierung richtig, aber die Vergleichbarkeit, welcher Zimmertyp mit was verglichen wird, erfordert wieder Recherche. Im Prinzip, wenn ich als Gast noch nicht genau weiß, was ich möchte, ist ein Portal hervorragend für die Orientierung. Im späteren Verlauf, dadurch dass die Webseiten besser geworden sind und darauf hinweisen, dass sie nicht teurer sind als die Portale, kann die Buchung dann trotzdem wieder beim Hotel landen, wenn der Gast sich die Zeit nimmt und nicht einfach nur durchklickt.

Ribes Vicente, Guillermo 10:11
Ich muss zu einem Schluss kommen. Viele Menschen haben jetzt erst begriffen, dass Hotels nicht teurer sind als auf den Portalen. Das war eine Zeit, in der die Portale Druck aufgebaut haben und Bestpreisklauseln eingeführt haben. Es gibt mittlerweile viele Hotelwebseiten, die klarstellen, dass sie den besten Preis bieten oder Preisvergleichstools nutzen.

Interviewee 10:45
Ich habe gelesen, das nennt sich Billboard-Effekt. Auf den großen Portalen werde ich auf das Hotel aufmerksam, gehe dann aber auf die Hotelwebseite und buche dort. Das Hotel profitiert indirekt davon, auf den Portalen sichtbar zu sein.

Ribes Vicente, Guillermo 11:10
Spannend. Eine kleine Anschlussfrage: Vertrauen. Siehst du das Thema Vertrauen in diesem Prozess involviert?

Interviewee 11:24
Ja, das Thema Vertrauen. Man hat immer das Vertrauen zum Reisebüro gehabt. Das sehe ich bei den Portalen nicht so stark. Da vertraut man den Daten, aber nicht, dass man das Richtige bekommt. Wenn ich mich in die Gastrolle versetze, gehe ich auf die Webseite, schaue bei Social Media und hole weitere Informationen. Es kommt auch auf den Reisegrund an. Wenn ich nur eine Übernachtung brauche, ist das Vertrauen bei einem großen Portal nicht so wichtig. Wenn ich eine Wellnessreise mache, ist es viel wichtiger.

Ribes Vicente, Guillermo 12:19
Mhm.

Interviewee 12:22
Wenn ich Vertrauen zu Kundenstimmen und Bewertungen habe, dann vertraue ich auch den Portalen mehr, wie z.B. Holiday Check.

Ribes Vicente, Guillermo 12:22
Genau.

Hm.

Interviewee 6:21
But you can't do without it.

Ribes Vicente, Guillermo 6:23
Super. I'll quote the gagging contract and the claw, you can be sure of that. That's exactly it, that's exactly how it works. I want to get a bit of an opinion. How can you explain the fact that the hotel industry has got into these claw and gag contracts?

Interviewee 6:46
The technology from the hotels themselves. You still see websites that make you throw your hands up in disbelief, where a guest has to invest a lot of time to get information. Guests have been spoilt by the development of technology, when Google and the like became more or less normal, to quickly find information and compare prices. The big portals have made this very easy for guests. I want to go to a region, want to travel cheaply, enter three criteria and quickly get a selection. Nevertheless, as a guest you still have to research again in the second step. If you look for advice from every hotel, you need more time. The development of technology and social media has enabled hotels to become fitter, not to satisfy the searcher quickly, but rather to inspire those who are not looking at all. To set long-term impulses. When I'm on social media, I make a mental note that I want to do something. When the time comes that I'm looking for time out, I remember that. Then I take a closer look at the hotel.

Ribes Vicente, Guillermo 8:24
Mmm. Very, very exciting. Maybe the last question for the block: If you take the customer perspective, the answer just says, I have to have that again. Why doesn't the customer book directly with the hotel?

Interviewee 8:41
Initially, it's about saving time and transparency. I can see immediately where I can get the best price. When you look deeper, you realise that you're still investing a lot of time. It's the feeling of finding the best price more quickly. It's right for initial orientation, but the comparability of which room type is compared with what requires research again. In principle, if I as a guest don't yet know exactly what I want, a portal is excellent for orientation. Later on, because the websites have improved and point out that they are no more expensive than the portals, the booking can still end up back at the hotel if the guest takes the time and doesn't just click through.

Ribes Vicente, Guillermo 10:11
I have to come to a conclusion. Many people have only now realised that hotels are not more expensive than on the portals. That was a time when the portals built up pressure and introduced best price clauses. There are now many hotel websites that make it clear that they offer the best price or use price comparison tools.

Interviewee 10:45
I've read that it's called the billboard effect. I become aware of the hotel on the big portals, but then go to the hotel website and book there. The hotel benefits indirectly from being visible on the portals.

Ribes Vicente, Guillermo 11:10
Exciting. A small follow-up question: trust. Do you see the issue of trust involved in this process?

Interviewee 11:24
Yes, the issue of trust. People have always trusted the travel agency. I don't see that so strongly with the portals. You trust the data, but not that you're getting the right thing. When I put myself in the role of a guest, I go to the website, check social media and get more information. It also depends on the reason for travelling. If I only need an overnight stay, trust in a large portal is not so important. If I'm going on a wellness holiday, it's much more important.

Ribes Vicente, Guillermo 12:19
Mmm.

Interviewee 12:22
If I have confidence in customer testimonials and reviews, then I also trust the portals more, such as Holiday Check.

Ribes Vicente, Guillermo 12:22
Exactly.

Interviewee 13:03

Interviewee 13:03 Beim Zahlungsprozess sehe ich keinen großen Unterschied zwischen großen Portalen und Hotels. Bei No-Name-Portalen kann es eher sein, dass man weniger Vertrauen hat.	When it comes to the payment process, I don't see a big difference between large portals and hotels. With no-name portals, it's more likely that you have less trust.
Ribes Vicente, Guillermo 13:22 Genau.	Ribes Vicente, Guillermo 13:22 Exactly.
Interviewee 13:37 Mein Feld ist überwiegend Europa. Da ist das Vertrauen zu den Hotels kein Problem. Bei Fernreisedestinationen vertraut man eher Portalen oder Kundenstimmen.	Interviewee 13:37 My field is mainly Europe. Trusting the hotels is not a problem there. For long-haul destinations, you tend to trust portals or customer testimonials.
Ribes Vicente, Guillermo 14:11 Sehr gut. Das war der erste Block, die Einleitung über die Rolle der Buchungsplattformen. Jetzt kommt ein harter Bruch. Wie sehen Sie den potenziellen Einfluss der Blockchain-Technologie auf die Vermittlung von Dienstleistungen in der Tourismusbranche? Hast du dich damit mal beschäftigt?	Ribes Vicente, Guillermo 14:11 Very good. That was the first block, the introduction about the role of booking platforms. Now comes a hard break. How do you see the potential impact of blockchain technology on the provision of services in the tourism industry? Have you ever looked into it?
Interviewee 14:52 Ich kenne das Wort seit 10 Jahren. Da ich selbstständig bin und 30% meiner Zeit in Weiterentwicklung investiere, habe ich mich mit dem Thema Blockchain noch nicht intensiv beschäftigt.	Interviewee 14:52 I've known the word for 10 years. As I'm self-employed and invest 30% of my time in further development, I haven't looked into the topic of blockchain in depth yet.
Ribes Vicente, Guillermo 15:25 Mhm. Dafür hast du mich. Das ist nämlich exakt mein Thema. Der Einfluss von Blockchain auf die Vermittlung von Dienstleistungen, speziell Hotelbuchungen. Ich werde jetzt erklären, was Blockchain überhaupt ist. Blockchain ist eine Technologie, bei der Informationen in Form von digitalen Blöcken gespeichert werden. Diese Blöcke werden miteinander verbunden. Ziel ist es, eine sichere und transparente Datenbank zu schaffen. Man kann sich das wie ein digitales Logbuch vorstellen, das dezentral auf verschiedenen Computern gespeichert wird und von allen Teilnehmern kontrolliert werden kann. Die Technologie ermöglicht es, Daten in einem Block zu speichern, und bevor der Block voll ist, wird eine Codierung des vorherigen Blocks hinzugefügt. So entsteht eine Kette von Blöcken. Wenn ein Block manipuliert wird, bricht die Kette. Dadurch, dass die Daten auf verschiedenen dezentralen Rechnern liegen, wird ein manipulierter Block sofort erkannt und korrigiert. Das wichtigste Merkmal ist die Dezentralität und die Sicherheit gegen Hacking und Manipulation.	Ribes Vicente, Guillermo 15:25 Mmm. You've got me for that. That's exactly my topic. The influence of blockchain on the provision of services, especially hotel bookings. I will now explain what blockchain actually is. Blockchain is a technology in which information is stored in the form of digital blocks. These blocks are linked together. The aim is to create a secure and transparent database. You can think of it as a digital logbook that is stored in a decentralised manner on different computers and can be controlled by all participants. The technology makes it possible to store data in a block, and before the block is full, an encoding of the previous block is added. This creates a chain of blocks. If a block is manipulated, the chain breaks. Because the data is stored on different decentralised computers, a manipulated block is immediately recognised and corrected. The most important feature is decentralisation and security against hacking and manipulation.
Interviewee 17:54 Ich kann mir vorstellen, dass Blockchain im Tourismus ein großes Potenzial hat, besonders im Bereich Sicherheit. Kundendaten und Zahlungsdaten könnten besser geschützt werden. Aber ich weiß nicht genau, wie jeder Teilnehmer seinen Beitrag leisten kann.	Interviewee 17:54 I can imagine that blockchain has great potential in tourism, especially in the area of security. Customer data and payment data could be better protected. But I don't know exactly how each participant can contribute.
Ribes Vicente, Guillermo 18:31 Sehr gut. In der Wissenschaft wird jetzt über die zweite Generation der Blockchain gesprochen: Blockchain-based Smart Contracts. Das sind intelligente Verträge, die automatisch ausgeführt werden, sobald bestimmte Bedingungen erfüllt sind. Diese Verträge können direkt zwischen Hotel und Kunde über die Blockchain abgeschlossen werden, ohne einen Vermittler. Die Daten sind unveränderlich und sicher. Zahlungen können auch über die Blockchain abgewickelt werden, aber das ist nicht der Fokus. Die Idee ist, dass Vermittler ausgeschaltet werden und Transaktionen schneller und sicherer abgewickelt werden.	Ribes Vicente, Guillermo 18:31 Very good. Academics are now talking about the second generation of blockchain: Blockchain-based smart contracts. These are intelligent contracts that are automatically executed as soon as certain conditions are met. These contracts can be concluded directly between the hotel and customer via the blockchain, without an intermediary. The data is immutable and secure. Payments can also be processed via the blockchain, but that is not the focus. The idea is that intermediaries are eliminated and transactions are processed faster and more securely.
Interviewee 21:56 Ich sehe momentan, dass viele Hotels die Buchungen über ihre eigene Webseite gesteigert haben. Wenn die Blockchain-Technologie diese Prozesse weiter vereinfacht, könnte das für die Hotels von Vorteil sein. Aber ich glaube nicht, dass die Preise dadurch sinken werden. Es würde eher zu besseren Ergebnissen für die Hotels führen.	Interviewee 21:56 I currently see that many hotels have increased bookings via their own website. If blockchain technology further simplifies these processes, it could be beneficial for hotels. But I don't think it will bring prices down. It would rather lead to better results for the hotels.
Ribes Vicente, Guillermo 22:42 Sehr gut. Ich zeige dir jetzt ein Schaubild, das meine Forschung darstellt.	Ribes Vicente, Guillermo 22:42 Very good. I'm going to show you a chart that represents my research.
Interviewee 23:36 Mir kam gerade noch eine Idee. PayPal wird oft als Symbol für Sicherheit gesehen. Wenn Blockchain eine ähnliche Rolle einnimmt, könnte das auch diese Sicherheit bieten.	Interviewee 23:36 I just had another idea. PayPal is often seen as a symbol of security. If blockchain takes on a similar role, it could also provide that security.
Ribes Vicente, Guillermo 24:09 Ja, das ist ein super Hinweis. Hier ist das Schaubild. Ich forsche über Blockchain-based Distributed Ledger for Smart Payment Contract and Reviews. Genau, wir können auch gegen Fake Reviews besser vorgehen, weil die Bewertungen in der Blockchain unveränderlich sind. Der Status quo ist, dass die großen Plattformen viel Macht haben und hohe Provisionen verlangen. Ich untersuche den potenziellen Einfluss der Blockchain auf diese Strukturen.	Ribes Vicente, Guillermo 24:09 Yes, that's a great hint. Here is the diagram. I am doing research on Blockchain-based Distributed Ledger for Smart Payment Contract and Reviews. Exactly, we can also take better action against fake reviews because the ratings in the blockchain are immutable. The status quo is that the big platforms have a lot of power and charge high commissions. I am investigating the potential influence of the blockchain on these structures.
Interviewee 24:49	Interviewee 24:49

Die Provisionen variieren stark. Bei Reisebüros sind es meist 7 bis 12%, bei normalen Reiseveranstaltern 20 bis 25%, und bei Plattformen wie Secret Escapes oder Travel Zoo können es auch 30 bis 40% sein. Das ist ein riesen Batzen.	Commissions vary greatly. For travel agencies it's usually 7 to 12%, for normal tour operators it's 20 to 25%, and for platforms like Secret Escapes or Travel Zoo it can be 30 to 40%. That's a huge chunk.
Ribes Vicente, Guillermo 25:55 Das macht meine Forschung so schwer, weil keiner über die genauen Provisionen redet. Vielen Dank, das ist sehr hilfreich.	Ribes Vicente, Guillermo 25:55 That's what makes my research so hard because no one talks about the exact commissions. Thank you very much, that's very helpful.
Interviewee 27:03 Gerne. Es gibt auf jeden Fall Unternehmen, die hohe Provisionen verlangen. Das kann ich auch gerne nochmal offiziell erfragen.	Interviewee 27:03 Gladly. There are definitely companies that charge high commissions. I can also enquire about this officially.
Ribes Vicente, Guillermo 28:10 Super. Zurück zum Schaubild. Hier geht es um den potenziellen Einfluss der Blockchain. Was wäre deine Meinung dazu?	Ribes Vicente, Guillermo 28:10 Super. Back to the chart. This is about the potential impact of blockchain. What would be your opinion on that?
Interviewee 28:52 Das Schaubild ist sehr komplex. Beim Status quo sehe ich die Provisionen. Beim Einfluss sehe ich die direkten Buchungen zwischen Hotel und Kunde. Wenn diese Technologie all das kann, was die anderen können, sehe ich keinen Grund, warum sie nicht einfach ablöst. Die Frage ist, wie viel Arbeit das den Hoteliers abnimmt. Wenn es eine zusätzliche Komplexität bringt, könnte es schwierig werden.	Interviewee 28:52 The chart is very complex. In the status quo, I see the commissions. In terms of influence, I see the direct bookings between hotel and customer. If this technology can do everything that the others can, I see no reason why it can't simply take over. The question is how much work it takes away from hoteliers. If it adds complexity, it could be difficult.
Ribes Vicente, Guillermo 31:37 Toll. Lass uns bei dem Punkt bleiben. Die praktische Implementierung soll ich ausdrücklich nicht erforschen, aber die Rolle von Google ist spannend. Wie siehst du die Zukunft von Google als Suchmaschine für Hotels oder Destinationen?	Ribes Vicente, Guillermo 31:37 Great. Let's stick to the point. I'm specifically not supposed to explore the practical , but the role of Google is exciting. How do you see the future of Google as a search engine for hotels or destinations?
Interviewee 32:40 Google ist mittlerweile schon sehr optimiert. Wenn ich Wellnesshotel Tegernsee suche, bekomme ich gute Antworten. In Zukunft müsste Google irrelevante Themen besser aussortieren. Ich glaube, dass die Leute direkt in Google buchen werden, ohne auf die Webseite zu gehen. Google könnte mehr oder weniger das Portal für alles sein.	Interviewee 32:40 Google is already very optimised. If I search for Wellnesshotel Tegernsee, I get good answers. In future, Google will have to sort out irrelevant topics better. I believe that people will book directly in Google without going to the website. Google could more or less be the portal for everything.
Ribes Vicente, Guillermo 33:56 Ja, danke. Das ist ein wichtiger Hinweis. Wenn wir das auf die Hotellerie übertragen, ist das sehr spannend. Eine vorletzte Frage: Hast du dich mit dem Thema Künstliche Intelligenz und Tourismus auseinandergesetzt?	Ribes Vicente, Guillermo 33:56 Yes, thank you. That's an important point. If we apply that to the hotel industry, it's very exciting. A penultimate question: Have you looked into the topic of artificial intelligence and tourism?
Interviewee 34:13 Im Hotelzimmer gibt es Möglichkeiten für KI, wie z.B. den Einsatz von Robotern. Ich sehe ein großes Potenzial darin, standardtätigkeiten auf KI zu verlagern, um Freiraum für das Persönliche zu haben. Tourismus ohne persönlichen Kontakt sehe ich nicht.	Interviewee 34:13 There are opportunities for AI in hotel rooms, such as the use of robots. I see great potential in shifting standard activities to AI in order to leave room for personal contact. I don't see tourism without personal contact.
Ribes Vicente, Guillermo 35:47 Super, sehr gut. Das könnte mein nächstes Paper werden. Meine Abschlussfrage: Wenn der Einfluss von Blockchain-based Smart Contracts auf den Tourismus wie im Schaubild dargestellt wird, was glaubst du, wären die Effekte? Positive und negative.	Ribes Vicente, Guillermo 35:47 Great, very good. That could be my next paper. My final question: If the impact of blockchain-based smart contracts on tourism is as shown in the diagram, what do you think the effects would be? Positive and negative.
Interviewee 36:37 Für Hotels wäre es positiv, wenn die großen Vermittler geschwächt werden. Für Kunden wäre es gut, wenn Informationen besser sind. Preissenkungen sehe ich nicht, eher geringere Preissteigerungen. Negativ könnte die zusätzliche Komplexität sein. Es gibt Berater, die Hotels bei der Strategie unterstützen, weil sie überfordert sind. Dieses Thema Überforderung ist nicht zu unterschätzen.	Interviewee 36:37 For hotels, it would be positive if the big intermediaries were weakened. It would be good for customers if information were better. I don't see any price reductions, rather smaller price increases. The additional complexity could be negative. There are consultants who support hotels with their strategy because they are overwhelmed. This issue of being overwhelmed should not be underestimated.
Ribes Vicente, Guillermo 38:51 Ja, das ist ein wichtiger Punkt. Neue Technologien können für Mitarbeiter eine Herausforderung sein. Hast du sonst noch etwas?	Ribes Vicente, Guillermo 38:51 Yes, that's an important point. New technologies can be a challenge for employees. Do you have anything else?
Interviewee 39:27 Ja, Schnittstellen zwischen alten und neuen Technologien sind eine große Herausforderung. Das kostet viel Zeit und Aufwand. Die PMS-Systeme müssen intelligente Lösungen finden. Wenn sie das nicht tun, könnten sie obsolet werden.	Interviewee 39:27 Yes, interfaces between old and new technologies are a big challenge. It takes a lot of time and effort. The PMS systems have to find intelligent solutions. If they don't, they could become obsolete.
Ribes Vicente, Guillermo 40:17 Super, das war ein wichtiger Punkt. Ich werde das Recording jetzt stoppen.	Ribes Vicente, Guillermo 40:17 Great, that was an important point. I'll stop the recording now.
Ribes Vicente, Guillermo stopped transcription	Ribes Vicente, Guillermo stopped transcription

Bilingual Interview Transcript Interviewee 8

Austausch mit Guillermo Ribes (PhD cand.)-20230704_120501-Meeting Recording July 4, 2023, 12:05 PM Duration: 31m 44s	Exchange with Guillermo Ribes (PhD cand.)-20230704_120501-Meeting Recording July 4, 2023, 12:05 PM Duration: 31m 44s
Ribes Vicente, Guillermo (0:03): Transkription, das ist nämlich ganz, ganz toll inzwischen.	Ribes Vicente, Guillermo (0:03): Transcription, because this is really, really great by now.
Ribes Vicente, Guillermo started transcription	Ribes Vicente, Guillermo started transcription
Ribes Vicente, Guillermo (0:07): Das Gespräch wird direkt mitgeschrieben, das funktioniert prima. Dann ja, herzlich willkommen. Wie gesagt, Anonymisierung ist auch für mich zu erinnern. Nochmal, Hotelmanagerin Kettenhotellerie, X Zimmer in Nordrhein-Westfalen und vielen Dank, dass Sie dabei sind. Ich habe erst mal so eine ganz allgemeine Einstiegsfrage: Wie bewerten Sie den Einfluss von Informationstechnologien auf die Tourismusindustrie, vor allem auf die Vermittlung von touristischen Dienstleistungen und Hotelbuchungen? Also wie bewerten Sie den Einfluss und gerne auch im Vergleich zu anderen Industrien, also wieviel Einfluss haben Sie auf unsere Industrie im Vergleich zu anderen Industrien?	Ribes Vicente, Guillermo (0:07): The conversation is transcribed directly, that works great. Then yes, welcome. As I said, anonymisation is also for me to remember. Once again, hotel manager chain hotel, X rooms in North Rhine-Westphalia and thank you for being here. I have a very general question to start with: How do you rate the influence of information technology on the tourism industry, especially on the provision of tourism services and hotel bookings? So how do you rate the influence and also in comparison to other industries, i.e. how much influence do you have on our industry in comparison to other industries?
Interviewee No.8 (0:53): Wenn ich in Prozent sagen sollte, dann wären das schon 70%. Tatsächlich, weil die Hotellerie einfach auf diese ganzen Buchungsportale etc. angewiesen ist. Gerade wenn man Hotels füllen muss, man streut halt einfach wie ein Wasserhahn, du machst ihn auf und machst ihn wieder zu, wenn du es halt nicht mehr brauchst. Die haben halt eine viel bessere Streuung als Sales und Marketing oder ein eigenes Portal. Natürlich hilft es auch immer bei der Bekanntheit, logischerweise, aber ob es nun HRS, Booking oder was auch immer ist, also von daher ja. Ja, also ich denke schon, dass man da sehr viel braucht, ja.	Interviewee No.8 (0:53): If I were to say as a percentage, then that would already be 70%. Actually, because the hotel industry is simply dependent on all these booking portals etc. Especially when you have to fill hotels, you just spread it like a tap, you open it and close it again when you no longer need it. They have much better distribution than sales and marketing or your own portal. Of course, it always helps with brand awareness, of course, but whether it's HRS, Booking or whatever, so from that point of view, yes. Yes, so I think you need a lot there, yes.
Ribes Vicente, Guillermo (1:44): Gut, und jetzt spannend, weil ich weiß ja zufällig, dass Sie auch in einer anderen Branche schon gearbeitet haben. Gut, dass wir im Vorgespräch hatten. Jetzt, wenn Sie das so... Sie kennen jetzt zwei Welten, also die Rolle von Vermittlern in der Tourismusindustrie und die Rolle von Vermittlern in anderen Industrien. Wenn Sie die Tourismusindustrie nochmal vergleichen wollen, wie ist so Ihr Eindruck? Und es geht ausdrücklich um Buchungsportale, das ist genau, worüber ich forsche.	Ribes Vicente, Guillermo (1:44): Good, and now exciting, because I happen to know that you've also worked in another industry before. It's good that we had a preliminary discussion. Now, if you put it like this... You now know two worlds, i.e. the role of agents in the tourism industry and the role of agents in other industries. If you want to compare the tourism industry again, what is your impression? And it's specifically about booking portals, that's exactly what I'm researching.
Interviewee No.8 (2:18): Also, da ich ja wie gesagt die andere Seite jetzt auch kenne, ist es dann noch vorwiegend Mund-zu-Mund-Propaganda, beziehungsweise da macht es der Preis, wo ich hingehe. Klar gibt es das in der Hotellerie auch, aber da erwartet man schon etwas anderes, nicht nur den Preis. Also das merken gerade wir hier auch. Natürlich gucken die Leute, ach, da geh ich doch mal öfter in der Stadt oder in irgendeinem Urlaubsort, wenn es da günstiger ist. Aber es zählt für viele Leute auch doch schon die Destination, und dann suchen sie eben auch ganz gezielt. Und das erste, was jeder macht, ist, wenn er ein Hotel sucht in einer neuen Stadt, irgendwo anders, entweder Google befragen, dann kommen die ersten SEOs, die ersten Suchmaschinen, die dann sagen, ja, hier, nimm doch mal das, und dann stehen die Buchungsportale halt als allererstes oben drauf. Da stehen nicht die Hotelnamen als allererstes, sondern das sieht man ja immer wieder. Also ja, und dann kommst du zu Booking, HRS und dann bist du schon da.	Interviewee No.8 (2:18): Well, since I know the other side now, as I said, it's still mainly word-of-mouth, or rather it's the price that makes it where I go. Of course it's the same in the hotel industry, but people expect something else, not just the price. So we realise that here too. Of course people think, oh, I'll go more often in the city or to some holiday resort if it's cheaper there. But for many people, it's the destination that counts, and then they search very specifically. And the first thing everyone does when looking for a hotel in a new city, somewhere else, is either ask Google, then the first SEOs, the first search engines, come up and say, yes, here, why don't you take this, and then the booking portals are the very first thing at the top. It's not the hotel names that come up first, but you see that again and again. So yes, and then you get to Booking, HRS and then you're already there.
Ribes Vicente, Guillermo (3:19): Mhm, genau. So, wir können gerne bei diesem Punkt bleiben. Warum machen Kunden das genau, was wir gerade besprochen haben? Was ist der entscheidende Punkt, warum machen Kunden das so?	Ribes Vicente, Guillermo (3:19): Mhm, exactly. So, we can stay with this point. Why do customers do exactly what we've just discussed? What is the crucial point, why do customers do it that way?
Interviewee No.8 (3:34): Also, weil sie sich nicht auskennen. Also tatsächlich, weil es leicht ist. Das ist ja einfach. Also wenn ich schon mal in einem Hotel... also wenn ich jetzt Steigenberger, Dorint Kunde, was auch immer, wo habe ich überall, Hilton Honors Club, welche... wenn ich also Karten habe oder Mitglied in irgendeinem Verein, gut, dann suche ich nach dem Hotel, logischerweise. Habe ich das aber nicht und bin ich Otto Normalverbraucher und sage, hier, ich will einfach nur mal in eine andere Stadt, ich will nach Düsseldorf, ich will nach Köln, ich will nach Mainz, ich will nach Wiesbaden, was auch immer. Dann, das mache ich ja auch selber, dann gucke ich rein und sage, ah, okay, lass mich mal gucken, wo will ich denn hin, was habe ich denn vor? Ja, ist es ein Musicalbesuch, ist es ein Theaterbesuch, ist es ein Festival, ist es keine Ahnung, was auch immer, will ich nur Freunde treffen? Dann gucke ich natürlich auch nach den Dingen in der Nähe und damit man es nicht so weit hat. Und das kannst du am einfachsten machen, indem du tatsächlich auf eine Suchmaschine gehst und das raussuchst. Du kennst dich ja nicht aus.	Interviewee No.8 (3:34): Well, because they don't know their way around. Actually, because it's easy. It's very simple. So if I've ever stayed in a hotel... so if I'm a Steigenberger, Dorint customer, whatever, where do I have everywhere, Hilton Honours Club, which... So if I have cards or am a member of some club, well, then I look for the hotel, logically. But if I don't have that and I'm an average Joe and say, here, I just want to go to another city, I want to go to Düsseldorf, I want to go to Cologne, I want to go to Mainz, I want to go to Wiesbaden, whatever. Then, as I do myself, I take a look and say, ah, okay, let me have a look, where do I want to go, what do I have in mind? Yes, is it a visit to a musical, is it a visit to the theatre, is it a festival, is it I don't know, whatever, do I just want to meet friends? Then, of course, I also look for things nearby so that I don't have to go too far. And the easiest way to do that is to actually go to a search engine and look it up. You don't know your way around.

Ribes Vicente, Guillermo (4:36):
Genau. Genau, also neben der Einfachheit, nämlich ein spannendes Schlüsselwort, haben wir sonst andere Motivationen, warum Kunden das machen? Sie könnten ja auch direkt beim Hotel buchen. Vielleicht können wir das umdrehen: Warum buchen viele nicht direkt beim Hotel?

Interviewee No.8 (4:49):
Ja, weil sie nach wie vor denken, dass die Buchungsportale günstiger sind, was hier mal eine Zeitlang so war, tatsächlich mit den Knebelverträgen von HRS, die es damals gab. Die ist ja jetzt heute nicht mehr so, Gott sei Dank, tatsächlich. Aber da gab es auch damals ja nur HRS. Also wenn man das mal... die haben sich da schon recht gesund gestoßen, das war schon gut, tatsächlich, um ein größeres Publikum anzusprechen. Aber es ist halt so, dass man gerade auf diesen Portalen natürlich alle Kategorien bekommt. Wenn ich jetzt in einem Hotel buche, kriege ich nur dieses Hotel. Wenn ich jetzt sage, okay, ich möchte in eine bestimmte Region und ich weiß noch nicht, möchte ich 2 Sterne, möchte ich 4 Sterne, möchte ich 5 Sterne, ach, für das gleiche Geld kriege ich ja vielleicht auch ein 5-Sterne-Zimmer, weil die gerade eben ein Special-Angebot haben. Warum nicht? Also da kriege ich einfach die Vielfalt der Hotels auf diesen Buchungsportalen. Das habe ich natürlich nicht, wenn ich ein einzelnes Hotel anrufe.

Ribes Vicente, Guillermo (5:55):
Ja, sehr gut. Vielleicht ein kurzes Stichwort, um diesen Block abzuschließen: Glauben Sie, vor allem im internationalen Kontext, wenn man Hotellerie und Tourismus global sieht, weil ich glaube, wir sind soweit, dass es eine globale Industrie ist. Ich darf ja nicht zu sehr beeinflussen sozusagen, aber ich glaube, das ist ein feststehender Fakt. Spielt bei Buchungen das Keyword Vertrauen eine Rolle?

Interviewee No.8 (6:24):
In welcher Hinsicht Vertrauen? Vertrauen, dass dort die Preise besser sind? Fragezeichen. Ich weiß es nicht, also...

Ribes Vicente, Guillermo (6:37):
Ich darf nicht mehr sagen, es geht nur um das Stichwort Vertrauen, ob Ihnen da irgendwas zu einfällt.

Interviewee No.8 (6:39):
Nö, nö. Nö, also eigentlich nicht. Also tatsächlich nicht Vertrauen, vielleicht ein wenig mehr Verlässlichkeit, das ist es vielleicht. Weil man sich einfach darauf verlässt, dass dieses Buchungsportal eben die besten Preise für mich raussucht oder auch die besten Hotels raussucht oder, oder, oder. Man hat ja das Gefühl, es ist ein unabhängiger Partner. Das heißt, wenn ich jetzt im Hotel anrufe, dann habe ich die Rezeptionistin am Telefon, die mir natürlich erzählt, dass das Hotel toll ist. Wenn ich jetzt keine Ahnung bei einem Buchungsportal mich anmelde, habe ich viel früher im Reisebüro ganz klassisch natürlich auch ihre Vorlieben mit Sicherheit. Aber vielleicht verlasse ich mich darauf, dass die das vielleicht schon besucht haben, sich angeguckt haben und dann sagen, okay, das kann man verkaufen.

Ribes Vicente, Guillermo (7:43):
Super, perfekt. Das reicht erstmal. Wir machen nämlich jetzt den Übergang, Sie werden auch gleich sehen, warum ich das gefragt habe. Jetzt kommen wir wirklich zu... das ist so der Status quo, was wir jetzt gerade so besprochen haben. Und jetzt, wenn wir versuchen, ein bisschen in die Zukunft zu gucken, gibt es so Schlüsseltechnologien...

Interviewee No.8 (7:50):
Mhm.

Ribes Vicente, Guillermo (8:01):
...speziell für Tourismus und die Buchung von Hotelzimmern oder anderen Dienstleistungen, wo Sie sich vielleicht schon mal mit beschäftigt haben, mal was gelesen haben. Was sind solche Technologien, die vielleicht in den nächsten Jahren diese Branche verändern und speziell die Buchung von Hotelzimmern?

Interviewee No.8 (8:21):
Also, vielleicht nicht vorab, weil ich denke, vorab wird es eigentlich... ja, wahrscheinlich wird es Apps geben, irgendwann mal für jedes Hotel, für jedes Buchungsportal, was es jetzt ja auch schon mal gibt. Anders geht es ja gar nicht. Was vielleicht kommen wird, sind mit Sicherheit irgendwie Prepaid-Karten, vielleicht wo man meinetwegen auch bei HRS, booking.com, Opodo und wie sie alle heißen, so eine Art Treueclub. Dann kannst du mit dieser Karte, die du da hast, eben auch bezahlen. Könnte ich mir vorstellen, dass diese Bezahlfunktion da immer mehr werden. Ich glaube, was eine spannende Technologie wird, ist Self-Check-in. Denk ich, weil aufgrund des Personalmangels, den wir halt überall haben, meine, muss man nicht drüber reden. Für eine nullachtfünfzehn Buchung wie beim Flughafen-Check-in-Terminal, wo du das selber alles eingeben kannst, kriegst du die Karte raus, gehst aufs Zimmer, fertig. Das wird, glaube ich, sehr spannend für die Operation werden. Gerade auch alles das, was eben, ja, vielleicht

Ribes Vicente, Guillermo (4:36):
Exactly. Exactly, so apart from simplicity, which is an exciting keyword, do we have other motivations as to why customers do this? They could also book directly with the hotel. Maybe we can turn that around: Why don't many people book directly with the hotel?

Interviewee No.8 (4:49):
Yes, because they still think that the booking portals are cheaper, which was the case here for a while, actually with the gagging contracts from HRS that existed back then. That's no longer the case today, thank God. But back then there was only HRS. So if you look at it... they were already quite healthy, that was good, actually, to appeal to a larger audience. But it's just that you get all categories on these portals. If I book a hotel now, I only get that hotel. If I now say, okay, I want to go to a certain region and I don't know yet, do I want 2 stars, do I want 4 stars, do I want 5 stars, oh, for the same money I might get a 5-star room because they have a special offer. Why not? I simply get the variety of hotels on these booking portals. Of course, I don't have that when I call a single hotel.

Ribes Vicente, Guillermo (5:55):
Yes, very good. Perhaps a quick keyword to conclude this block: Do you think, especially in an international context, if you look at hotels and tourism globally, because I think we're to the point where it's a global industry. I mustn't influence too much, so to speak, but I think that's an established fact. Does the keyword trust play a role in bookings?

Interviewee No.8 (6:24):
Trust in what respect? Trust that the prices are better there? Question mark. I don't know, so...

Ribes Vicente, Guillermo (6:37):
I'm not allowed to say any more, it's just about the keyword trust, if you can think of anything about that.

Interviewee No.8 (6:39):
Nope, nope. Nope, not really. So actually not trust, maybe a little more reliability, maybe that's it. Because you simply rely on this booking portal to find the best prices for you or to find the best hotels or, or, or, or. You have the feeling that it's an independent partner. This means that when I call a hotel, I have the receptionist on the phone, who of course tells me that the hotel is great. If I have no idea when I book on a booking portal, I will of course have their preferences for sure much earlier at the travel agency. But maybe I'm relying on the fact that they've perhaps already visited it, looked at it and then say, okay, you can sell it.

Ribes Vicente, Guillermo (7:43):
Great, perfect. That's enough for now. We're going to make the transition now, you'll see why I asked that in a moment. Now we're really getting to... that's the status quo, what we've just discussed. And now, if we try to look a bit into the future, there are some key technologies...

Interviewee No.8 (7:50):
Mhm.

Ribes Vicente, Guillermo (8:01):
...specifically for tourism and booking hotel rooms or other services, where you might have dealt with, read something once. What are the technologies that will perhaps change this industry in the next few years and specifically the booking of hotel rooms?

Interviewee No.8 (8:21):
Well, maybe not in advance, because I think in advance there will actually be... Yes, there will probably be apps at some point for every hotel, for every booking portal, which already exists now. There's no other way. What will perhaps come are prepaid cards somehow, perhaps where you can also use HRS, booking.com, Opodo andwhat they're all called, a kind of loyalty club. Then you can also pay with this card that you have there. I can imagine that these payment functions will become more and more common. I think self-check-in will be an exciting technology. I think that because of the staff shortage that we have everywhere, I don't think we need to talk about it. For a zero-eight-fifteen booking like at the airport check-in terminal, where you can enter everything yourself, you get the card out, go to your room, done. I think that will be very exciting for the operation. Especially everything that can be done with robots, with robots, cleaning and so on. I think that's the direction we'll be heading in operational terms, i.e. in hotels. As far as booking behaviour is concerned, I believe that people will continue

eben auch wirklich dann mit Robotern gemacht werden kann, mit Robotern, Cleaning usw. Ich glaube, das wird in die Richtung gehen in der operativen, also im Hotel. Was das Buchungsverhalten angeht, glaube ich, wird man sich immer weiter und immer mehr auf Einträge im Internet verlassen, definitiv. Auch die Buchungsportale und eben auch das, was vielleicht andere Gäste geschrieben haben.	to rely more and more on entries on the internet, definitely. Also the booking portals and perhaps what other guests have written.
Ribes Vicente, Guillermo (10:05): Mhm, super. Genau, ich suche immer nach Keywords. Ein Keyword, was ich jetzt mal reinbringe, ist: Haben Sie sich schon mal mit dem Konzept Blockchain und Tourismus beschäftigt? Einfach nur diese beiden Keywords zusammen.	Ribes Vicente, Guillermo (10:05): Mhm, great. Exactly, I always search for keywords. One keyword that I'm going to bring in is: Have you ever looked into the concept of blockchain and tourism? Just these two keywords together.
Interviewee No.8 (10:25): Blockchain und Tourismus?	Interviewee No.8 (10:25): Blockchain and tourism?
Ribes Vicente, Guillermo (10:27): Genau.	Ribes Vicente, Guillermo (10:27): Exactly.
Interviewee No.8 (10:29): Nein.	Interviewee No.8 (10:29): No.
Ribes Vicente, Guillermo (10:30): Nein, das ist kein Problem, dafür bin ich da, weil es gibt immer mehr Wissenschaftler und ich, ich brauche ja... ich denke, wir... also ich muss auf Dinge aufbauen, und im Zuge der Vorbereitung zu meinem PhD ist mir aufgefallen, dass diese beiden Keywords trenden, das fand ich ganz spannend. Und wir haben das so aus methodischen Gründen. Ich lese Ihnen jetzt einen kleinen Text vor, weil das bei allen Interviews so gemacht wurde, um das einheitlich zu halten.	Ribes Vicente, Guillermo (10:30): No, that's not a problem, that's what I'm here for because there are more and more scientists and I, I need yes... I think we.... So I have to build on things, and in the course of preparing for my PhD, I realised that these two keywords are trending, which I found quite exciting. And we did it for methodological reasons. I'm going to read you a short text now, because that's what we did in all the interviews to keep it standardised.
Interviewee No.8 (10:35): Gut, okay.	Interviewee No.8 (10:35): Well, okay.
Ribes Vicente, Guillermo (11:02): Ich lese den Text vor und erkläre überhaupt, was Blockchain ist und was die Forschung sagt, welchen Einfluss es haben könnte. Und ausdrücklich, hier geht es um ein theoretisches Modell, die praktische Anwendung mache ich in meiner nächsten Arbeit, mit Ihnen zusammen.	Ribes Vicente, Guillermo (11:02): I'll read the text and explain in general what blockchain is and what the research says, what impact it could have. And explicitly, this is about a theoretical model, I will do the practical application in my next work, together with you.
Interviewee No.8 (11:11): Mhm, ja.	Interviewee No.8 (11:11): Mhm, yes.
Ribes Vicente, Guillermo (11:21): Genau, also Blockchain ist ganz einfach erstmal eine Technologie, wo Informationen in sogenannten Blöcken gespeichert werden. Das ist nichts anderes als eine gewisse Menge an Daten, die passen da rein, dann wird der Block zugemacht. Das Spannende: Dieser Block wird dann nicht zentral auf einem Server irgendwo gespeichert, sondern es ist ein dezentrales Netz, wo ganz viele mitmachen und Speicherplatz freigeben, wo diese Blöcke ganz oft abgespeichert werden. Also es gibt keine Kopien, alles sind Originale und sie liegen auf verschiedenen Rechnern. Jedes Mal, wenn ein Block abgespeichert worden ist, wird ein Code berechnet, der einmalig ist für die Daten, die in diesem Block stecken. Sobald der nächste Block abgespeichert werden soll, kommt der sozusagen daneben und kriegt den Code des vorherigen als Anfang. Und so entsteht eine Kette zwischen jedem Block.	Ribes Vicente, Guillermo (11:21): Exactly, so blockchain is quite simply first of all a technology where information is stored in so-called blocks. That's nothing more than a certain amount of data that fits in there, then the block is closed. The exciting thing: This block is not stored centrally on a server somewhere, but it is a decentralised network where many people participate and share storage space, where these blocks are stored very often. So there are no copies, they are all originals and they are stored on different computers. Each time a block is saved, a code is calculated that is unique for the data contained in this block. As soon as the next block is to be saved, it comes next to it, so to speak, and is given the code of the previous one as a start. This creates a chain between each block.
Interviewee No.8 (12:32): Mhm.	Interviewee No.8 (12:32): Mhm.
Ribes Vicente, Guillermo (12:34): Und der wird ganz oft abgespeichert. Wenn also jetzt jemand versucht, an einem Block rumzuschrauben, dann merkt es die Kette und alle anderen Computer sagen: Hey, da manipuliert doch jemand was, das wollen wir nicht und reparieren die Blockchain. Deswegen Blockchain.	Ribes Vicente, Guillermo (12:34): And it's stored quite often. So if someone tries to tamper with a block, the chain notices it and all the other computers say: Hey, someone's tampering with something, we don't want that and we'll fix the blockchain. That's why blockchain.
Interviewee No.8 (12:54): Mhm.	Interviewee No.8 (12:54): Mhm.
Ribes Vicente, Guillermo (12:55): Nicht mehr und nicht weniger. Also ein ganz transparentes, dezentrales System. Und das ist das Interessante. Wir nennen es ein sogenanntes trustless System. Wir als Menschen brauchen nicht einem anderen Menschen vertrauen, dass das funktioniert, dass er seinen Server in Ordnung hat, sondern das macht das System von alleine, weil es sehr oft Kopien gibt. Wir brauchen kein Vertrauen, weil das zu stören, zu hacken oder Daten zu manipulieren, ist wahnsinnig schwer. Also das ist sozusagen Blockchain, wir nennen das erste Generation.	Ribes Vicente, Guillermo (12:55): Nothing more and nothing less. So it's a completely transparent, decentralised system. And that's the interesting thing. We call it a trustless system. We as humans don't need to trust another person that it works, that they have their server in order, but the system does that on its own because there are very often copies. We don't need trust because it's incredibly difficult to disrupt, hack or manipulate data. So this is blockchain, so to speak, we call it first generation.
Interviewee No.8 (13:18): Mhm.	Interviewee No.8 (13:18): Mhm.
Ribes Vicente, Guillermo (13:35):	

Jetzt ist es so, dass meistens Blockchain erste Generation tatsächlich mit Bitcoin in Verbindung gebracht wird. Bitcoin funktioniert genau darauf. Also wir brauchen keine Zentralbank mehr, der wir vertrauen, dass alles mit dem Geld gut läuft, sondern Blockchain ist sozusagen eine dezentrale, sich selbst regulierende Währung.

Interviewee No.8 (13:55):
Mhm.

Ribes Vicente, Guillermo (13:56):
Jetzt wird es spannend. Eine kurze Zwischenfrage: Aus methodischen Gründen, können Sie sich jetzt vielleicht vorstellen, wie Blockchain, also eine dezentrale Lagerung von Daten, den Tourismus beeinflussen könnte?

Interviewee No.8 (14:13):
Ja, man braucht keinen TrustYou mehr und auch kein Spotlight und auch kein Google. Dann hast du ja, äh, ja, eigentlich musst du nur ein Schlüsselwort oder einen Code angeben und dann wird dir das rausgespuckt, was du brauchst und das vielleicht eben dann verlässlich als neutraler Partner. Also ich denke schon, dass das, wenn man das vielen Menschen erklärt, was sein könnte, ja.

Ribes Vicente, Guillermo (14:43):
Ja, Sie sind sofort auf die richtige Richtung gegangen. Genau, jetzt kommt nämlich das war erste Generation und womit ich mich beschäftige und eben auf, also die Zahl der Forschung in diesem Bereich verdoppelt sich jedes Jahr. Jetzt die zweite Generation sind sogenannte intelligente Verträge in der Blockchain. Das heißt, in diesen Blöcken werden nicht nur Daten gespeichert, sondern auch Verträge. Und ich lese jetzt wieder, was ich muss mal zur Seite gucken, dass ich allen ungefähr das Gleiche vorlese.

Interviewee No.8 (14:57):
Mhm, das ist gut.

Ribes Vicente, Guillermo (15:14):
Also Blockchain-based intelligente Verträge, Blockchain-Based Smart Contracts. Stellen Sie sich vor, Sie möchten ein Hotelzimmer buchen. Anstatt eine Buchungs-Website oder eine Agentur oder eine Plattform, die als Vermittler fungiert, können Sie direkt mit einem Hotel, oder ich habe immer das Beispiel einer Eco-Lodge in Bangladesch, direkt mit dem Hotel über die Blockchain-Plattform interagieren. Der gesamte Prozess und die Buchung würde in einem intelligenten Vertrag auf der Blockchain festgehalten werden. Dieser digitale Vertrag würde sich automatisch erfüllen, wenn bestimmte Bedingungen erfüllt sind. Zum Beispiel, die Buchungsinformationen, die Stornierungsdaten, der Zimmerpreis. Wann wird die Zahlung ausgelöst? Und da diese intelligenten Verträge in der dezentralen und transparenten Datenbank gelagert sind, können sowohl Kunde als auch Hotel auf ihre Daten zurückgreifen, aber keiner von beiden kann sie verändern. Also deswegen ist dieses vertrauenswürdige, das eliminiert das Risiko von Betrug und Manipulation. Ganz spannend, das gilt einmal für die intelligenten Verträge für Zahlungen und die Abwicklung des Rechtsgeschäfts, aber auch zum Beispiel für die ganzen Reviews, die Bewertungen. Denn die würden dann auch unmanipulierbar an die einzelnen Teilnehmer in dieser Blockchain festgehalten werden. Tatsächlich ist es so, ich muss kurz... genau, also die Idee ist, dass sogenannte Blockchain-based Smart Contracts als dezentrale Organisation, so wie wir es bei Bitcoin auch haben, die auch diese Technologie nutzen, sagen, wir brauchen keinen zentralen Vermittler mehr wie eine Zentralbank. Wir haben Technologien, die trustless das Gleiche erfüllen.

Interviewee No.8 (16:47):
Mhm.

Ribes Vicente, Guillermo (17:12):
Ich muss mal kurz zumachen. Sozusagen, das war die Idee von Blockchain: Wir schmeißen den Vermittler raus aus der Kette und machen Geschäfte untereinander. Was meinen Sie jetzt dazu, was so die Forscher, vor allem in Amerika, gerade ganz viel dazu sagen?

Interviewee No.8 (17:29):
Ja, äh, ich glaube Google und Co. werden davon nicht begeistert sein, der Rest schon, glaub ich. Weil es natürlich Geld sparen kann, ne? Also wenn ich jetzt direkt mit dem Hotel in Kontakt treten kann und das Hotel mit mir und ich brauche niemanden da sitzen haben, der überprüft, ob diese Reservierung jetzt auch so richtig ist und ob ich dann auch die Zahlung kriege und, und, und, und, und.

Ribes Vicente, Guillermo (17:39):
Ja.

Interviewee No.8 (17:56):
Dann kann ich das natürlich an den Kunden weitergeben. Das spart natürlich eine Menge Geld.

Ribes Vicente, Guillermo (13:35):
Now the thing is that mostly Blockchain first generation is actually associated with Bitcoin. Bitcoin works exactly on that. So we no longer need a central bank that we trust that everything is going well with money, but blockchain is a decentralised, self-regulating currency, so to speak.

Interviewee No.8 (13:55):
Mhm.

Ribes Vicente, Guillermo (13:56):
Now it's getting exciting. A brief interim question: For methodological reasons, can you perhaps now imagine how blockchain, i.e. decentralised data storage, could influence tourism?

Interviewee No.8 (14:13):
Yeah, you don't need TrustYou anymore and you don't need Spotlight and you don't need Google. Then you have, er, yes, actually you just have to enter a keyword or a code and then it will spit out what you need and perhaps reliably as a neutral partner. So I think that if you explain that to a lot of people, it could be something, yes.

Ribes Vicente, Guillermo (14:43):
Yes, you immediately went in the right direction. Exactly, because now comes the first generation and what I'm dealing with and just on, so the number of research in this area is doubling every year. Now the second generation is so-called smart contracts in the blockchain. This means that not only data is stored in these blocks, but also contracts. And I'm now reading again, which I have to look to the side to see that I'm reading roughly the same thing to everyone.

Interviewee No.8 (14:57):
Mhm, that's good.

Ribes Vicente, Guillermo (15:14):
So blockchain-based smart contracts, blockchain-based smart contracts. Imagine you want to book a hotel room. Instead of a booking website or an agency or a platform acting as an intermediary, you can interact directly with a hotel, or I always have the example of an eco-lodge in Bangladesh, directly with the hotel through the blockchain platform. The whole process and booking would be recorded in a smart contract on the blockchain. This digital contract would automatically fulfil itself when certain conditions are met. For example, the booking information, the cancellation data, the room rate. When is the payment triggered? And because these smart contracts are stored in the decentralised and transparent database, both the customer and the hotel can access their data, but neither of them can change it. So that's why this trustworthy system eliminates the risk of fraud and manipulation. It's exciting that this applies to intelligent contracts for payments and the processing of legal transactions, but also for all the reviews and ratings, for example. This is because they would then also be recorded in this blockchain in a way that cannot be manipulated by the individual participants. In fact, I have to briefly... Exactly, so the idea is that blockchain-based smart contracts as a decentralised organisation, just like we have with Bitcoin, which also use this technology, say that we no longer need a central intermediary like a central bank. We have technologies that fulfil the same thing trustlessly.

Interviewee No.8 (16:47):
Mhm.

Ribes Vicente, Guillermo (17:12):
I have to close for a second. So to speak, that was the idea of blockchain: we kick the intermediary out of the chain and do business with each other. What do you think about what researchers, especially in America, are saying about it right now?

Interviewee No.8 (17:29):
Yeah, er, I don't think Google and co. will be thrilled about it, the rest will, I think. Because of course it can save money, right? So if I can now contact the hotel directly and the hotel can contact me and I don't need to have someone sitting there checking whether this reservation is correct and whether I'll get the payment and, and, and, and, and, and.

Ribes Vicente, Guillermo (17:39):
Yes.

Interviewee No.8 (17:56):
Then of course I can pass that on to the customer. That saves a lot of money, of course.

Ribes Vicente, Guillermo (18:01):

Ribes Vicente, Guillermo (18:01): Genau, ja, das ist der Punkt. Ich habe jetzt mal auch aus methodischen Gründen, Sie haben genau das schon gesagt, aber ich zeige Ihnen jetzt noch ein Schaubild, weil ich das eben allen gezeigt habe. Weil das reflektiert genau das, worüber ich sage, da müssen wir mal drüber nach denken. Und es ist ja immer eine Geschichte, was ist in der Literatur. Also ich habe da 100 Seiten darüber recherchiert, aber ich finde es eben spannend, was Menschen, die damit täglich zu tun haben, sagen. Sie sollten jetzt ein Schaubild sehen, im besten aller Fälle.	Exactly, yes, that's the point. For methodological reasons, you've already said exactly that, but I'll show you another diagram now because I've just shown it to everyone. Because that reflects exactly what I say we need to think about.think about it. And it's always a story about what's in the literature. I've done 100 pages of research on it, but I find it fascinating what people who deal with it on a daily basis have to say. You should now see a diagram, in the best of all cases.
TECHNISCHE PROBLEME - gelöscht	TECHNICAL PROBLEMS - deleted
Interviewee No.8 (21:19): Jawohl, jetzt.	Interviewee No.8 (21:19): Yup, now.
Ribes Vicente, Guillermo (21:20): Na super, sehr gut. Ich sehe Sie jetzt nicht mehr, aber...	Ribes Vicente, Guillermo (21:20): Great, very good. I can't see you now, but...
Interviewee No.8 (21:25): Kein Problem.	Interviewee No.8 (21:25): No problem.
Ribes Vicente, Guillermo (21:26): Genau. Also mein Thema ist genau Blockchain-based, super komplizierte Blockchain-based Distributed Ledger. Distributed Ledger ist ein verteiltes Logbuch, ein verteiltes Logbuch für smarte, also intelligente Zahlungen, Verträge und Reviews. Meine Frage ist, ob Sie sich vorstellen können, dass Peers, also einzelne Nutzer, wie die Eco-Lodge in Bangladesch und ich sage mal das Ehepaar aus New York...	Ribes Vicente, Guillermo (21:26): Exactly. So my topic is exactly blockchain-based, super complicated blockchain-based distributed ledger. Distributed ledger is a distributed logbook, a distributed logbook for smart, intelligent payments, contracts and reviews. My question is whether you can imagine that peers, i.e. individual users, like the eco-lodge in Bangladesh and I'll say the couple from New York...
Interviewee No.8 (21:38): Mhm.	Interviewee No.8 (21:38): Mhm.
Ribes Vicente, Guillermo (21:56): ...können diese beiden diese Multi-Milliarden-Industrie der Plattformen umgehen, wie Booking.com und AirBNB? Das ist meine Frage. Und der Status quo, den kennen wir jetzt. Da steht unten was von 15 bis 30% Kommission. Aus Ihrer Erfahrung, wie hoch sind die Kommissionen von großen Plattformen?	Ribes Vicente, Guillermo (21:56): ...can these two bypass this multi-billion industry of platforms, like Booking.com and AirBNB? That's my question. And the status quo, we know that now. It says something about 15 to 30% commission at the bottom. From your experience, how high are the commissions of large platforms?
Interviewee No.8 (22:05): Gute Frage, tatsächlich habe ich mich schon lange nicht mehr damit beschäftigt. Deswegen kann ich es nicht sagen. Ich weiß, dass wir früher zwischen 12 und 16% bezahlt haben, ich weiß tatsächlich im Moment grad nicht, wo der Kurs da steht.	Interviewee No.8 (22:05): Good question, actually I haven't dealt with it for a long time. That's why I can't say. I know that we used to pay between 12 and 16%, I actually don't know where the rate is at the moment.
Ribes Vicente, Guillermo (22:33): Ja, alles gut. Also das ist ja sozusagen, bis jetzt waren die meisten, die gesagt haben, naja, es kommt natürlich auf die Größe an und die Kurzfristigkeit, aber ich glaube, die Range, also wenn Sie sagen 12 bis 16, dann liegt das noch in der Range. Und das ist halt Ihr Status quo. Sie haben nämlich, Sie haben am Anfang des Interviews 70% gesagt. Also das ist tatsächlich so. Also das sind ja wirklich Player, die in der Mitte stehen und so als Gewinn, als Gatekeeper auch funktionieren. Und rechts ist eben, was die Forschung sagt: Na ja, warum sollen denn Menschen bis zu 30% Umsatz einer Industrie wohlgemerkt an Plattformen geben, die nichts anderes tun als digitale Verträge zu vermitteln? Deswegen hatte ich auch einfach wegen Vertrauen gefragt. Weil es ist ja, weil ich habe das so als eigenen Aspekt. Vielleicht denken ja die, da bin ich Ihrer Meinung, vielleicht denken ja auch, die buchen ja, da habe ich mir Rechtssicherheit. Also ich vertraue Booking, dass deren Verträge besser sind. Aber faktisch, der Vertrag wird ja nur weitergeleitet. Aber interessant.	Ribes Vicente, Guillermo (22:33): Yeah, all good. So that's, so to speak, up to now most people have said, well, of course it depends on the size and the short-term nature, but I think the range, so if you say 12 to 16, then that's still in the range. And that's just your status quo. You said 70% at the beginning of the interview. So that's actually the case. So these are really players who are in the centre and also function as profit, as gatekeepers. And on the right is what the research says: Well, why should people give up to 30% of an industry's turnover to platforms that do nothing other than broker digital contracts? That's why I simply asked about trust. Because it is, because I have that as an aspect of my own. Maybe they think I agree with you, maybe they think they're booking, so I have legal certainty. So I trust Booking that their contracts are better. But in fact, the contract is only passed on. But interesting.
Interviewee No.8 (23:24): Mhm, genau so ist es.	Interviewee No.8 (23:24): Mhm, that's exactly how it is.
Ribes Vicente, Guillermo (23:48): Ja, genau. Also ich glaube, die Kunden, damit meine ich Kundenbefragungen, aber von den Experten war das oft keine Antwort. Das ist eben die Frage, so ja...	Ribes Vicente, Guillermo (23:48): Yeah, exactly. So I think the customers, by that I mean customer surveys, but from the experts that was often not an answer. That's the question, so yes...
Interviewee No.8 (23:57): Ne, das... ja, ne, das Ding ist, ähm... ich meine, das merken wir ja auch, das ist ja die Gesellschaft im Moment. Rückgrat zeigen ist immer ein bisschen schwierig, so. Ich kann mich natürlich viel leichter bei Booking.com beschweren, dass mein Urlaub nicht so schön war, als dass ich jetzt dann doch beim Hotel vorstellig werden muss und da mein Geld zurückverlangen muss. Ja, das gibt es natürlich auch und das machen auch einige. Aber es gibt ja nicht umsonst die ganzen Fernsehsendungen, wo es heißt, ich rette deinen Urlaub und Co., weil sie irgendjemanden brauchen, der für sie das Ganze durchboxt.	Interviewee No.8 (23:57): Nah, that... yes, no, the thing is, um... I mean, we realise that too, that's society at the moment. Showing backbone is always a bit difficult, like that. Of course, it's much easier for me to complain to Booking.com that my holiday wasn't so nice than to have to go to the hotel and ask for my money back. Yes, of course that does happen and some people do it. But it's not for nothing that there are all those TV shows saying "I'll save your holiday" and the like, because they need someone to push the whole thing through for them.
Ribes Vicente, Guillermo (24:16): Ja.	Ribes Vicente, Guillermo (24:16): Yes.

Interviewee No.8 (24:35): Ja, natürlich. Und das hat auch HRS und auch Booking.com früher immer vermittelt. Pass auf, wir haben eine eigene Rechtsabteilung, für uns ist das viel leichter, weil wir sind ja große Player, können halt mehr Druck ausüben auf die Hotelkette. Und das, was du alleine vielleicht nicht durchgeboxt kriegst, wenn wir damit drohen, dass wir, keine Ahnung, so und so viel Prozent abziehen, dann werden die sich schon bewegen. Also von daher, ja, ich glaube schon, dass viele Menschen denken, dass gerade bei diesen Portalen die Rechtssicherheit sehr viel höher ist, obwohl es die gleichen Verträge sind.	Interviewee No.8 (24:35): Yes, of course. And that's what HRS and Booking.com used to convey. Watch out, we have our own legal department, it's much easier for us because we're big players and can exert more pressure on the hotel chain. And what you might not be able to push through on your own, if we threaten to take off, I don't know, such and such a percentage, then they will move. So, yes, I do believe that many people think that the legal certainty is much higher with these portals, even though they are the same contracts.
Ribes Vicente, Guillermo (25:12): Ja. Spannend. Also, weil ich will diesen Dreh, bin ich damit reingekommen. Oder vielleicht später, werde ich das mal bei Kunden, mal das Gleiche mit Kunden machen, ob die sich darüber im Klaren sind, dass nur deren Daten weitergeleitet werden, nicht mehr und nicht weniger. Genau, genau. Deswegen werden Sie jetzt das Schaubild sehen, was Sie jetzt zum Glück sehen können. So einfach, das ist meine Forschung, das Thema Status und Influence. Wenn Sie das so sehen, einfach ganz spontan, was ist Ihre Meinung dazu? Kann das kommen?	Ribes Vicente, Guillermo (25:12): Yeah. It's exciting. So, because I want this twist, I came in with it. Or maybe later, I'll do the same thing with customers, see if they're aware that only their data is being forwarded, no more and no less. Exactly, exactly. That's why you'll now see the diagram, which fortunately you can now see. It's that simple, that's my research, the topic of status and influence. When you see it like this, just off the top of your head, what do you think? Can that happen?
Interviewee No.8 (25:27): Warum nicht?	Interviewee No.8 (25:27): Why not?
Ribes Vicente, Guillermo (25:48): Ja, ja.	Ribes Vicente, Guillermo (25:48): Yes, yes.
Interviewee No.8 (25:50): Also jetzt, ne, warum nicht? Also ich glaube, das... ich meine, irgendwie sind ja auch Booking und HRS irgendwann mal entstanden. Ne, also gerade durch, weil sie gesagt haben, komm, wir vermitteln das mal. Und da hat ja auch vorher jeder gesagt, kannst du beim Hotel anrufen, brauchst du auch nicht. So, ich glaube tatsächlich, dass diese neuen Technologien einfach auch vieles ermöglichen, wo wir vielleicht selber noch gar nicht so drinstecken. Und warum sollte das nicht ein Ansatz sein?	Interviewee No.8 (25:50): So now, no, why not? Well, I think that... I mean, somehow Booking and HRS came about at some point. No, just because they said, come on, let's arrange it. And everyone said beforehand, you can call the hotel, you don't need to. So, I really believe that these new technologies simply make a lot of things possible that we perhaps haven't even got to grips with ourselves yet. And why shouldn't that be an approach?
Ribes Vicente, Guillermo (26:23): Ja, sehr gut, prima. Also das ist, das war genau die Punktlandung sozusagen. Einfach nur darüber zu diskutieren, so, ja, tatsächlich, die praktische Umsetzung, wie das dann passiert, das ist nicht mein Teil. Das ist vielleicht beim nächsten Forschung. Aber einfach nur mal so, ich will Theorie und Praxis, das ist ja, ich bin ein IBA-Kind sozusagen und Theorie und Praxis. Und das Spannende ist, eben die theoretische Applikation, kann ich Ihnen sagen, das ist eigentlich gar nicht so kompliziert. Also es ist ja, also irgendwie, was ich spannend finde, genau, HRS und Booking haben auch irgendwann mal angefangen und haben unsere Branche irgendwie...	Ribes Vicente, Guillermo (26:23): Yes, very good, great. So that's, that was spot on, so to speak. Just discussing it, yes, actually, the practical , how that happens, that's not my part. That might be in the next research project. But just for the sake of it, I want theory and practice, that's right, I'm an IBA kid, so to speak, and theory and practice. And the exciting thing is, I can tell you, the theoretical application is actually not that complicated. So it is, well, somehow, what I find exciting, exactly, HRS and Booking also started at some point and have somehow...
Interviewee No.8 (26:55): Genau, ich auch nicht.	Interviewee No.8 (26:55): Exactly, me neither.
Ribes Vicente, Guillermo (27:05): Also die, also viele argumentieren, die Zeit dieser Plattformökonomie, wo nicht mehr der die höchste Rendite hat, der vermittelt, sondern der, der es produziert, das ist, ich glaube, das war die letzten 30 Jahre. Ja, es könnte dazu nur zum Umdenken kommen.	Ribes Vicente, Guillermo (27:05): So the, so many argue, the time of this platform economy, where it's no longer the one who mediates that has the highest return, but the one who produces it, that's, I think that's been the last 30 years. Yes, there could only be a rethink.
Interviewee No.8 (27:22): Auf jeden Fall, auf jeden Fall, ja.	Interviewee No.8 (27:22): Definitely, definitely, yeah.
Ribes Vicente, Guillermo (27:25): Meine letzte Frage ist immer, aber ich habe noch Zeit, also wenn Sie noch weitere Fragen oder Hinweise haben, aber sozusagen, dass ich für mich weiß, dass ich meine Punkte wieder... Ihnen fiel nett, Sie haben gesagt, das wird Google und Booking nicht gefallen, gedauert. Das ist der Punkt. Das könnten wir als negativ sehen, also es wird ja, das könnte ja eine Branche... wir sprechen da von Disruption, das könnte eine Branche wie die der Vermittler, die auch Arbeitsplätze haben, so ist es ja nicht, könnte wirklich negative Folgen haben.	Ribes Vicente, Guillermo (27:25): My last question is always, but I still have time, so if you have any more questions or any more pointers, but so to speak, that I know for me, I'll get my points back.... You fell nice, you said that's not going to please Google and Booking, lasted. That's the point. We could see that as a negative, so it will, it could be an industry... We're talking about disruption, that could have really negative consequences for an industry like that of intermediaries, who also have jobs, it's not like that.
Interviewee No.8 (27:52): Ja.	Interviewee No.8 (27:52): Yes.
Ribes Vicente, Guillermo (27:56): Fallen Ihnen noch andere mögliche negative Folgen ein? Weil ich glaube, die positiven haben wir so im Gespräch ja schon festgestellt. Aber das können Sie doch nochmal ausführen, positiv und eher negativ.	Ribes Vicente, Guillermo (27:56): Can you think of any other possible negative consequences? Because I think we've already discussed the positive ones. But can you elaborate again, positive and negative?
Interviewee No.8 (28:03): Ja, negativ? Na gut, du bist halt... ja, wenn der Block geschlossen ist, ist er geschlossen. Du hast halt keine Eingriffsmöglichkeiten mehr. Und wir Menschen sind ja doch manchmal so, dass wir uns nicht so sehr auch immer auf alles gleich verlassen wollen, sondern vielleicht doch irgendwann mal einen Einfluss haben wollen auf irgendwas. Obwohl, ja, hast du jetzt auch nicht. Also es ist egal eigentlich.	Interviewee No.8 (28:03): Yes, negative? All right, you're just... Yes, when the block is closed, it's closed. You just don't have any more opportunities to intervene. And we humans are sometimes like that, we don't always want to rely on everything straight away, but perhaps we do want to have an influence on something at some point. Although, yes, you don't now either. So it doesn't really matter.

Ribes Vicente, Guillermo (28:43):
Noch, sozusagen, der Vertrag ist unterschrieben und dann müssen wir uns nachher die Stornierungsbedingungen sozusagen... Block haben, ja.

Interviewee No.8 (28:48):
Genau. Ja, so ist es halt, ne? Und dann hast du eben halt nicht mehr diesen menschlichen Faktor. Kann ich das noch verschieben? Kann ich nochmal... vielleicht muss ich doch nochmal von der Reise zurücktreten und muss das doch nochmal vielleicht stornieren, was auch immer. Liegt es ja manchmal auch am Hotel, die dann sagen, ja, komm, wir sind eh voll, das kriegen wir eh

bezahlt, können wir machen. Wenn Vertrag ist Vertrag, dann stimmt das halt so. Und was auf der anderen Seite auch nicht so schlecht ist. Also ich bin da eher so ein Verfechter von, wenn man einen Vertrag geschlossen hat, dann muss man den auch einhalten, sonst brauche ich keine Verträge.

Ribes Vicente, Guillermo (29:25):
Mhm.

Interviewee No.8 (29:26):
Ausnahmen gibt es immer, ja, aber das müsste man dann eben von Mensch zu Mensch klären. Und ja, gut.

Ribes Vicente, Guillermo (29:34):
Mhm.

Interviewee No.8 (29:36):
Ich denke, dass das... gerade so, also, wenn es digital laufen soll, dann sollte es auch komplett digital laufen. Also...

Ribes Vicente, Guillermo (29:44):
Mhm.

Interviewee No.8 (29:45):
Ja.

Ribes Vicente, Guillermo (29:45):
Ja, absolut. Sonst noch ein negativer Aspekt? Es gibt nämlich tatsächlich einen negativen Aspekt, der in der Forschung heiß diskutiert wird. Deswegen, vielleicht fällt Ihnen noch etwas ein.

Interviewee No.8 (29:59):
Nö, ich bin immer eher so der Mensch. Lass uns doch mal probieren, ja.

Ribes Vicente, Guillermo (30:03):
Ach so.

Interviewee No.8 (30:04):
Wenn es nichts ist, kannst du es ja immer noch verändern oder wieder einstampfen. Aber ne.

Ribes Vicente, Guillermo (30:13):
Das ist dann sozusagen, weil in dieser Zusammenfassung steht, dass trotzdem als Hinweis, weil es hat ein Experte schon gesagt, und er hat vollkommen recht damit. Wenn ich natürlich, sagen wir mal, einen Vertrag, der vielleicht 10 KB hat, bei Booking auf deren eigenen Server plus Backup sichere, habe ich einen gewissen Energiekonsum. Wenn ich das so ganz demokratisch auf tausenden von Computern lagere, steigt der Energiekonsum ins Unermessliche tatsächlich. Also das ist diese Nachhaltigkeitsgeschichte. Es gibt da ganz viel Forschung. Diese Energie, Konsum... also diese Blöcke, so ein bisschen wie MP3 und Schallplatten früher. Also die Komprimierung wurde immer besser und dann war es kein Problem, ja.

Interviewee No.8 (30:52):
Ja.

Ribes Vicente, Guillermo (30:58):
Das ist aber tatsächlich nicht gelöst. Also da muss man drüber reden, weil Energie und so... Es ist tatsächlich, das hat ein Experte, der macht so Travel Business Management, und die nutzen für ihre gesamten Finanzströme, nutzen sie ihre eigene Blockchain, tatsächlich, weil die nicht so angreifbar ist. Und er sagte, puh, also die Energiekosten, das geht noch. Genau, ja, das ist aber das Einzige, das gelöst werden muss.

Interviewee No.8 (31:17):
Mhm, ja.

Ribes Vicente, Guillermo (31:28):
Ansonsten haben Sie noch irgendwie eine Idee oder irgendwas, was wir noch sagen wollen. Aber das Gute ist, Sie haben ja noch eine zweite Chance, um noch irgendwas dazu zu machen.

Ribes Vicente, Guillermo (28:43):
Still, so to speak, the contract is signed and then we have to look at the cancellation conditions afterwards, so to speak... Block, yes.

Interviewee No.8 (28:48):
Exactly. Yes, that's how it is, isn't it? And then you no longer have this human factor. Can I postpone that? Can I do it again... Maybe I'll have to cancel the trip again and maybe I'll have to cancel it again, whatever. Sometimes it's also the hotel that says, yes, come on, we're full anyway, we'll get paid for it anyway, we can do it.

paid, we can do it. If a contract is a contract, then that's the way it is. And that's not such a bad thing on the other hand. I'm more of an advocate of if you've signed a contract, then you have to honour it, otherwise I don't need contracts.

Ribes Vicente, Guillermo (29:25):
Mhm.

Interviewee No.8 (29:26):
There are always exceptions, yes, but then you would just have to clarify that person to person. And yes, good.

Ribes Vicente, Guillermo (29:34):
Mhm.

Interviewee No.8 (29:36):
I think that's... just so, so, if it's going to be digital, then it should be completely digital. So...

Ribes Vicente, Guillermo (29:44):
Mhm.

Interviewee No.8 (29:45):
Yes.

Ribes Vicente, Guillermo (29:45):
Yes, absolutely. Any other negative aspect? There is actually a negative aspect that is hotly debated in research. So maybe you can think of something else.

Interviewee No.8 (29:59):
Nah, I'm always more of a people person. Let's have a go, shall we?

Ribes Vicente, Guillermo (30:03):
I see.

Interviewee No.8 (30:04):
If it's nothing, you can always change it or scrap it. But no.

Ribes Vicente, Guillermo (30:13):
That is then, so to speak, because in this summary it says that anyway as a hint, because an expert has already said it, and he is absolutely right about it. Of course, if I save, say, a contract that has maybe 10 KB on Booking's own server plus backup, I have a certain amount of energy consumption. If I store it democratically on thousands of computers, the energy consumption actually increases immeasurably. So that's the sustainability story. There's a lot of research into it. This energy, consumption... these blocks, a bit like MP3s and records used to be. So the compression got better and better and then it wasn't a problem, yes.

Interviewee No.8 (30:52):
Yes.

Ribes Vicente, Guillermo (30:58):
But that's actually not solved. So you have to talk about it, because energy and so on... It's actually, there's an expert who does travel business management, and they use their own blockchain for all their financial flows, actually, because it's not so vulnerable. And he said, phew, so the energy costs, that's still possible. Exactly, yes, but that's the only thing that needs to be solved.

Interviewee No.8 (31:17):
Mhm, yeah.

Ribes Vicente, Guillermo (31:28):
Other than that, do you have any kind of idea or anything else we want to say. But the good thing is that you still have a second chance to add something.

Interviewee No.8 (31:28):

Interviewee No.8 (31:28): Ja, nö, eigentlich nicht. Ribes Vicente, Guillermo (31:38): Sehr gut. Dann würde ich gerne die Transkription stoppen und, wenn Sie interessiert sind, habe ich noch eine Sache, die ich Ihnen gerne erzählen möchte. Das finden Sie vielleicht ganz, ganz spannend. Interviewee No.8 (31:44): Mhm. Ribes Vicente, Guillermo stopped transcription	Yeah, nope, not really. Ribes Vicente, Guillermo (31:38): Very good. Then I would like to stop the transcription and, if you are interested, I have one more thing I would like to tell you. You might find that very, very interesting. Interviewee No.8 (31:44): Mhm. Ribes Vicente, Guillermo stopped transcription

Bilingual Interview Transcript Interviewee 9

20230718_111746-Meeting Recording July 18, 2023, 9:17 AM 38m 28s Interviewee 9 (0:05): Yes. Researcher (0:06): So, und er schreibt auch auf Deutsch perfekt. Hallo, ja vielen Dank, dass du dich für das Interview bereit erklärt hast. Es ist ja eine Obst jetzt gerade meine Kamera irgendwie ausgegangen so, wir hatten ja eine Anonymisierung... Interviewee 9 (0:24): Im Moment Stopp. Bei mir ist es jetzt weggegangen. Researcher (0:24): Und. Was ist bei dir weggegangen? Interviewee 9 (0:29): Ah ja, okay bin wieder da, ja. Researcher (0:31): Super genau ein paar technische genau. Also du bist ein Spezialist, kann man sagen, für Recruiting international im Bereich Hotel und Tourismus. Und du hast, wie viele Jahre? Jetzt über 10 Jahre oder? Interviewee 9 (0:34): Mhm. Mhm. Mhm. Mhm. Ja, also über 10 Jahre immer wieder in der Hotellerie und Gastronomie, im Bereich Recruiting. Also ich bin damals schon in die Schweiz gefahren, um Hotelküche zu rekrutieren, weil es schon lange vor der Corona-Pandemie wahnsinnig schwierig war, in ländlichen Bereichen genügend Mitarbeiter in unterschiedlichsten Positionen zu finden. Researcher (0:51): Genau. Und du hast ja auch für eine bekannte große deutsche Hotelkette als Personalreferent richtig gearbeitet. Genau. Interviewee 9 (1:17): Mhm. Mhm, genau, also ich hatte die Personalleitung für 3 Hotels, einen riesengroßen gastronomischen Bereich, einen Ferienpark, ja. Researcher (1:25): Sehr gut, prima. Also das zur Anonymisierung. Das Ganze hier läuft als ganz lockeres Gespräch ab, also es ist wirklich, ich stelle dir ein paar Fragen, vielleicht bohre ich nochmal ein bisschen nach, und es ist ein sehr lockerer Verlauf. Interviewee 9 (1:32): Mhm. Mhm. Mhm. Mhm. Researcher (1:47):	20230718_111746-Meeting Recording July 18, 2023, 9:17 AM 38m 28s Interviewee 9 (0:05): Yes. Researcher (0:06): So, and he also writes perfectly in German. Hello, thank you very much for agreeing to do the interview. It's a fruit now, my camera just kind of went out, we had anonymisation... Interviewee 9 (0:24): Stop at the moment. It's gone off for me now. Researcher (0:24): And. What has gone away for you? Interviewee 9 (0:29): Ah yes, okay I'm back, yes. Researcher (0:31): Super accurate a couple of technical ones exactly. So you're a specialist, you could say, for international recruiting in the hotel and tourism sector. And you have, how many years? Over 10 years now, right? Interviewee 9 (0:34): Mhm. Mhm. Mhm. Mhm. Yes, so over 10 years in the hotel and catering industry, in recruiting. Back then, I travelled to Switzerland to recruit hotel chefs because it was incredibly difficult to find enough employees in a wide variety of positions in rural areas long before the coronavirus pandemic. Researcher (0:51): Exactly. And you also worked for a well-known large German hotel chain as a personnel officer. Exactly. Interviewee 9 (1:17): Mhm. Mhm, exactly, so I was the HR manager for 3 hotels, a huge catering area, a holiday park, yes. Researcher (1:25): Very good, great. So that's for anonymisation. The whole thing here is a very relaxed conversation, so it's really, I'll ask you a few questions, maybe I'll probe a bit more, and it's a very relaxed process. Interviewee 9 (1:32): Mhm. Mhm. Mhm. Mhm. Researcher (1:47):

Das Interview ist auf 30 Minuten ausgelegt. Ich bin nach hinten noch ein bisschen offen, es hat aber fast immer gepasst, somit 29 bis 32 Minuten sollte also passen. Ich guck zwischendurch nach rechts, weil ich hab so ein semi-strukturiertes Interview. Ich hab so ein paar Fragen, die wir durchgehen, aber ausdrücklich, wir können auch hin und her springen, das geht bei der Analyse auch alles. Und ich würde jetzt einfach mit einer ganz allgemeinen Frage anfangen. Wie bewertest du den Einfluss von Informationstechnologien...	The interview is designed for 30 minutes. I'm still a bit open at the end, but it almost always worked out, so 29 to 32 minutes should fit. I look to the right in between because I have a semi-structured interview. I have a few questions that we go through, but explicitly, we can also jump back and forth, that's all part of the analysis. And I would just start with a very general question. How do you assess the influence of information technologies...
Interviewee 9 (1:49): Mhm. Mhm. Okay. Mhm. Mhm. Mhm. Alles klar? Mhm.	Interviewee 9 (1:49): Mhm. Mhm. Okay. Mhm. Mm. Mmm. All right? Mhm.
Researcher (2:19): ...auf die Tourismusindustrie, speziell auf die Vermittlung von Dienstleistungen, zum Beispiel Hotelbuchung. Also Einfluss, Technologie auf Hotelbuchungen.	Researcher (2:19): ...on the tourism industry, specifically on the mediation of services, for example hotel bookings. So influence, technology on hotel bookings.
Interviewee 9 (2:21): Aha. Mhm. Ich würde sagen, es hat einen riesengroßen Einfluss auf Hotelbuchungen, weil kaum noch eine Leistung nicht digital gebucht wird.	Interviewee 9 (2:21): Aha. Mhm. I would say it has a huge influence on hotel bookings because hardly any services are not booked digitally.
Researcher (2:41): Sehr gut. Und wenn man das so auf einem Zeitstrahl sehen würde, in den letzten wirklich Jahrzehnten, wie siehst du da den Einfluss?	Researcher (2:41): Very good. And if you were to look at it on a timeline, over the last really decades, how do you see the influence?
Interviewee 9 (2:53): Mhm, also der Einfluss ist wahnsinnig nach oben gegangen, dadurch, dass Hotels ja kaum noch alleine in der Lage sind, Buchungen zu generieren, ohne dass dort andere Technologien verwendet werden, sei es irgendwelche Booking-Tools oder Gastronomiereservierungstools, Google Maps, um Hotels und Gastronomiebetriebe überhaupt auffindbar zu machen. Also man ist ja so einfach nicht auffindbar, wenn man nicht in diesen riesengroßen Systemtechnologien irgendwie vertreten ist, die dann wiederum die Welt kennt.	Interviewee 9 (2:53): Mhm, so the influence has gone up insanely, due to the fact that hotels are hardly able to generate bookings on their own anymore without other technologies being used there, be it any booking tools or restaurant reservation tools, Google Maps, to make hotels and restaurants findable at all. So you simply can't be found if you're not somehow represented in these huge system technologies that the world knows about.
Researcher (3:33): Ja, genau, genau. Da sind wir jetzt sozusagen. Jetzt gehen wir voll rein, jetzt geht es nämlich genau um diese Tools und diese Plattformen. Ich benutze das Wort Gatekeeper, weil das in meiner Forschung so ist. Booking.com, HRS, also all diese großen Player, nennen wir Gatekeeper. Warum buchen Kunden bei denen? Also wenn wir uns in die Kundensicht versetzen würden?	Researcher (3:33): Yeah, exactly, exactly. That's where we are now, so to speak. Now we're going all in, because now it's all about these tools and these platforms. I use the word gatekeeper because that's what my research is about. Booking.com, HRS, all these big players, we call them gatekeepers. Why do customers book with them? So if we were to put ourselves in the customer's shoes?
Interviewee 9 (3:38): Mhm. Mhm. Mhm. Mhm. Ja. Okay. Ich würde sagen, Kunden buchen bei den Gatekeepern, weil man immer die gleiche Darstellung hat von verschiedenen Hotels und die Vergleichbarkeit viel größer ist. Ich weiß als Kunde ganz genau, wenn ich bei Booking.com schaue, wo finde ich die Bilder, wo finde ich die Informationen, die mir wichtig sind. Gerade wenn man oft reist, weiß man, okay, mir ist es total wichtig, dass es irgendwie ein Laufband in dem Hotel gibt, und wenn ich freizeitmäßig wegfahre, finde ich es wichtig, dass es ein Frühstück und Kaffee gibt. Wenn ich in meiner Freizeit wegfahre, finde ich es super wichtig, einen Pool zu haben, und ich weiß ganz genau, wo ich diese einzelnen Informationen finde. Ich weiß auch ganz genau, wo ich die Bewertungen von den anderen Gästen finde und kann ganz schnell vergleichen, was auf mich persönlich zutreffend ist.	Interviewee 9 (3:38): Mhm. Mm. Mm. Mhm. Yes. Okay. I would say that customers book with the gatekeepers because you always have the same presentation of different hotels and the comparability is much greater. As a customer, I know exactly when I look at Booking.com, where I can find the pictures, where I can find the information that is important to me. Especially if you travel often, you know, okay, it's really important to me that there's a treadmill in the hotel, and if I'm going away for leisure, I think it's important that there's breakfast and coffee. When I go away in my free time, I think it's super important to have a pool, and I know exactly where to find all this information. I also know exactly where to find the reviews from other guests and can quickly compare what applies to me personally.
Researcher (4:51): Mhm, prima. Da steckten alle Antworten für die nächste Frage schon drin. Ich stelle sie aus methodischen Gründen trotzdem. Warum haben diese Vermittler, also Buchungsplattformen...	Researcher (4:51): Mmm, great. All the answers for the next question are already there. I'll ask it anyway for methodological reasons. Why do these intermediaries, i.e. booking platforms...
Interviewee 9 (4:57): Okay, alles klar. Mhm.	Interviewee 9 (4:57): Okay, all right. Mhm.
Researcher (5:05): ...so viel Einfluss auf die Tourismusindustrie genommen?	Researcher (5:05): ...made such an impact on the tourism industry?

Interviewee 9 (5:09): Mhm, also ich glaube, einerseits konnten die so viel Einfluss nehmen, weil die ein ganz anderes Budget haben, präsent zu sein, und andererseits eben genau aus den Gründen, die ich eben schon genannt habe, weil man natürlich einfach eine riesengroße Vergleichbarkeit hat und erstmal eine gute Übersicht bekommt über verschiedene Regionen, welches Angebot dort ist. Und dann kann man nochmal auf die Internetseite gehen, wenn man sagt, okay, jetzt interessiere ich mich wirklich.	Interviewee 9 (5:09): Mhm, well I think on the one hand they were able to exert so much influence because they have a completely different budget to be present, and on the other hand precisely for the reasons I've just mentioned, because of course you simply have a huge amount of comparability and first of all you get a good overview of different regions, what's on offer there. And then you can go back to the website if you say, okay, now I'm really interested.
Researcher (5:23): Mhm. Mhm. Super. Du hast gerade ein Stichwort gesagt, der Frage nochmal Budget. Was meinst du damit?	Researcher (5:23): Mhm. Mhm. Great. You just said a keyword, the question budget again. What do you mean by that?
Interviewee 9 (5:41): Mhm, ich meine das Marketingbudget damit, weil wenn ich jetzt als einzelnes Hotel versuche bekannt zu werden, in einer Region über Social Media mein Instagram-Account, TikTok, Facebook, die Internetseite, Google AdWords halten muss, dann sind das ja wahnsinnige Summen, die ich irgendwo erstmal einnehmen muss. Wiederum, und wenn das ein Gatekeeper für ganz, ganz viele Hotels macht, um einfach vorne zu stehen, dann ist es natürlich viel einfacher.	Interviewee 9 (5:41): Mhm, I mean the marketing budget by that, because if I'm now trying to become known as an individual hotel, in a region via social media my Instagram account, TikTok, Facebook, the website, Google AdWords have to hold, then those are insane sums of money that I have to take in somewhere first. Again, and if a gatekeeper does this for many, many hotels in order to simply be at the forefront, then of course it's much easier.
Researcher (5:54): Mhm.	Researcher (5:54): Mhm.
Interviewee 9 (6:12): ...ganz oben bei den Google AdWords gelistet zu sein. Deswegen findet man ja auch fast nie ein Hotel, wenn man das eingibt, direkt unter den Anzeigen, sondern da sind erstmal diese ganzen Booking.com und so weiter und ich weiß nicht welche Plattformen, die dann das Hotel beinhalten und mir anzeigen.	Interviewee 9 (6:12): ...to be listed at the top of Google AdWords. That's why you almost never find a hotel when you enter it directly under the adverts, but there are all these Booking.com and so on and I don't know which platforms that then include the hotel and show it to me.
Researcher (6:31): Ja, sehr gut. Wenn wir uns nochmal in die Rolle des Kunden reinversetzen.	Researcher (6:31): Yes, very good. If we put ourselves in the customer's shoes again.
Interviewee 9 (6:36): Aha.	Interviewee 9 (6:36): Aha.
Researcher (6:37): Also ist das Ganze nochmal negativ formuliert. Warum buchen Kunden nicht direkt beim Hotel?	Researcher (6:37): So the whole thing is phrased negatively again. Why don't customers book directly with the hotel?
Interviewee 9 (6:39): Aha. Mhm, ich würde sagen, einerseits ist es sehr charmant, dass verschiedene Kundenbindungsprogramme von Gatekeepern angeboten werden, so Geschichten wie Booking.com mit den verschiedenen Leveln, wo man weiß, okay, wenn ich bei einem Hotel buche, bekomme ich sogar Frühstück inklusive. Das heißt, das sind natürlich Kundenbindungsgeschichten. Und auf der anderen Seite hat man in einer App alle Hotelbuchungen drin, die man hat. Das heißt, das macht das Reisen sehr viel einfacher und übersichtlicher, weil wenn man 10.000 Apps ständig irgendwie auf dem Handy hat, die man im Blick behalten muss, wenn man eine Reise macht und wenn man dann weiß, okay, ich habe alles, ich hab meine Flüge, meine Unterkunft und vielleicht noch einen Mietwagen in einer App drin, dann ist es natürlich wahnsinnig charmant.	Interviewee 9 (6:39): Aha. Mhm, I would say on the one hand it's very charming that various customer loyalty programmes are offered by gatekeepers, stories like Booking.com with the different levels, where you know, okay, if I book with a hotel, I even get breakfast included. In other words, these are of course customer loyalty stories. And on the other hand, you have all the hotel bookings you have in one app. In other words, it makes travelling much easier and clearer, because if you have 10,000 apps constantly on your mobile phone that you have to keep an eye on when you're travelling and then you know, okay, I've got everything, I've got my flights, my accommodation and maybe a rental car in one app, then of course it's incredibly charming.
Researcher (7:30): Mhm, okay. Darf ich doch nochmal nachfragen? Also weil das ist so verschiedene Faktoren, also sagen wir mal, das wäre so ein Faktor, also alles sozusagen an einem Platz zu haben, das würdest du sagen, ist ein ganz wichtiger Punkt.	Researcher (7:30): Mhm, okay. Can I ask you again? Well, because there are so many different factors, so let's say that would be one factor, so having everything in one place, so to speak, you would say that's a very important point.
Interviewee 9 (7:33): Mhm. Mhm. Ich würde sagen, dass das ein riesengroßer Vorteil für Kunden ist. Hinzu kommt aber auch noch, dass selbst, also aus der Erfahrung heraus, wenn ich versucht habe, bei Hotels zu buchen, dann hab ich ganz oft eine gewisse Unflexibilität gespürt. Also ich eigentlich würde ich viel lieber bei den Menschen direkt buchen, aber aufgrund dieser nicht vorhandenen Schulungen von Mitarbeitern, sind die teilweise so unflexibel, dass es viel einfacher ist, über den Gatekeeper zu buchen, weil einfach die Mitarbeiter nicht geschult sind.	Interviewee 9 (7:33): Mhm. Mhm. I would say that's a huge advantage for customers. But there's also the fact that, from my own experience, when I've tried to book with hotels, I've often found a certain inflexibility.often felt a certain inflexibility. I would actually much prefer to book directly with the people, but because of this lack of staff training, they are sometimes so inflexible that it is much easier to book via the gatekeeper because the staff are simply not trained.
Researcher (8:20): Okay. Okay, spannend. Bei diesen Interviews geht es darum, wir haben verschiedene Experten, die aus verschiedenen Perspektiven und diesen Aspekt, den du da vertrittst, mit Schulung der Mitarbeiter, das hatten wir noch nicht. Spannendes Ding, weil du wirst sehen, wenn alle Interviews durch sind, kriegt ja jeder, der teilgenommen hat, nochmal die aggregierten Ergebnisse	Researcher (8:20): Okay. Okay, exciting. These interviews are about having different experts from different perspectives and this aspect that you're talking about with staff training, we haven't had that yet. It's exciting, because you'll see when all the interviews are done, everyone who took part will get the aggregated results from all the experts again and then you'll see, then you'll see the HR area.

von allen Experten und dann wirst du sehen, dann wirst du den HR-Bereich sehen. Bin ich gespannt, ob die anderen Experten, die sich da nicht mit auseinandersetzen, das auch so sehen.	I'm curious to see whether the other experts, who don't deal with it, see it the same way.
Interviewee 9 (8:29): Mhm. Mhm. Mhm. Mhm. Mhm. Cool. Ja. Mhm.	Interviewee 9 (8:29): Mhm. Mhm. Mhm. Mhm. Mhm. Cool. Yes. Mhm.
Researcher (8:52): Weil dann müsste ja dann ist das ja so an, wir nennen das Konsens Form, um dem zuzustimmen, spannende neue Aspekt. Das war so, ich sag mal, um warm zu werden.	Researcher (8:52): Because then yes then that would have to be so on, we call that consensus form to agree to that, exciting new aspect. That was so, I say, to warm up.
Interviewee 9 (8:53): Mhm. Mhm. Nee. Mhm, darf ich noch einen Punkt hinzufügen, um das Thema der der Mitarbeiter nochmal ein bisschen zu unterstreichen? Weil ich letztens in Frankfurt war und in eines der 2 Premier Inns wollte und ich wurde tatsächlich, weil es einen kleinen Preisunterschied gab, von dem einen zu dem anderen geschickt. Hätten die Mitarbeiter mehr an Entscheidungskompetenz und mehr an Schulungen, hätten die doch direkt sagen müssen, ach wir sind eine Kette, wir haben hier sowieso freie Zimmer, bleiben Sie doch hier.	Interviewee 9 (8:53): Mhm. Mhm. Nope. Mhm, can I add one more point to emphasise the topic of the employees a bit more? Because I was in Frankfurt the other day and I wanted to go to one of the 2 Premier Inns and I was actually sent from one to the other because there was a small price difference. If the employees had more decision-making authority and more training, they should have said directly, oh, we're a chain, we have free rooms here anyway, why don't you stay here?
Researcher (9:02): Oh ja, natürlich ja. Hm. Mhm.	Researcher (9:02): Oh yes, of course yes. Hm. Mhm.
Interviewee 9 (9:34): Hätte man machen können, um das Kundenerlebnis deutlich zu steigern, wenn man innerhalb einer Kette arbeitet. Und ich finde, das unterstreicht das Beispiel irgendwie nochmal ganz gut.	Interviewee 9 (9:34): Could have been done to significantly enhance the customer experience if you're working within a chain. And I think that somehow emphasises the example quite well.
Researcher (9:34): Absolut, ja.	Researcher (9:34): Absolutely, yes.
Interviewee 9 (9:49): Mhm. Aha.	Interviewee 9 (9:49): Mhm. I see.
Researcher (9:52): Weil die, und die untersuche ich nämlich auch. Wie würdest du die Marktmacht in der Tourismus-, in der Hotel-, sagen wir in der Hotellerie hauptsächlich, der Gatekeeper beurteilen?	Researcher (9:52): Because the, and I'm investigating that as well. How would you assess the market power of the gatekeepers in the tourism industry, in the hotel industry, let's say mainly in the hotel industry?
Interviewee 9 (9:53): Aha. Mhm. Ja, die ist unangetastet, würde ich fast sagen. Also selbst diese riesengroßen Hotelketten, die es weltweit gibt und die dadurch ja schon eine gewisse Marktmacht irgendwie in ihrem Sektor haben, würde ich, also ich kenne die Zahlen nicht, aber ich würde behaupten, dass selbst die es nicht schaffen, dass die Leute immer wieder über die Hotelwebseite buchen. Also völlig egal, ob das jetzt Marriott ist oder Hilton, um zwei große Beispiele zu nennen. Ich glaube, selbst da buchen die meisten dann über die Gatekeeper.	Interviewee 9 (9:53): Aha. Mhm. Yes, it's untouched, I would almost say. So even these huge hotel chains, which exist worldwide and therefore have a certain market power in their sector, I wouldn't know the figures, but I would say that even they don't manage to get people to book via the hotel website again and again. So it doesn't matter whether it's Marriott or Hilton, to name two big examples. I think that even there, most people book via the gatekeepers.
Researcher (10:36): Mhm. Hm, jetzt noch eine abschließende Frage in dem Sektor, weil das fand ich ganz spannend, weil das war ja eine sehr deutliche Aussage von dir.	Researcher (10:36): Mhm. Hm, now a final question in this sector, because I found that quite interesting, because that was a very clear statement from you.
Interviewee 9 (10:43): Mhm. Mhm.	Interviewee 9 (10:43): Mhm. Mhm.
Researcher (10:49): Würdest du dir eine Einschätzung zutrauen, wenn du jetzt die Branche Tourismus und speziell Hotellerie und die Macht der Vermittlungsplattformen...	Researcher (10:49): Would you trust yourself to make an assessment if you were now looking at the tourism industry and specifically the hotel industry and the power of the intermediary platforms...
Interviewee 9 (10:55): Mhm. Aha.	Interviewee 9 (10:55): Mhm. I see.
Researcher (10:59):	Researcher (10:59):

...mit anderen Industrien vergleichst? Wie steht der Tourismus und Hotellerie denn dann da?

Interviewee 9 (11:02):
Mhm.
Mhm.
Voice finde ich Frage unfassbar spannend und ich überlege gerade, mit welchen Branchen man das denn vergleichen könnte, weil es müssen ja B2C Branchen sein.

Researcher (11:17):
Mhm.
Mhm.

Interviewee 9 (11:19):
Also wenn ich jetzt beispielsweise mal im Lebensmittelbereich bin und verschiedene Produkte gerne kaufe, dann ist mir das weniger wichtig, ob ich jetzt bei, wenn ich den unterschiedlichen Supermärkten finde, bei welchem Supermarkt ich die dann kaufe. Dann ist mir dieses Produkt viel wichtiger.

Researcher (11:39):
Hm.

Interviewee 9 (11:42):
Ich weiß noch nicht genau, wie ich den Vergleich gerade ziehen soll, aber irgendwie hab ich das Gefühl, dass die Gatekeeper eine größere Macht haben als das in anderen Bereichen der Fall ist im Tourismus.

Researcher (11:53):
Hm, okay.
Alles gut, perfekt. Das ist ja wie gesagt, ich sammel ja ganz viele Perspektiven, von daher super. Denn dann jetzt Deep Dive wirklich in meine Forschung.

Interviewee 9 (11:59):
Mhm.
Ach so.

Researcher (12:06):
Und hast du schon gemerkt, es geht um um um um Vermittlung von Dienstleistungen? Also was ja?

Interviewee 9 (12:10):
Mhm, Mhm.

Researcher (12:14):
Von den Gatekeepern, das ist ja deren Geschäftsmodell und...

Interviewee 9 (12:15):
Aha.

Researcher (12:18):
...in Kombination mit Technologien und...

Interviewee 9 (12:21):
Mhm.

Researcher (12:22):
Deiner Meinung nach, welche sind die Schlüsseltechnologien, die Vermittlung von Dienstleistungen wie eben Hotelbuchungen in Zukunft beeinflussen können oder werden? Also hast du dich mal mit Technologien auseinandergesetzt, wo du denkst, hey, das könnte dieses System irgendwie beeinflussen?

Interviewee 9 (12:26):
Mhm.
Mhm.
Kommt darauf an.
Also das ist so ein großes Wort, aber ich glaube, das Thema KI spielt hat in der Zukunft einfach einen wahnsinnig großen Einfluss haben, weil wenn verschiedene KI-Modelle dazu in der Lage sind, noch besser auf mich zugeschnittene Angebote herauszufiltern. Und das ist ja etwas, was Gatekeeper oder verschiedene Plattformen nur haben als Möglichkeit und nicht die einzelnen Gruppen. Dann würde das mein Kaufverhalten weiter enorm beeinflussen, wenn ich nur noch das bekomme, also nur noch die Punkte angezeigt bekomme, die wirklich für mich relevant sind.

Researcher (13:24):
Aha.
Mhm.

Interviewee 9 (13:27):
Weißt du was? Ich weiß nicht, ja.

...compare it to other industries? How do tourism and the hotel industry compare?

Interviewee 9 (11:02):
Mhm.
Mhm.
I find Voice an incredibly exciting question and I'm just thinking about which industries you could compare it with, because they have to be B2C industries.

Researcher (11:17):
Mhm.
Mhm.

Interviewee 9 (11:19):
So if I'm in the food sector now, for example, and I like to buy different products, then it's less important to me whether I buy them from, if I find the different supermarkets, which supermarket I buy them from. Then this product is much more important to me.

Researcher (11:39):
Hm.

Interviewee 9 (11:42):
I don't know exactly how to draw the comparison just yet, but somehow I have the feeling that the gatekeepers have greater power than is the case in other areas in tourism.

Researcher (11:53):
Hmm, okay.
All good, perfect. As I said, I collect a lot of perspectives, so that's great. Because now I'm really going to deep dive into my research.

Interviewee 9 (11:59):
Mhm.
I see.

Researcher (12:06):
And did you realise, it's about brokering services? So what is it?

Interviewee 9 (12:10):
Mhm, Mhm.

Researcher (12:14):
From the gatekeepers, that's their business model and....

Interviewee 9 (12:15):
Uh-huh.

Researcher (12:18):
...in combination with technologies and...

Interviewee 9 (12:21):
Mhm.

Researcher (12:22):
In your opinion, what are the key technologies that can or will influence intermediation services like hotel bookings in the future? So have you ever looked into technologies where you think, hey, that could somehow influence this system?

Interviewee 9 (12:26):
Mhm.
Mhm.
That depends.
So that's such a big word, but I think the topic of AI will simply have an incredibly big influence in the future, because if different AI models are able to filter out offers that are even better tailored to me. And that is something that gatekeepers or various platforms only have as a possibility and not the individual groups. This would have a huge impact on my purchasing behaviour if I only received the items that are really relevant to me.

Researcher (13:24):
Aha.
Mmm.

Interviewee 9 (13:27):
You know what? I don't know, yes.

Researcher (13:29):

Researcher (13:29): Total wieder, alles gut. Ich darf nur nicht so sehr, ich muss neutral bleiben, aber ich weiß genau, was du meinst. Ja.	Totally again, all good. I'm just not allowed to be so much, I have to stay neutral, but I know exactly what you mean. Yes.
Interviewee 9 (13:30): Ja, Mhm. Mhm. Also ich glaube einfach, dass das die KI in der Lage dazu ist...	Interviewee 9 (13:30): Yeah, mmm. Mhm. So I just think that the AI is able to...
Researcher (13:39): Ja.	Researcher (13:39): Yes.
Interviewee 9 (13:44): ...verschiedener Beurteilungen zusammenzufassen und mir die Produkte oder Services anzuzeigen, die für mich relevant sind. Aufgrund von meinem Buchungsverhalten, dass das deutlich verbessert werden kann, noch wenn man die entsprechenden Technologien benutzt.	Interviewee 9 (13:44): ...to summarise different assessments and show me the products or services that are relevant to me. Based on my booking behaviour, that this can be significantly improved, even if you use the appropriate technologies.
Researcher (14:05): Sehr gut. Noch weitere Technologien, die dir jetzt einfallen?	Researcher (14:05): Very good. Any other technologies you can think of now?
Interviewee 9 (14:11): Mhm. Bestimmt.	Interviewee 9 (14:11): Mhm. Definitely.
Researcher (14:19): Wenn nicht, also es ist ja sozusagen, das ist ja ungestützt, also einfach, wenn dir noch was einfällt, sonst können wir auch weitergehen, das ist alles gut.	Researcher (14:19): If not, so it's sort of, it's unsupported, so just, if you can think of anything else, otherwise we can move on, that's all good.
Interviewee 9 (14:20): Also... Mhm. Aha. Also das Thema Google, das Thema Google fällt mir halt noch ein, weil...	Interviewee 9 (14:20): So... Mhm. Aha. So the topic of Google, the topic of Google comes to mind, because...
Researcher (14:31): Mhm.	Researcher (14:31): Mhm.
Interviewee 9 (14:32): ...die, die eine Zusammenfassung machen, über die ich gerade geredet habe, die Zusammenfassung von Bewertungen.	Interviewee 9 (14:32): ...the ones that do a summary that I just talked about, the summary of reviews.
Researcher (14:38): Mhm.	Researcher (14:38): Mhm.
Interviewee 9 (14:39): Und ich glaube, wenn diese und Google, also ich glaube, es wird auch durch KI nicht abgelöst werden, aber wenn die wissen, nach was ich alles google und dann dementsprechend regelmäßig die Angebote machen, die zu meinem Suchverhalten viel besser noch passen. Und ich glaube, es gibt viel mehr Informationen und Technologien als aktuell schon genutzt werden, die in der Zukunft das ganze Thema nochmal drehen können.	Interviewee 9 (14:39): And I think if these and Google, well I don't think it will be replaced by AI either, but if they know what all I'm googling for and then accordingly regularly make the offers that fit my search behaviour much better still. And I think there's a lot more information and technologies than are currently being used that could turn the whole thing around in the future.
Researcher (14:55): Ja. Mhm. Ja, super. Also wir haben KI und Suchmaschinenoptimierung.	Researcher (14:55): Yes. Mmm. Yeah, great. So we have AI and search engine optimisation.
Interviewee 9 (15:12): Ja, und noch einen Punkt. Programmatic Advertising ist, glaube ich, ein Thema, was in der Zukunft wahnsinnig wichtig und interessant sein wird und was aber bisher von extrem wenig Marketingagenturen genutzt wird.	Interviewee 9 (15:12): Yes, and one more point. Programmatic advertising is, I think, a topic that will be incredibly important and interesting in the future, but which has been used by very few marketing agencies so far.
Researcher (15:13): Ja.	Researcher (15:13): Yes.
Interviewee 9 (15:27): Und ich glaube, dass das einfach ein riesengroßer Schlüssel sein wird, wenn das von irgendeinem der Gatekeeper, von Google, wie auch immer, deutlich mehr fokussiert wird.	Interviewee 9 (15:27): And I think that's just going to be a huge key if there's significantly more focus on that from any of the gatekeepers, from Google, whatever.
Researcher (15:36): Genau. Kannst du das noch ein bisschen weiter ausführen, weil das ist spannend. Diese Technologie hat noch keiner gesagt von unseren Interviews.	Researcher (15:36): Exactly. Can you expand on that a little bit more, because that's exciting. Nobody has mentioned this technology in our interviews.
Interviewee 9 (15:39): Aha. Mhm. Also ich finde es wahnsinnig schwierig zu beschreiben. Ich habe mir zwei Vorträge zu dem Thema angehört, von einer Marketingagentur in Köln. Das ist eine der einzigen, die das überhaupt in Deutschland verwendet, und die gehen dahin und gucken nach den, also die finden heraus, welche verschiedenen Suchbegriffe natürlich jemand benutzt, aber bieten dann	Interviewee 9 (15:39): Aha. Mhm. Well, I find it incredibly difficult to describe. I've listened to two presentations on the subject from a marketing agency in Cologne. It's one of the only ones that actually uses it in Germany, and they go there and look at the different search terms that people use, but then they don't offer products and services based on the search terms, but on the combination

nicht Produkte und Services nach den Suchbegriffen, sondern nach der Kombination von Suchbegriffen, zum Beispiel über ein komplettes Jahr hinweg an. Also Beispiel, wenn ein Haushalt nach Dingen gegoogelt hat wie Teich oder keine Ahnung, eine Kinderrutsche oder Pampers, dann nehmen die diese verschiedenen semantischen Begriffe, schauen, welcher Typ von Mensch diese Begriffe im letzten Jahr gegoogelt hat, und wissen, okay, es macht viel mehr Sinn, den Haushalten dann Werbung anzuzeigen, wo es zum Beispiel um das Thema Terrassenabdeckung geht, weil da scheinbar eine Familie gegründet wurde und man den Eindruck hat, dass dort länger gewohnt werden soll, als da jetzt irgendwie, keine Ahnung, Werbung anzubieten, mit dem man auf Weltreise geht.	of search terms, for example over the course of a whole year. So, for example, if a household has googled things like pond or I don't know, a children's slide or Pampers, then they take these different semantic terms, look at what type of person has googled these terms in the last year, and know, okay, it makes much more sense to show households adverts that are about patio covers, for example, because a family has apparently been set up there and you get the impression that people are going to live there for longer than somehow, I don't know, offering adverts that take you on a trip around the world.
Researcher (17:06): Mhm.	Researcher (17:06): Mhm.
Interviewee 9 (17:08): Wenn aber dann zum Beispiel eine andere Personengruppe irgendwie ständig nach irgendwelchen Reisezielen gesucht hat, gleichzeitig sehr günstig Lebensmittel einkauft und versucht, relativ klein, die Ausgaben zu halten, gleichzeitig aber nach unterschiedlichsten Zielen in Europa regelmäßig googelt. Dann macht es Sinn, dort Werbung zu schalten, weil das dann die Zielgruppe wäre, die aufgrund der Suchbegriffe der letzten, keine Ahnung, 18 Monate vielleicht genau das vorhaben könnte, nämlich ein halbes Jahr auf Sabbatical zu gehen und durch Europa zu reisen.	Interviewee 9 (17:08): But then if, for example, another group of people have somehow constantly searched for any travel destinations, at the same time buying food very cheaply and trying to keep their expenses relatively low, but at the same time regularly googling for a wide variety of destinations in Europe. Then it makes sense to advertise there, because that would be the target group that, based on the search terms of the last, I don't know, 18 months, might be planning exactly that, namely to go on sabbatical for six months and travel through Europe.
Researcher (17:29): Mhm. Mhm. Ganz, ganz, ganz spannend. Super. Also danke, noch ein neuer Hinweis. Genau, wir gehen jetzt sozusagen in den zweiten großen Block.	Researcher (17:29): Mhm. Mmm. Very, very, very exciting. Super. So thank you, another new tip. Right, we're now going into the second big block, so to speak.
Interviewee 9 (17:51): Aha.	Interviewee 9 (17:51): I see.
Researcher (18:02): Aus methodischen Gründen machen wir es so. Ich stelle meine Eingangsfrage und ausdrücklich, ob du das jetzt beantworten kannst oder nicht, ich erkläre das dann auch noch. Die Frage ist: Hast du dich schon mal mit Blockchain und dem potenziellen Einfluss auf Vermittlung von Dienstleistungen in der Tourismusbranche beschäftigt? Wenn ja, was und wie? Und wenn nein, auch alles gut.	Researcher (18:02): For methodological reasons, we'll do it this way. I'll ask my initial question and explicitly, whether you can answer it now or not, I'll explain it. The question is: Have you ever looked into blockchain and its potential impact on the provision of services in the tourism industry? If so, what and how? And if not, all good.
Interviewee 9 (18:04): Mhm. Aha. Mhm. Mhm. Ja, also ich habe mal versucht, das Thema Blockchain und Kryptowährung zu verstehen und habe mich da so ein bisschen reingefuchst vor anderthalb Jahren und versucht zu verstehen, wie das funktioniert. Und ich war locker überfordert.	Interviewee 9 (18:04): Mhm. I see. Mhm. Mhm. Yes, so I once tried to understand the topic of blockchain and cryptocurrency and dug into it a bit a year and a half ago and tried to understand how it works. And I was easily overwhelmed.
Researcher (18:33): Hm. Okay.	Researcher (18:33): Hmm. Okay.
Interviewee 9 (18:44): Also, was ich vielleicht zusammenfassend verstanden habe, ist, dass man mit Kryptowährung verschiedene, ja, Blockchain-Kombinationen hat, die irgendwo gespeichert werden, und man das dann als Währung benutzen kann, ohne dass irgendeine Bank irgendwo Geld als Gegenwert dahinter hinterlegt hat. Und dass ganz viele Programmierer in öffentlichen Datenbanken Schlüsselbegriffe anlegen, sodass trotzdem diese Währung sicher ist.	Interviewee 9 (18:44): So, maybe what I understood in summary is that with cryptocurrency you have different, yes, blockchain combinations that are stored somewhere, and you can then use that as a currency without any bank anywhere having money deposited behind it as an equivalent. And that many programmers create key terms in public databases so that this currency is still secure.
Researcher (19:21): Das ist ja, also, ich, also dafür, dass du gesagt hast, dass dich das überfordert hat, da steckte alles drin. Also aus methodischen Gründen hab ich so einen kleinen Erklärungstext, den hab ich aber allen vorgelesen. Deine Antwort war schon ganz gut. Aber ausdrücklich, also Blockchain und Tourism hast du noch nicht miteinander verbunden und ausdrücklich, es geht nicht um Bitcoin, weil das waren oft Fragen, so geht es um Payment? Nein, es geht...	Researcher (19:21): That's yes, so, I, so for you saying that this overwhelmed you, it was all in there. So for methodological reasons, I have a little explanatory text, but I read it out to everyone. Your answer was quite good. But explicitly, so you haven't connected blockchain and tourism yet and explicitly, it's not about Bitcoin, because those were often questions, so is it about payment? No, it's about...
Interviewee 9 (19:30): Okay. Mhm. Aha. Nee. Mhm. Mhm. Mhm.	Interviewee 9 (19:30): Okay. Mhm. I see. Nope. Mhm. Mmm. Mhm.
Researcher (19:56):	

Also, ich hab einen Text, deswegen muss ich jetzt zur Seite gucken. Blockchain ist eine Technologie, bei der Informationen in Form von digitalen Datenblöcken gespeichert und verschlüsselt miteinander verknüpft werden, um eine sichere und transparente Datenbank zu erstellen. Das ist sozusagen erstmal die Basis. Wir gehen jetzt ein bisschen in die Tiefe. Diese Datenbank...

Interviewee 9 (19:58):
Mhm.
Hm.
Mhm.

Researcher (20:20):
...ist nicht mehr und nicht weniger als eine Datenbank. Also das muss man immer im Hinterkopf haben. Wird nicht von einer zentralen Autorität verwaltet, sondern eine Blockchain wird gleichzeitig von ganz vielen Computern über das Internet kontrolliert. Sozusagen, viele Augen schauen auf diese Datenbank.

Interviewee 9 (20:22):
Mhm.
Aha.
Aha.

Researcher (20:40):
Jeder Block, weil wir sprechen jetzt von der Blockchain, jeder Block in der Blockchain erhält eine gewisse Menge an Daten, die Transaktionsdetails enthalten.

Interviewee 9 (20:46):
Mhm.
Aha.

Researcher (20:51):
Sobald dieser Block voll mit der Datenmenge ist, wird er verschlüsselt mit Daten aus dem Block, der vorher voll gemacht worden ist. Das heißt, der vorherige und der neue Block werden über einen Code miteinander verbunden. Und da es dezentral organisiert ist, erklär ich es immer so...

Interviewee 9 (21:15):
Mhm.

Researcher (21:16):
Diese Datenbank wird auf ganz, ganz viele andere Server gespiegelt. Gespiegelt ist ein Team, ist nicht das richtige Wort, aber wir benutzen es mal. Also...

Interviewee 9 (21:19):
Aha.
Aha.

Researcher (21:25):
Diese beiden miteinander verbundenen Blöcke...

Interviewee 9 (21:29):
Aha.

Researcher (21:29):
...und der davor ist mit dem davor, und der war vor mit dem davor, die liegen auf ganz, ganz, ganz vielen Servern. Und so wird es schwierig...

Interviewee 9 (21:32):
Aha.

Researcher (21:37):
...an einem Block herumzufuschen und zu manipulieren, weil die anderen Server sagen, "Oh, die Blockchain, jemand hat die Kette kaputt gemacht," weil sobald du an einen Block rangehst, merkt der, "Hey, mein Code zum vorherigen, da stimmt was nicht." Und so ist es halt...

Interviewee 9 (21:46):
Mhm.
Aha.

Researcher (21:57):
Anstatt eben, dass eine einzige zentrale Stelle die Kontrolle hat und manipuliert werden kann, ermöglicht es eben eine Sicherheit.

Interviewee 9 (22:01):
Mhm.
Aha.

Researcher (19:56):
So, I have a text, so I have to look to the side now. Blockchain is a technology in which information is stored in the form of digital data blocks and linked together in encrypted form to create a secure and transparent database. That's the basis, so to speak. We are now going to go a little deeper. This database...

Interviewee 9 (19:58):
Mhm.
Hm.
Mhm.

Researcher (20:20):
...is nothing more and nothing less than a database. So you always have to bear that in mind. It's not managed by a central authority, but a blockchain is controlled simultaneously by many computers via the internet. So to speak, many eyes are looking at this database.

Interviewee 9 (20:22):
Mhm.
I see.
Uh-huh.

Researcher (20:40):
Each block, because we're talking about the blockchain now, each block in the blockchain receives a certain amount of data that contains transaction details.

Interviewee 9 (20:46):
Mhm.
I see.

Researcher (20:51):
Once this block is full with the amount of data, it is encrypted with data from the block that was previously made full. In other words, the previous block and the new block are linked to each other via a code. And since it's organised decentrally, I always explain it like this...

Interviewee 9 (21:15):
Mhm.

Researcher (21:16):
This database is mirrored on many, many other servers. Mirrored is a team, it's not the right word, but we use it sometimes. So...

Interviewee 9 (21:19):
Aha.
I see.

Researcher (21:25):
These two interconnected blocks...

Interviewee 9 (21:29):
Aha.

Researcher (21:29):
...and the one before that is with the one before that, and the one before that was with the one before that, they're on many, many, many servers. And so it becomes difficult...

Interviewee 9 (21:32):
I see.

Researcher (21:37):
...to mess with a block and manipulate it because the other servers say, "Oh, the blockchain, somebody broke the chain," because as soon as you get to a block, it realises, "Hey, my code to the previous one, something's wrong." And that's just how it is...

Interviewee 9 (21:46):
Mhm.
I see.

Researcher (21:57):
Instead of a single centralised body having control and being able to manipulate it, it enables security.

Interviewee 9 (22:01):
Mhm.
I see.

Researcher (22:06): Gegenüber zum Beispiel, dass Daten gelöscht werden oder Hacking oder Manipulation. Also statt dass eine einzige Stelle Nutzer, die irgendwie eine Transaktion miteinander machen wollen, sich über eine zentrale Stelle absichern, dass niemand das manipuliert, haben wir die Technologie, die keine zentrale Stelle braucht.	Researcher (22:06): Versus, for example, data being deleted or hacking or manipulation. So instead of having a single point where users who somehow want to make a transaction with each other secure themselves via a central point so that nobody manipulates it, we have the technology that doesn't need a central point.
Interviewee 9 (22:10): Aha. Mhm. Aha.	Interviewee 9 (22:10): Aha. Mhm. I see.
Researcher (22:30): Damit man Sicherheit hat. Das ist tatsächlich das einzige Grundprinzip. Und jetzt gibt es einen schönen Dreh dabei, wenn man das weiterspinnt, und da ist tatsächlich Bitcoin, das hast du ziemlich genau so gesagt.	Researcher (22:30): So that you have security. That's really the only basic principle. And now there's a nice twist to it, if you take it further, and there's actually Bitcoin, that's pretty much what you said.
Interviewee 9 (22:37): Aha.	Interviewee 9 (22:37): Uh-huh.
Researcher (22:43): Es braucht nämlich dann keine Vermittler mehr für Transaktionen, es braucht keine Bank, um eine Währung zu haben. Blockchain hat sozusagen als Grundprinzip, wir schalten den Vermittler aus, weil Nutzer, die sich nicht kennen, über diesen Sicherheitsmechanismus miteinander Transaktionen machen können, ohne dass eine zentrale Stelle da irgendwie was schützt oder kontrolliert.	Researcher (22:43): Because then it doesn't need intermediaries for transactions anymore, it doesn't need a bank to have a currency. The basic principle of blockchain is that we eliminate the intermediary, so to speak, because users who don't know each other can make transactions with each other via this security mechanism without a centralised body protecting or controlling anything.
Interviewee 9 (22:46): Mhm. Mhm. Aha. Aha.	Interviewee 9 (22:46): Mhm. Mhm. I see. I see.
Researcher (23:10): Kannst du dir jetzt, das ist wirklich eine sehr einfache Grund-Erklärung, es ist natürlich viel komplexer, aber das Grundprinzip.	Researcher (23:10): Can you imagine now, that's really a very simple basic explanation, it's much more complex of course, but the basic principle.
Interviewee 9 (23:13): Aha. Ja.	Interviewee 9 (23:13): Aha. Yes.
Researcher (23:16): Kannst du dir jetzt einen Einfluss von Blockchain auf die Tourismusindustrie vorstellen?	Researcher (23:16): Can you imagine an impact of Blockchain on the tourism industry now?
Interviewee 9 (23:22): Naja, der Einfluss wäre ja, dass man keine Gatekeeper mehr braucht.	Interviewee 9 (23:22): Well, the impact would be that you don't need gatekeepers anymore.
Researcher (23:29): Ja.	Researcher (23:29): Yes.
Interviewee 9 (23:29): Also die können ja komplett vom Markt verschwinden.	Interviewee 9 (23:29): So they could disappear completely from the market.
Researcher (23:33): Ja. Genau, und ja , danke. Das ist genau der Punkt. Also ich forsche genau darüber, der Einfluss von Blockchain auf die Vermittlung von Dienstleistungen und eben die Rolle der Gatekeeper. Und jetzt gehen wir noch einen Schritt weiter.	Researcher (23:33): Yes. Exactly, and yes thank you. That's exactly the point. So I'm researching exactly that, the influence of blockchain on the mediation of services and the role of gatekeepers. And now we're going one step further.
Interviewee 9 (23:40): Mhm. Aha.	Interviewee 9 (23:40): Mhm. I see.
Researcher (23:52): Das, was ich dir eben beschrieben habe, das war ja sehr theoretisch. Es gibt, das nennen wir die Blockchain Generation 1, das war für Bitcoin. Blockchain Generation 2 sind die sogenannten Blockchain-basierten Smart Contracts.	Researcher (23:52): What I just described to you, that was very theoretical. There is what we call blockchain generation 1, that was for Bitcoin. Blockchain generation 2 are the so-called blockchain-based smart contracts.
Interviewee 9 (23:55): Aha. Aha. Aha.	Interviewee 9 (23:55): Aha. Aha. Aha.
Researcher (24:11): Ein Smart Contract ist ein intelligenter Vertrag zwischen zwei Nutzern, der sich automatisch ausführt, sobald bestimmte Bedingungen erfüllt sind. Ohne Anwalt, ohne Bank, ohne Agentur. Und ausdrücklich, das gibt es schon, das ist jetzt nichts, was technologisch, wir haben Blockchain-basierte Smart Contracts in vielen Bereichen. Stell dir vor, ein Kunde möchte	Researcher (24:11): A smart contract is an intelligent contract between two users that executes automatically as soon as certain conditions are met. Without a lawyer, without a bank, without an agency. And explicitly, this already exists, it's not something that is technological, we have blockchain-based smart contracts in many areas. Imagine a customer wants to book a hotel room, instead of

ein Hotelzimmer buchen, anstatt eine Buchungsplattform als Vermittler zu nutzen, könnte er direkt mit dem Hotel über eine Blockchain...	using a booking platform as an intermediary, they could contact the hotel directly via a blockchain...
Interviewee 9 (24:17): Mhm. Aha. Mhm. Aha.	Interviewee 9 (24:17): Mhm. I see. Mhm. Uh-huh.
Researcher (24:44): ...Plattform, das ist ja keine Plattform, sehr einfach nur eine Technologie, die den Austausch ermöglicht. Der Buchungsvorgang würde in einem intelligenten digitalen Vertrag auf der Blockchain festgehalten. Dort könnten Buchungsinformationen wie Datum, Zimmerpreis, Zahlungsdetails, Stornierung enthalten sein. Da die Blockchain eine dezentrale und transparente Datenbank ist, können natürlich Hotel und Kunde auf die Informationen zurückgreifen...	Researcher (24:44): ...platform, it's not really a platform, very simply just a technology that enables the exchange. The booking process would be recorded in an intelligent digital contract on the blockchain. It could contain booking information such as date, room price, payment details and cancellations. As the blockchain is a decentralised and transparent database, the hotel and customer can of course access the information...
Interviewee 9 (24:47): Hm. Mhm. Aha.	Interviewee 9 (24:47): Hm. Mhm. I see.
Researcher (25:12): ...und sicherstellen, dass diese unveränderlich und vertrauenswürdig ist. Das heißt, zu Betrug und Manipulation ist es echt schwierig. Es braucht also kein Vermittler wie eine Buchungsplattform. Ausdrücklich, Zahlungen sind natürlich auch über die Blockchain möglich. Das kommt ja aus der Finanzindustrie, aber es geht eher um dieses Abschließen des intelligenten Vertrags. Und es gibt halt eine immer größere...	Researcher (25:12): ...and make sure that this is immutable and trustworthy. That means it's really difficult to commit fraud and manipulation. So you don't need an intermediary like a booking platform. Payments are of course also possible via the blockchain. That comes from the financial industry, but it's more about concluding an intelligent contract. And there is an ever-increasing...
Interviewee 9 (25:22): Aha. Mhm. Mhm. Aha.	Interviewee 9 (25:22): I see. Mmm. Mhm. Aha.
Researcher (25:43): ...Diskussion bei Wissenschaftlern, die sich mit dem Thema Blockchain und Tourism auseinandersetzen. Die sagen, ja, also das könnte tatsächlich einen Einfluss haben und könnte zu geringeren Gebühren und schnelleren Transaktionen führen, da es den Vermittler komplett umgeht und nach wie vor einen transparenten Buchungsverlauf bietet.	Researcher (25:43): ...discussion among academics who are looking at blockchain and tourism. They say, yes, it could actually have an impact and could lead to lower fees and faster transactions, as it completely bypasses the intermediary and still offers a transparent booking process.
Interviewee 9 (25:43): Ja. Mhm.	Interviewee 9 (25:43): Yes. Mhm.
Researcher (26:02): Deswegen könnte das Ganze, also das ist so der Stand der Forschung, mit dem ich mich auseinandersetze.	Researcher (26:02): That's why the whole thing, so that's kind of the state of the research that I'm looking into.
Interviewee 9 (26:06): Aha.	Interviewee 9 (26:06): I see.
Researcher (26:06): Verträge könnten effizienter, sicherer und transparenter gestaltet werden, indem sie Vermittler eliminieren, Vertrauen aufbauen und den ganzen Zahlungsprozess vereinfachen. Und eine Sache ist ausdrücklich in der Forschung wird noch gesagt, dass natürlich auch die ganzen Reviews, also die ganzen Bewertungen...	Researcher (26:06): Contracts could be made more efficient, more secure and more transparent by eliminating intermediaries, building trust and simplifying the whole payment process. And one thing that is explicitly stated in the research is that, of course, all the reviews, all the ratings...
Interviewee 9 (26:17): Aha. Mhm.	Interviewee 9 (26:17): Aha. Mhm.
Researcher (26:26): ...auch gegen Fake Reviews helfen könnten. Weil dann werden auch die Reviews sozusagen in diesem intelligenten Vertrag direkt festgehalten und die können dann nicht so gut gefälscht werden.	Researcher (26:26): ...could also help against fake reviews. Because then the reviews are directly recorded in this intelligent contract, so to speak, and they can't be falsified so easily.
Interviewee 9 (26:35): Okay, das ist spannend.	Interviewee 9 (26:35): Okay, that's exciting.
Researcher (26:37): Und jetzt aus methodischen Gründen, weil das war jetzt viel Input. Ich hab das versucht zu visualisieren und zeige dir jetzt ein Schaubild.	Researcher (26:37): And now for methodological reasons, because that was a lot of input now. I've tried to visualise it and now I'll show you a diagram.
Interviewee 9 (26:41): Mhm. Mhm.	Interviewee 9 (26:41): Mhm. Mhm.
Researcher (26:46):	Researcher (26:46):

Und so. Im besten aller Fälle, er lebt noch. Du solltest hoffentlich ein Schaubild sehen.	And so. Best case scenario, he's still alive. You should hopefully see a diagram.
Interviewee 9 (26:54): Ja.	Interviewee 9 (26:54): Yes.
Researcher (26:55): Genau. Es ist ein bisschen klein, ich erklär es mal oben. Introduction ist das, was ich das gerade erklärt habe, also ich forsche über Blockchain-based Distributed Ledger for Smart Payment Contracts and Reviews.	Researcher (26:55): Right. It's a bit small, I'll explain it at the top. Introduction is what I just explained, so I'm doing research on Blockchain-based Distributed Ledger for Smart Payment Contracts and Reviews.
Interviewee 9 (27:01): Mhm. Mhm.	Interviewee 9 (27:01): Mhm. Mhm.
Researcher (27:09): Und wir haben einmal den Status quo, den haben wir eben besprochen. Das sind die Gatekeeper, die stehen in der Mitte. Spannend ist, die Literatur sagt, die Kommission für diese Buchungsplattformen liegt zwischen 15 und 30%. Hast du zufällig eine Erfahrung, was die Buchungsplattformen den Hotels vom Umsatz als Provisionen nehmen?	Researcher (27:09): And we once have the status quo, we just discussed that. These are the gatekeepers, they're in the centre. What's exciting is that the literature says that the commission for these booking platforms is between 15 and 30%. Do you happen to have any experience of what the booking platforms take from the hotels as commission?
Interviewee 9 (27:15): Aha. Ja, ja. Also ich glaube, die 15 bis 30% sind komplett korrekt. Also ich glaube, es kommt immer auf die unterschiedlichen Verträge an, aber Booking ist ja schon weit über 18%.	Interviewee 9 (27:15): Aha. Yes, yes. So I think the 15 to 30% is completely correct. So I think it always depends on the different contracts, but Booking is already well over 18%.
Researcher (27:33): Gut. Super. Ja, genau das ist die Range und das ist der Status quo. Wir haben über Macht und die Gatekeeper schon und was ich untersuche ist die Influence, also könnte es passieren, dass man durch die Blockchain-Technologie diese Gatekeeper umgeht und dass die meisten Menschen, also da ist eben die Eco-Lodge in Bangladesch auf der einen Seite, also ist ein Peer, hier ist ja ein Nutzer in einem Netzwerk.	Researcher (27:33): Good. Great. Yeah, that's the range and that's the status quo. We've already talked about power and the gatekeepers and what I'm investigating is the influence, so it could happen that blockchain technology bypasses these gatekeepers and that most people, so there's the eco-lodge in Bangladesh on the one hand, so it's a peer, here's a user in a network.
Interviewee 9 (27:46): Hm. Mhm. Aha. Mhm.	Interviewee 9 (27:46): Hm. Mhm. I see. Mhm.
Researcher (28:06): Eco-Lodge in Bangladesch macht den Vertrag, den Buchungsvertrag direkt mit dem Ehepaar aus New York. Ausdrücklich...	Researcher (28:06): Eco-Lodge in Bangladesh makes the contract, the booking contract directly with the couple from New York. Explicitly...
Interviewee 9 (28:13): Mhm.	Interviewee 9 (28:13): Mhm.
Researcher (28:15): Es könnte noch Plattformen geben, also zum Beispiel für irgendwelche spezialisierten Geschichten, aber sozusagen die Masse der Buchungen wird zwischen den Nutzern untereinander gemacht.	Researcher (28:15): There could still be platforms, so for example for any specialised stories, but so to speak the bulk of the bookings are made between the users themselves.
Interviewee 9 (28:22): Mhm.	Interviewee 9 (28:22): Mhm.
Researcher (28:27): Glaubt also einfach deine Meinung zu dieser, dieser möglichen Einfluss.	Researcher (28:27): So just believe your opinion on this, this possible influence.
Interviewee 9 (28:33): Ja, ich glaube, es ist alles eine Sache des Marketings und der Darstellung, weil... Wenn diese, also ich muss ja irgendwie trotzdem dieses Hotel finden, erstmal.	Interviewee 9 (28:33): Yeah, I think it's all a matter of marketing and presentation because.... If this, well, I still have to find this hotel somehow, first of all.
Researcher (28:45): Mhm.	Researcher (28:45): Mhm.
Interviewee 9 (28:46): Und das ist ja ein Punkt, wo ich Booking total gerne nutze, um einfach überhaupt erst mal eine Idee davon zu bekommen. Aber wenn man keine Ahnung über TikTok, über Google ein Hotel findet, dann brauche ich Booking ja nicht. Die Frage ist nur, wie wird das dargestellt und kann ich dann auch in einer History quasi sehen, wo ich denn überall in der Vergangenheit war? Wie kann ich mir die Sachen merken als Verbraucher oder als Nutzer, so dass ich irgendwie die ganzen Sachen, die ich gut finde, dass sie nicht verschwinden, sondern dass ich die in einer Wunsch-Reiseliste zum Beispiel drin hab oder wenn ich weiß, ich muss nächstes Jahr da und da hin und jetzt habe ich hier ein Hotel gesehen, dass ich das abspeichern kann. Ich glaube, dass das alles irgendwie auch eine Sache der Darstellung ist, weil was ich sehr charmant finde zum Beispiel auch, wenn der Kontakt direkt	Interviewee 9 (28:46): And that's one point where I totally like to use Booking, just to get an idea of it in the first place. But if you have no idea how to find a hotel via TikTok or Google, then I don't need Booking. The only question is, how is this displayed and can I also see in a history where I've been in the past? How can I remember things as a consumer or as a user, so that I can somehow remember all the things I like, so that they don't disappear, but that I have them in a wish list, for example, or if I know I have to go there and there next year and now I've seen a hotel here, that I can save it. I think it's all somehow a matter of presentation, because what I find very charming, for example, would be if the contact were to run directly through it, so that you can also save business trip invoices directly, for example. But these are all functions that can be incredibly helpful and interesting for one use case or

darüber laufen würde, dass man zum Beispiel dann auch Geschäftsreise-Rechnungen direkt abspeichern kann. Aber das sind ja alles Funktionen, die für den einen oder für den anderen Anwendungsfall wahnsinnig hilfreich und interessant sein können. Und da ist wahrscheinlich die Frage, wer das am Smartesten wie irgendwie löst.

Researcher (29:59):
Mhm.

Interviewee 9 (29:59):
Von der Darstellung her, weißt du, was ich meine?

Researcher (30:01):
Danke. Du bist schon direkt auf die nächste Frage eingegangen. Ich wollte mich gerade fragen, welche technologischen Funktionalitäten müsste es haben, damit es genutzt wird? Hast du schon beantwortet. Ausdrücklich, ich erforsche nicht gerne sehr.

Interviewee 9 (30:10):
Mhm.
Aha.
Ich hab wird noch welche Dazufügen.
Also ich, ich würde ganz klar sagen, sowas wie Firmenrechnungen, dass das sofort gespeichert und am besten auch sofort abgeschickt wird, ohne dass ich irgendwas machen muss.
Dass man keinen Ansprechpartner irgendwie hat, mit dem man im Hotel reden kann, sondern im Chat sowas sagen kann wie, "Hey, ich bin übrigens heute erst um 10 da, bitte mein Zimmer nicht vergeben wegen No-Show," ohne dass ich mir irgendwo die Kontaktdaten raussuchen muss.

Researcher (30:47):
Mhm.

Interviewee 9 (30:51):
Oder dass man sagen kann, "Hey, ich brauche ein Bügeleisen auf dem Zimmer." Finde ich auch sehr charmant.
Dann eine gute übersichtliche Darstellung: Was gibt es? Was braucht es? Das Thema Reviews finde ich auch weiterhin ganz wichtig. Verschiedenste Zahlungsmöglichkeiten, also egal ob das jetzt PayPal, Rechnung, die Kreditkartennummer

, die die Abteilung irgendwie hat, wo man nicht selbst die Kreditkarte hat, dass man nicht vor Ort alles zahlen muss, sondern das schon vorher machen kann, oder während man da ist, aber dann auch irgendwie alles digital, weil das auch nicht immer überall so geht.
Und viele sagen, "Nee, Sie müssen aber vor Ort zahlen," und ich denke mir, "Aber ich habe die Kreditkartendetails hier."
Ich hatte noch was, aber das weiß ich gerade nicht mehr. Ja.
Dass man Allergien vielleicht angeben kann. Also ich habe keine, aber das ist ja irgendwie auch immer ein wichtigeres Thema für Reisende.

Researcher (31:47):
Mhm.
Ja.

Interviewee 9 (31:51):
Ich glaube, das Thema Individualisierung für den Gast könnte spannend sein, ja.

Researcher (31:59):
Sehr guter Stichwort. Tatsächlich, ich erforsche nicht die praktische Umsetzung, aber als Hinweis, weil ich den Hinweis allen anderen auch gegeben habe. Mir geht es auch darum, ich forsche auch gerne für die Praxis. Tatsächlich, die technologische Umsetzung muss man sich so vorstellen: Das wird mein nächstes Paper werden nach der Doktorarbeit.

Interviewee 9 (32:05):
Mhm.
Mhm.
Und?

Researcher (32:25):
Du reist einfach durchs Internet mit deiner digitalen Wallet, wo du deine Daten drin hast, und diese Wallet, die ist Blockchain-basiert und sie stößt dann zum Beispiel eine Hotel-Website.

Interviewee 9 (32:28):
Mhm.
Aha.
Mhm.

Researcher (32:39):
Die auch eine Wallet hat und die beiden Wallets verbinden sich. Das heißt, es sieht immer gleich aus, man kann alle Funktionen der Wallet bauen und

another. And the question is probably who is going to find the smartest way to do it.

Researcher (29:59):
Mhm.

Interviewee 9 (29:59):
In terms of presentation, do you know what I mean?

Researcher (30:01):
Thank you. You've already gone straight to the next question. I was just going to ask myself, what technological functionalities would it have to have for it to be used? You've already answered that. Explicitly, I don't like to explore very much.

Interviewee 9 (30:10):
Mhm.
I see.
I will add some more.
So I, I would clearly say, something like company invoices, that this is saved immediately and preferably also sent immediately, without me having to do anything.
That you don't have a contact person that you can talk to in the hotel, but can say something like, "Hey, I'm not here until 10 today, please don't give my room away because of a no-show," without having to look up the contact details somewhere.

Researcher (30:47):
Mhm.

Interviewee 9 (30:51):
Or that you can say, "Hey, I need an iron in the room." I also find that very charming.
Then a good clear presentation: What is there? What is needed? I still find the topic of reviews very important. A wide range of payment options, whether it's PayPal, invoice, the credit card number

that the department somehow has, where you don't have the credit card yourself, so that you don't have to pay everything on site, but can do it beforehand, or while you're there, but then somehow everything is also digital, because that doesn't always work everywhere.
And many people say, "No, you have to pay on site," and I think to myself, "But I have the credit card details here."
I had something else, but I can't remember right now. Yes.
That you might be able to declare allergies. Well, I don't have any, but that's somehow always a more important topic for travellers.

Researcher (31:47):
Mhm.
Yes.

Interviewee 9 (31:51):
I think the topic of individualisation for the guest could be exciting, yes.

Researcher (31:59):
Very good keyword. Actually, I'm not researching the practical , but as a hint, because I've given the hint to everyone else as well. That's also my point, I also like to do research for practice. In fact, you have to imagine the technological like this: That will be my next paper after the doctoral thesis.

Interviewee 9 (32:05):
Mhm.
Mhm.
And?

Researcher (32:25):
You just travel through the internet with your digital wallet, where you have your data in there, and this wallet, it's blockchain-based and it then hits a hotel website, for example.

Interviewee 9 (32:28):
Mhm.
I see.
Mhm.

Researcher (32:39):

du selbst bestimmst an jedem Punkt, welche Daten du in der Wallet ausgeben willst. Weil so brauchst du einen Account bei Booking, so brauchst du einen Account bei HRS, du brauchst da bei jedem einzelnen Loyalty-Programm, das geht um, weil so funktioniert Blockchain und Bitcoin: Du hast eine digitale Wallet.	Which also has a wallet and the two wallets connect. That means it always looks the same, you can build all the functions of the wallet and you yourself decide at each point which data you want to spend in the wallet. Because that's how you need an account with Booking, that's how you need an account with HRS, you need an account with every single loyalty programme, that's how blockchain and Bitcoin work: you have a digital wallet.
Interviewee 9 (32:41): Mhm. Mhm. Mhm. Mhm. Mhm. Aha.	Interviewee 9 (32:41): Mhm. Mm. Mm. Mm. Mhm. Uh-huh.
Researcher (33:05): Und jemand anders, der hat auch eine Wallet, und da werden die Blockchain-Daten innerhalb von den Wallets ausgetauscht. Das heißt...	Researcher (33:05): And someone else, they also have a wallet, and that's where the blockchain data is exchanged within wallets. That means...
Interviewee 9 (33:06): Mhm. Mhm.	Interviewee 9 (33:06): Mhm. Mhm.
Researcher (33:13): ...die praktische Umsetzung würde über diese Wallet-Funktion laufen. Und vielleicht noch einmal, deswegen fand ich ganz spannend, hast nämlich direkt am Anfang gesagt, welche Schlüsseltechnologien du hast. Am Anfang die Lösung dafür gesagt mit KI.	Researcher (33:13): ...the practical would be via this wallet function. And maybe once again, that's why I found it really exciting that you said right at the beginning what key technologies you have. At the beginning you said the solution with AI.
Interviewee 9 (33:25): Mhm. Mhm.	Interviewee 9 (33:25): Mhm. Mhm.
Researcher (33:27): Das ist das gleiche. Eine KI sucht dann nämlich einfach. Das ist genau, was du am Anfang gesagt hast, und dann sprechen wir nicht über Blockchain der dritten Generation, also Blockchain mit Smart Contracts und KI.	Researcher (33:27): That's the same thing. An AI then simply searches. That's exactly what you said at the beginning, and then we're not talking about third-generation blockchain, so blockchain with smart contracts and AI.
Interviewee 9 (33:33): Mhm. Mhm. Okay, krass spannend.	Interviewee 9 (33:33): Mhm. Mmm. Okay, really exciting.
Researcher (33:43): Ja, das ist sozusagen. Jetzt sind wir ganz, ganz tief im Thema. Du hast jetzt eben ganz tolle Sachen gesagt, sozusagen technologische Funktionalitäten.	Researcher (33:43): Yeah, that's sort of. Now we're really, really deep into the topic. You've just said some really great things, technological functionalities, so to speak.
Interviewee 9 (33:48): Aha.	Interviewee 9 (33:48): I see.
Researcher (33:53): Jetzt brauchen wir noch so eine Kurve. Was wäre denn zum Beispiel und ich darf es nicht so sehr, aber so von Organisationsseite, also ich sag mal von den Hotelbetrieben, was wären denn dann Punkte, die diese Technologie sozusagen ob von Seiten, du hast eben viel vom Gast gesprochen, jetzt geht es mir um die Organisation.	Researcher (33:53): Now we need another curve like that. What would be, for example, and I'm not allowed to say this too much, but from the organisational side, so I'll say from the hotel companies, what would be points that this technology could, so to speak, whether from the guest's side, you've just spoken a lot about the guest, now I'm talking about the organisation.
Interviewee 9 (33:55): Mhm. Mhm. Aha.	Interviewee 9 (33:55): Mhm. Mhm. I see.
Researcher (34:13): Diese Blockchain-basierten Smart Contracts sozusagen nach vorne bringen, oder was sind Gründe, warum diese Technologie nicht weiterentwickelt wird oder was wären Gründe, warum sich diese Technologie nicht weiterentwickelt?	Researcher (34:13): Moving these blockchain-based smart contracts forward, so to speak, or what are reasons why this technology is not moving forward or what would be reasons why this technology is not moving forward?
Interviewee 9 (34:18): Mhm. Aber ich glaube, auf jeden Fall die nicht vorhandene Kompetenz. Dadurch, dass man so unglaublich viele Einzelhotels hat, die viele Technologien, die es schon seit 10 Jahren gibt und genutzt werden in allen möglichen Bereichen, die aber heutzutage immer noch nicht in der Hotellerie zu finden sind. Also die Branche ist einfach gefühlt 10.000 Jahre weiter zurück, was Technologie angeht, und ich glaube, die Kompetenz ist einfach nicht da. Also gar nicht irgendwie das technische oder das organisatorische Wissen, sondern einfach die Kompetenz in den unterschiedlichen gastronomischen und Hotelbetrieben ist nicht vorhanden, um das Thema weiter treiben zu können zum aktuellen Zeitpunkt. Ja.	Interviewee 9 (34:18): Mhm. But I think it's definitely the lack of expertise. The fact that there are so many individual hotels, so many technologies that have been around for 10 years and are used in all kinds of areas, but which are still not to be found in the hotel industry today. It feels like the industry is 10,000 years behind in terms of technology and I think the expertise is simply not there. So not the technical or organisational knowledge, but simply the expertise in the various catering and hotel businesses is not there to be able to drive the topic forward at the moment. Yes.
Researcher (35:20):	Researcher (35:20):

Ja, ich glaube, das war ein ganz starkes Statement. Fallen dir sonst noch Faktoren ein, die gut wären, vielleicht auch so ein bisschen in Richtung externe Faktoren, was so Märkte oder Marktmacht angeht? Fällt dir dazu noch was ein?

Interviewee 9 (35:22):
Oh.
Was?
Also ich glaube, vor allem große Hotelketten könnten das Thema natürlich wahnsinnig vorantreiben, um nicht mehr abhängig zu sein von den ganzen Kommissionen. Und wenn die damit anfangen und das Wissen sich überträgt auf kleine Hotelketten, auf einzelne Betriebe usw., dann würde da wahrscheinlich Unmengen an Vermittlungsgebühren jedes Jahr gespart werden, in allen Betrieben. Und das würde das auf jeden Fall...

Researcher (35:59):
Mhm.
Mhm.

Interviewee 9 (36:09):
...also ich glaube, dieser finanzielle Faktor würde das vorantreiben, wenn die Kompetenz da ist.

Researcher (36:16):
Ja, ganz spannend. Tatsächlich, wir sind am Ende, aber ich will immer noch mal kurz, weil ich die Leute ja mit meiner Forschung nochmal überfalle. Wenn du nochmal kurz durchgehen möchtest, wenn dir noch was einfällt, ausdrücklich: Alle Experten kriegen ja nochmal alle aggregierten Ergebnisse, wirst du Sachen von dir wiederfinden, aber vielleicht auch Input von anderen. Und das ist toll, dann sagst du, "Ach stimmt," und dann gibt es da so eine Art Konsens. Klar, dass du sagst...

Interviewee 9 (36:23):
Mhm.

Mhm, spannend.
Mhm.
Ne, ich glaub jetzt gerade fällt mir nichts ein. Vielleicht später nochmal, wenn ich weiter darüber nachdenke. Habe jetzt gerade nichts.

Researcher (37:32):
Das ist genau, und deswegen, also wir nennen das die Delphi-Technik tatsächlich. Also man macht erst Interviews, sammelt ganz viel Experteninput und versucht, und da, das ist die Herausforderung, diese Experten sollte Motto...

Interviewee 9 (37:35):
Mhm.
Mhm.
Mhm.

Researcher (37:46):
...in so einem Konsens reinzubringen, sollte was, sagen die Experten als Gruppe. Und dann kann man eben, wie gesagt, in der zweiten Runde nochmal sagen, ne, was der Experte, es gibt halt Sachen, hat vielleicht nur ein Experte gesagt, dann sagen vielleicht alle anderen neun so ne, das nicht. Aber das ist spannend, das werde ich dir. Also ich hab jetzt den ganzen Juli für die Datenanalyse.

Interviewee 9 (37:47):
Und so.
Und hab.
Mhm.
Mhm.
Aha.
Mhm.

Researcher (38:07):
Also ich denke, Anfang August haben wir dann diesen Konsens.

Interviewee 9 (38:09):
Mhm.
Okay, cool.

Researcher (38:12):
Deswegen, also wenn dir sonst nichts weiter einfällt, würde ich die Transkription und das Recording ausschalten, ja.

Interviewee 9 (38:18):
Mhm.
Mhm, alles klar.

Researcher (38:21):
Und ich bedanke mich aber auf jeden Fall schon mal und so, Moment, so.

Yes, I think that was quite a strong statement. Can you think of any other factors that would be good, perhaps a bit in the direction of external factors in terms of markets or market power? Can you think of anything else?

Interviewee 9 (35:22):
Oh.
What?
Well, I think that large hotel chains in particular could, of course, really push the issue forward so that they are no longer dependent on all the commissions. And if they start doing this and the knowledge is transferred to small hotel chains, to individual establishments etc., then it would probably save a huge amount in agency fees every year, in all establishments. And that would definitely...

Researcher (35:59):
Mhm.
Mhm.

Interviewee 9 (36:09):
...so I think that financial factor would drive that if the expertise is there.

Researcher (36:16):
Yes, quite exciting. In fact, we're at the end, but I always want to go through it again briefly, because I'm going to surprise people again with my research. If you want to go through it again briefly, if you think of anything else, explicitly: All the experts get all the aggregated results again, you will find things from you, but maybe also input from others. And that's great, then you say, "Oh, that's right," and then there's a kind of consensus. Of course you say...

Interviewee 9 (36:23):
Mhm.
Mhm, exciting.
Mhm.
No, I don't think I can think of anything right now. Maybe later, when I think about it more. I don't have anything right now.

Researcher (37:32):
That's exactly, and that's why, so we actually call it the Delphi technique. So you do interviews first, collect a lot of expert input and try to, and that's the challenge, these experts should have a motto...

Interviewee 9 (37:35):
Mhm.
Mhm.
Mhm.

Researcher (37:46):
...get into a consensus like that, should what, say the experts as a group. And then, as I said, you can say again in the second round, no, what the expert, there are things, maybe only one expert said, then maybe all the other nine say so no, not that. But that's exciting, I'll tell you. So now I have the whole of July to analyse the data.

Interviewee 9 (37:47):
And so.
And have.
Mhm.
Mhm.
Aha.
Mhm.

Researcher (38:07):
So I think by the beginning of August we'll have that consensus.

Interviewee 9 (38:09):
Mhm.
Okay, cool.

Researcher (38:12):
That's why, so if you can't think of anything else, I would switch off the transcription and recording, yeah.

Interviewee 9 (38:18):
Mhm.
Mhm, all right.

Researcher (38:21):
And I definitely thank you though and so, wait, so.

Interviewee 9 (38:23):

Interviewee 9 (38:23): Sehr gerne und danke dir.	I'd love to and thank you.

Bilingual Interview Transcript Interviewee 10

Interview Transcription: 20230719_140114-Meeting Recording Date: July 19, 2023, 12:01 PM Duration: 26m 47s	Interview Transcription: 20230719_140114-Meeting Recording Date: July 19, 2023, 12:01 PM Duration: 26m 47s
Interviewee 10 (0:05): Jawohl.	Interviewee 10 (0:05): Yes.
Researcher (0:09): Ja, und die Transkription funktioniert auch schon prima. Dann habe ich erst mal so eine Einleitungsfrage. Wie würden Sie allgemein den Einfluss von Informationstechnologien auf die Tourismusindustrie in Ihrem Fall jetzt speziell als Besitzer von Hotels, auf die Buchung von Hotelzimmern beurteilen?	Researcher (0:09): Yes, and the transcription is already working fine. Then I have an introductory question. How would you generally assess the influence of information technologies on the tourism industry, in your case now specifically as a hotel owner, on the booking of hotel rooms?
Interviewee 10 (0:29): Also ich gehe davon aus, dass auf kurz oder lang alles automatisiert erfolgt. Auch die Preise von der Preisbildung bis zur Auswertung der aktuellen Auslastung, und es gibt ja entsprechende Programme, also tatsächlich läuft es meist voll automatisiert.	Interviewee 10 (0:29): Well, I assume that sooner or later everything will be automated. Even the prices, from the pricing to the evaluation of the current occupancy rate, and there are corresponding programmes, so it's actually mostly fully automated.
Researcher (0:46): Mhm. Und wenn wir jetzt so ein bisschen in die Vergangenheit über die letzten Jahre gucken, wie war so der Einfluss von Informationstechnologien für die Buchung, also von der Kundenseite her?	Researcher (0:46): Mhm. And if we take a look at the past over the last few years, what was the influence of information technology on bookings from the customer side?
Interviewee 10 (0:58): Also normalerweise laufen 70% aller Buchungen über Buchungsplattformen wie booking.com oder andere.	Interviewee 10 (0:58): So normally 70% of all bookings are through booking platforms like booking.com or others.
Researcher (1:03): Hm. Hm.	Researcher (1:03): Hm. Hm.
Interviewee 10 (1:07): Das heißt, ein Großteil ist ohnehin fremd vergeben, das heißt 15% der Umsatzerlöse muss man in der Regel abführen an entsprechende Buchungsplattformen. Das ist so die Regel.	Interviewee 10 (1:07): That means that a large part is outsourced anyway, which means 15% of sales revenue usually has to be paid to the relevant booking platforms. That's the rule.
Researcher (1:16): Hm. Genau. Können Sie sich erklären, warum buchen Kunden bei Vermittlern, also wie jetzt booking.com, genau das ist mein Thema, diese Plattformen?	Researcher (1:16): Hm. Exactly. Can you explain why customers book with intermediaries, like booking.com now, which is exactly my topic, these platforms?
Interviewee 10 (1:28): Übersicht.	Interviewee 10 (1:28): Overview.
Researcher (1:29): Übersicht.	Researcher (1:29): Overview.
Interviewee 10 (1:32): Vergleichspreise, Preisvergleich.	Interviewee 10 (1:32): Comparative prices, price comparison.
Researcher (1:34): Ja. Sehr gut. Wenn ich jetzt fragen würde, also wir können ja, es läuft super, ich hab alle Stichworte sozusagen, also wenn ich nicht nachfrage, dann sind wir da in dem Bereich. Wenn ich jetzt fragen würde aus Ihrer Sicht als Hotelbesitzer, wenn ich Sie über die Macht, auch über die Marktmacht der Buchungsplattformen befrage, was wäre dann so Ihre Antwort?	Researcher (1:34): Yes, very good. If I were to ask now, well, we can, it's going great, I have all the keywords, so to speak, so if I don't ask, then we're in that area. If I were to ask you now from your perspective as a hotel owner, if I were to ask you about the power, also about the market power of the booking platforms, what would your answer be?
Interviewee 10 (1:58): Immens.	Interviewee 10 (1:58): Immensely.
Researcher (1:59): Immens.	Researcher (1:59): Immensely.
Interviewee 10 (2:08): Ja, die bestimmen den Markt.	Interviewee 10 (2:08): Yes, they determine the market.
Researcher (2:08): Das ja gut. Sonst sowas?	Researcher (2:08): That's good. Anything else like that?
Interviewee 10 (2:08): Wer bei den Buchungsplattformen keine Kontingente freigibt, hat automatisch weniger Buchungen, führt automatisch zu weniger Erlösen. Ja, man	Interviewee 10 (2:08): If you don't release quotas on the booking platforms, you automatically have fewer bookings, automatically leads to less revenue. Yes, you can of

kann natürlich teilweise die Sachen rausnehmen und es gibt inzwischen Regularien, dass man diesen Mindestpreis und diesen maximalen Rabatt nicht mehr garantieren muss. Das war früher bei booking.com so, dass man das garantieren musste, dass es der billigste Preis ist.	course take some things out and there are now rules that you no longer have to guarantee this minimum price and this maximum discount. That used to be the case with booking.com, where you had to guarantee that it was the cheapest price.
Researcher (2:34): Mhm.	Researcher (2:34): Mhm.
Interviewee 10 (2:34): Das muss man jetzt nicht mehr, aber es wird natürlich unter der Hand auch viel gemacht.	Interviewee 10 (2:34): You don't have to do that anymore, but of course a lot is done under the table.
Researcher (2:44): Okay, sehr gut, da gehen wir jetzt nicht weiter drauf ein. Wenn ich das jetzt umdrehe, die Frage. Ich habe eben gefragt, warum buchen die bei Plattformen und jetzt frage ich umgekehrt, warum buchen Kunden vielleicht nicht direkt beim Hotel?	Researcher (2:44): Okay, very good, we won't go into that any further now. If I turn it round now, the question. I just asked why they book with platforms and now I'm asking the other way round, why do customers perhaps not book directly with the hotel?
Interviewee 10 (3:02): Nicht direkt beim Hotel.	Interviewee 10 (3:02): Not directly with the hotel.
Researcher (3:04): Hm.	Researcher (3:04): Hm.
Interviewee 10 (3:05): Wegen der Übersicht. Sie wollen die Garantie auch haben. Sie wollen ein standardisiertes Produkt haben und jederzeit auch die Kündigungsfristen sehr variabel gestalten können.	Interviewee 10 (3:05): Because of the overview. You also want to have the guarantee. They want to have a standardised product and be able to vary the notice periods at any time.
Researcher (3:13): Hm. Mhm.	Researcher (3:13): Hm. Mhm.
Interviewee 10 (3:18): Das heißt, ich muss ja auch ein Hotelzimmer absagen können und bei den meisten Buchungsplattformen ist es vertraglich so geregelt, dass man bis zu 24 Stunden vorher ohne Kosten absagen kann.	Interviewee 10 (3:18): That means I have to be able to cancel a hotel room and with most booking platforms it's contractually regulated that you can cancel up to 24 hours in advance without any costs.
Researcher (3:28): Mhm.	Researcher (3:28): Mhm.
Interviewee 10 (3:28): Und je nachdem, wie kurzfristig es ist, dann zumindest Teile davon berechnen darf.	Interviewee 10 (3:28): And depending on how short notice it is, then you're allowed to charge for at least parts of it.
Researcher (3:33): Ja, okay, sehr gut. Das war jetzt so zum Einstieg, also Sie merken, ich forsche ganz viel über, also es geht in Richtung Buchungsplattformen und auch deren Rolle in Zukunft und jetzt gehen wir sozusagen technologischen Weg rein, weil die Buchungsplattform ist eine technologische Entwicklung, die sich entwickelt hat, und ich untersuche, wie geht es denn weiter technologisch. Deswegen direkt meine Frage: Könnten sich Schlüsseltechnologien oder welches sind Schlüsseltechnologien, die diese Vermittlungsrolle der Buchungsplattformen in der Tourismusbranche verändern könnten? Haben Sie sich da mal mit Technologien auseinandergesetzt?	Researcher (3:33): Yes, okay, very good. That was just an introduction, so you'll notice that I'm doing a lot of research into booking platforms and their role in the future, and now we're going down a technological path, so to speak, because the booking platform is a technological development that has evolved, and I'm investigating how it will continue technologically. So my direct question is: Could key technologies or what are key technologies that could change the intermediary role of booking platforms in the tourism industry? Have you ever looked into these technologies?
Interviewee 10 (4:10): Also grundsätzlich wird, je nachdem wie aktuelle Plattformen geführt werden, KI dazu führen, dass man unter bestimmten Voraussetzungen auch das günstigste Hotelzimmer bekommt.	Interviewee 10 (4:10): So basically, depending on how current platforms are run, AI will mean that you can get the cheapest hotel room under certain conditions.
Researcher (4:21): Hm.	Researcher (4:21): Hm.
Interviewee 10 (4:21): Man kann die Preisliste online veröffentlichen und auch die individuellen Preise am Tag.	Interviewee 10 (4:21): You can publish the price list online and also the individual prices on the day.
Researcher (4:26): Mhm.	Researcher (4:26): Mhm.
Interviewee 10 (4:27): Die entsprechenden Plattformen greifen ja im Prinzip auch nur die Kontingente ab, die ihnen gewährt wurden.	Interviewee 10 (4:27): In principle, the relevant platforms also only grab the quotas that have been granted to them.
Researcher (4:33): Mhm.	Researcher (4:33): Mhm.
Interviewee 10 (4:34): Und die werden in der Regel auch noch einmal am Tag aktualisiert. Dadurch, dass es nicht mehr den garantierten Mindestpreis zur Verfügung steht, kann ich mir vorstellen, dass KI in Echtzeit die Preise abruft und vergleicht.	Interviewee 10 (4:34): And they're usually updated once a day as well. Because the guaranteed minimum price is no longer available, I can imagine that AI retrieves and compares prices in real time.
Researcher (4:46):	Researcher (4:46):

Mhm. Ok, spannendes Thema. Sonst andere Technologien, über die Sie vielleicht mal gestolpert sind, wo Sie denken, auch das könnte einen Einfluss haben auf die Branche, auf die Vermittlung?	Mhm. Ok, exciting topic. Any other technologies that you may have stumbled across that you think could also have an impact on the industry, on brokerage?
Interviewee 10 (5:04): Nicht in relevanter Größe.	Interviewee 10 (5:04): Not to any relevant extent.
Researcher (5:06): Ok, spannend. Haben Sie sich dann, also das, deswegen mach ich das lockere Gespräch, weil jetzt stelle ich Ihnen vor, was ich sozusagen erforsche: Haben Sie sich vielleicht schon mal mit dem Einfluss, mit dem potentiellen Einfluss von Blockchain auf die Vermittlung von Hotelzimmern oder die Buchung von Hotelzimmern beschäftigt?	Researcher (5:06): Ok, exciting. Have you then, so that's why I'm doing this casual conversation, because now I'm going to introduce you to what I'm researching, so to speak: Have you perhaps already looked into the influence, the potential influence of blockchain on the mediation of hotel rooms or the booking of hotel rooms?
Interviewee 10 (5:13): Aha. Also wir hatten mal das Thema Bitcoin als Zahlungsmittel, falls es in der Konstellation ist. Damals war das so, dass natürlich die Schwankungen bei 20-25% lagen. Das heißt, wenn ich davon ausgehe, dass ich über den Bitcoin bezahle und morgen meine Buchung weniger wert ist wie gestern, hab ich ja auch ein gewisses Umsatzsteuerproblem.	Interviewee 10 (5:13): Aha. So we once had the topic of Bitcoin as a means of payment, if it is in the constellation. At that time, the fluctuations were of course 20-25%. In other words, if I assume that I pay with Bitcoin and tomorrow my booking is worth less than yesterday, I also have a certain VAT problem.
Researcher (5:32): Mhm. Ja.	Researcher (5:32): Mhm. Yes.
Interviewee 10 (5:51): Das ist natürlich auch ein Thema, weil die Umsatzsteuer sich auf diesen bezahlten Umsatz auch generiert. Das heißt, ich müsste dann den Wert zu einem bestimmten Zeitpunkt ermitteln, den die Blockchain auch zu dem Zeitpunkt gehabt hätte. Ja, dann müsste man wahrscheinlich dann so eine Art Protokoll mitführen bei den Buchungen über Bitcoin, damit ich gewährleisten kann, dass die Umsatzsteuer dem entspricht, was zu dem Zeitpunkt auch abgerufen hätte werden sollen. Am größten ist Bitcoin immer ein Thema gewesen. Um die Schwankungen waren halt sehr, sehr hoch und wenn ich jetzt buche und ich habe irgendwann 40% weniger Wert oder Mehrwert.	Interviewee 10 (5:51): That's also an issue, of course, because VAT is also generated on this paid turnover. In other words, I would then have to determine the value at a certain point in time that the blockchain would have had at that time. Yes, then you would probably have to keep some kind of log for the bookings via Bitcoin so that I can ensure that the VAT corresponds to what should have been retrieved at the time. Bitcoin has always been the biggest issue. The fluctuations were just very, very high and if I book now and at some point I have 40% less value or added value.
Researcher (6:23): Hm. Ja.	Researcher (6:23): Hmm. Yes.
Interviewee 10 (6:28): Das geht in beide Richtungen, der Freud und das Leid.	Interviewee 10 (6:28): That goes both ways, the joy and the sorrow.
Researcher (6:31): Genau, ja, sehr gut. Genau, also tatsächlich Bitcoin ist meistens das Erste, was eigentlich auch... ich muss dazu sagen, Sie kriegen ja alle Ergebnisse anonymisiert von allen anderen Experten und Sie werden sehen, das ist die erste Antwort bei Blockchain. Es geht bei meiner Forschung ausdrücklich nicht um Blockchain als Bitcoin als Währung, sondern um die eigentliche Technologie und aus methodischen Gründen will ich Ihnen jetzt kurz mal, ich muss jetzt nach rechts gucken, so einen kleinen Text vorlesen. Also bei Blockchain, da geht es ausdrücklich gar nicht um Währung, es ist erstmal eine Technologie, bei der Informationen in Form von digitalen Datenblöcken gespeichert und verschlüsselt miteinander verknüpft werden. Wichtig ist, diese Datenbank wird nicht von einer zentralen Autorität verwaltet, sondern diese Blockchain wird auf vielen Computern gleichzeitig über das Internet kontrolliert. Also ich habe nicht nur eine Kopie von einer Transaktion, sie liegt auf ganz, ganz vielen Rechnern. Blockchain erklärt sich einfach so: diese gewissen Datenmengen, die in einem Block passen, sobald dieser voll ist, wird er mit dem vorherigen Block verschlüsselt verknüpft. Und da jeder Block, jeder Datensatz mit demvorherigen über einen Code verbunden ist, entsteht diese Kette, die Blockchain. Und das zu manipulieren oder zu hacken ist schwer, weil sobald ich einen Block irgendwie angreife und manipuliere, bricht die Kette und alle anderen Computer sagen, Entschuldigung, hier stimmt irgendwas nicht. Deswegen, es gibt nicht eine zentrale Stelle, die die Kette intakt hält, sondern es ist dezentral und ausdrücklich diese Technologie Blockchain, durch diese Sicherheits... nennen wir es ein Trustless System, also das zu manipulieren. Ich brauche dann keine zentrale Stelle. Jetzt schlage ich die Brücke zu Bitcoin: die Idee war Banken zu umgehen, also eine Währung zu schaffen, die sich selber in Sicherheit und in solchen Protokollen befindet, ohne eine Bank. Keine Zentralbank. Wenn wir jetzt noch mal so das Grundelement der Technologie betrachten, können Sie sich jetzt einen Einfluss vorstellen, wie Blockchain die Tourismusindustrie, vor allem das Buchen von Hotels, verändern könnte?	Researcher (6:31): Exactly, yeah, very good. Exactly, so actually Bitcoin is usually the first thing that actually... I have to say, you get all the results anonymised from all the other experts and you'll see that's the first answer with blockchain. My research is explicitly not about blockchain as Bitcoin as a currency, but about the actual technology and for methodological reasons, I would like to read you a short text, I have to look to the right now. Blockchain is explicitly not about currency, it is first and foremost a technology in which information is stored in the form of digital data blocks and linked together in encrypted form. Importantly, this database is not managed by a central authority, but this blockchain is controlled on many computers simultaneously via the internet. So I don't just have one copy of a transaction, it is stored on many, many computers. Blockchain is simply explained as follows: these certain amounts of data that fit into a block, as soon as it is full, it is linked to the previous block in encrypted form. And as each block, each data record, is linked to the previous one via a code, this chain, the blockchain, is created. And it's difficult to manipulate or hack this, because as soon as I somehow attack and manipulate a block, the chain breaks and all the other computers say, sorry, something's wrong here. That's why there isn't a central authority that keeps the chain intact, it's decentralised and explicitly this blockchain technology, through this security... let's call it a trustless system, so it can be manipulated. I don't need a centralised body. Now I'm building a bridge to Bitcoin: the idea was to bypass banks, i.e. to create a currency that is itself secure and in such protocols, without a bank. No central bank. If we look again at the basic element of the technology, can you imagine how blockchain could change the tourism industry, especially hotel bookings?
Interviewee 10 (8:58): Der Buchungsprozess ist ja unabhängig von der Sicherheit der Daten, also wo die Datenbank ist. Den Sicherheitsaspekt sehe ich da nur gering. Im Zweifelsfall könnte sich jeder im schlechtesten Fall, könnte man sich jetzt auch bei booking.com anhängen, wenn man es wollte, aus welchem Zweck auch immer. Also ich kann mir so eine Bezahlen-Funktion vorstellen, aber in allen anderen Funktionen sehe ich jetzt wahrscheinlich mit meinem begrenzten Horizont der Blockchain nicht.	Interviewee 10 (8:58): The booking process is, after all, independent of the security of the data, i.e. where the database is. I don't see much of a security aspect here. In case of doubt, anyone could, in the worst case scenario, attach themselves to booking.com if they wanted to, for whatever reason. So I can imagine such a payment function, but in all other functions I probably don't see it now with my limited horizon of the blockchain.
Researcher (9:28):	Researcher (9:28):

Na ja.

Interviewee 10 (9:29):
Ich habe mal ein Konzept gelesen zu Mining, das war interessant, aber nee, ich sehe es grad nicht.

Researcher (9:37):
Nee, also das hat nichts mit begrenztem Horizont zu tun. Es gibt halt immer mehr Forscher im Bereich Blockchain und Tourismus, die Folgendes sozusagen einfach mal, das gibt es auch so noch nicht, ich sage nur die Potentiale: also stellen Sie sich vor, ein Kunde möchte ein Hotelzimmer buchen, anstatt eine Buchungsplattform als Vermittler verwenden zu müssen.

Interviewee 10 (9:46):
Ja.

Researcher (10:03):
Könnte er direkt mit dem Hotel über eine Blockchain-Plattform, nennen wir es mal, interagieren. Der Buchungsvorgang würde dann in einem sogenannten intelligenten Vertrag festgehalten werden. Denn was wir eben über Bitcoin besprochen haben, das ist Blockchain 1. Wir sind aber jetzt bei Blockchain 2, das heißt, ich nehme nicht nur Daten in einen Block, sondern eben auch intelligente Verträge. Und in diesem intelligenten Vertrag können Buchungsinformationen wie Datum, Zimmerpreis, Zahlungsdetails und Stornierungsbedingungen enthalten sein. Da die Blockchain dezentral und transparent ist, können Hotel und Kunde auf den Inhalt des Vertrages zurückgreifen, der nicht manipuliert werden kann. Und das verhindert halt eben den Betrug. Es braucht aber ausdrücklich keinen Vermittler, der die Verträge nur vermittelt und die Leute miteinander in Verbindung bringt. Natürlich können auch Zahlungen über diesen intelligenten Vertrag ausgelöst werden, aber es geht eher um den Abschluss der Buchung. Das heißt, wir brauchen keinen Dritten, wie bei Bitcoin keine Bank, brauchen wir auch keinen Zahlungsabwickler, wir brauchen keinen Vermittler. Und die Idee dahinter ist, dass eben dies zu geringeren Gebühren und schnelleren Transaktionen führen könnte, da die Vermittler, also in dem Fall ganz konkret die großen Buchungsplattformen, umgangen werden. Das heißt, ich habe immer das Beispiel: der Eco-Lodge in Bangladesch und das Ehepaar in New York, das umgeht die Buchungsplattform, weil es direkt mit der Eco-Lodge interagieren kann. Der gesamte Prozess ist aber durch diese Smart Contracts abgesichert. Es kann ja immer mal was schiefgehen, und die Idee ist auch, man will ja auch nicht unbedingt der Eco-Lodge seine Kreditkartendaten geben, sondern die Blockchain fungiert dann als nicht als Vermittler, sondern einfach nur den Handel zwischen zwei Unbeteiligten zu ermöglichen.

Interviewee 10 (12:03):
Und der Unterschied zum Anruf ist welcher?

Researcher (12:03):
Der Unterschied zum Anruf... genau, also klar. Ich kann natürlich eine Eco-Lodge in Bangladesch anrufen und sagen, Hey, ich möchte jetzt für 4 Wochen die Villa reservieren, dann sagen sie, gib mir deine Kreditkarten, weil ich traue dir nicht. Es geht ganz viel um dieses Trustless System, dass man einen Vertrag schließen kann ohne eine Plattform, die eben 15 bis zu teilweise 30% dafür nimmt, dass sie nur den Vertrag vermittelt.

Interviewee 10 (12:17):
Schick mir.

Researcher (12:37):
Also klar, die Informationssuche. Also wie ich zu einem Hotel komme, die erforsche ich nicht, die ist nochmal separat, da wird es nämlich tatsächlich spannend. Aber es geht tatsächlich nur um diesen... wie kriege ich zwei Parteien, zwei Peers zusammen, dass die einen Vertrag miteinander schließen, und das ist die Rolle der Buchungsplattform.

Interviewee 10 (12:58):
Fällt mir schwer, da einen großen Vorteil zu sehen, weil erstens gibt es die AGBs, die müssten ja vorher überall unterzeichnet sein. Das müsste eine KI dann auch abbilden, weil jetzt müssen diese Vertragsbedingungen für alle gelten, dass ich entweder unterschreibe ich die bei, in dem Fall booking.com oder bei einer Blockchain-Vertragsgestaltung, oder die KI gleicht das ab. Wie auch immer das gestaltet sein könnte, es erscheint mir sehr, sehr umständlich. Ich kann mir vorstellen, dass es sowas wie... keine Ahnung.

Researcher (13:08):
Ja, klar.

Interviewee 10 (13:30):
Löst, dass man sagt: Okay, dieser automatische Abgleich zwischen offenen oder buchbaren Zimmern, das kann ich mir vorstellen, dass da irgendwo ein Thema wird. Die Buchungsplattform selber stellt eine Entscheidung dar

Well.

Interviewee 10 (9:29):
I read a concept about mining once, it was interesting, but nope, I don't see it right now.

Researcher (9:37):
Nah, so it has nothing to do with limited horizons. There are just more and more researchers in the field of blockchain and tourism who are simply saying, so to speak, this doesn't exist yet, I'm just saying the potential: imagine a customer wants to book a hotel room instead of having to use a booking platform as an intermediary.

Interviewee 10 (9:46):
Yes.

Researcher (10:03):
Could he interact directly with the hotel via a blockchain platform, let's call it. The booking process would then be recorded in a so-called smart contract. Because what we've just discussed about Bitcoin is blockchain 1, but we're now at blockchain 2, which means that I'm not just including data in a block, but also smart contracts. And this smart contract can contain booking information such as date, room price, payment details and cancellation conditions. As the blockchain is decentralised and transparent, the hotel and customer can access the content of the contract, which cannot be manipulated. And that prevents fraud. However, there is explicitly no need for an intermediary who only mediates the contracts and puts people in touch with each other. Of course, payments can also be triggered via this intelligent contract, but it's more about finalising the booking. This means that we don't need a third party, just as we don't need a bank for Bitcoin, we don't need a payment processor, we don't need an intermediary. And the idea behind it is that this could lead to lower fees and faster transactions, as the intermediaries, in this case specifically the large booking platforms, are bypassed. In other words, I always use the example of the eco-lodge in Bangladesh and the couple in New York, who bypass the booking platform because they can interact directly with the eco-lodge. However, the entire process is secured by these smart contracts. Something can always go wrong, and the idea is that you don't necessarily want to give your credit card details to the eco-lodge, but the blockchain then acts not as an intermediary, but simply to enable trade between two uninvolved parties.

Interviewee 10 (12:03):
And the difference between that and a phone call is what?

Researcher (12:03):
The difference from calling... Exactly, of course. Of course I can call an eco-lodge in Bangladesh and say, hey, I want to book the villa for 4 weeks now, then they say, give me your credit cards because I don't trust you. It's very much about this trustless system, that you can conclude a contract without a platform that takes 15 to 30% in some cases just for brokering the contract.

Interviewee 10 (12:17):
Send me.

Researcher (12:37):
So sure, the information search. So how I get to a hotel, I don't research that, that's separate, because that's where it really gets exciting. But it's really just about this... how do I get two parties, two peers together, to sign a contract with each other, and that's the role of the booking platform.

Interviewee 10 (12:58):
I find it difficult to see a big advantage there, because firstly there are the T&Cs, they would have to be signed everywhere beforehand. An AI would then also have to map this, because now these contract terms have to apply to everyone, so I either sign them at, in this case, booking.com or with a blockchain contract design, or the AI compares them. However this could be organised, it seems very, very cumbersome to me. I can imagine that it could be something like... I don't know.

Researcher (13:08):
Yeah, sure.

Interviewee 10 (13:30):
Solves that you say, okay, this automatic matching between open or bookable rooms, I can imagine that becoming an issue somewhere. The booking platform itself represents a decision and the decisions that I could make via

und die Entscheidungen, die ich über eine Blockchain treffen könnte, müssten dann ausschließen, dass ich die Auswahl hab. Das heißt, kann mir die Blockchain Auswahl bieten?	a blockchain would then have to exclude the fact that I have the choice. In other words, can the blockchain offer me choice?
Researcher (13:56): Also tatsächlich, die praktische Implementierung erforsche ich nicht, aber wenn Sie jetzt so fragen: in letzter Konsequenz die Blockchain 3, also mit künstlicher Intelligenz, ist die Idee, dass die Künstliche Intelligenz sucht nach dem passenden Hotel für mich und ersetzt tatsächlich für den Kunden die Buchungsplattformen. Also ich sehe dann auch verschiedene Hotels, die an die Blockchain angeschlossen sind und die KI sagt: Hey, guck dir das Hotel an, das und das und das, und dann drück ich eben auf buchen. Aber es ist tatsächlich eben kein externer Dienstleister zwischengeschaltet, sondern ich schließe wie bei booking.com den Vertrag direkt mit dem anderen, bin aber über die Blockchain abgesichert, dass der Vertrag erfüllt wird, weil wenn ich zum Beispiel nicht anreise, oder das Hotel existiert nicht, sagt der intelligente Vertrag: Nein, die Zahlung löse ich nicht aus. Das ist die Idee der praktischen Umsetzung.	Researcher (13:56): So actually, I'm not researching the practical , but if you ask now: in the final analysis, blockchain 3, i.e. with artificial intelligence, the idea is that the artificial intelligence searches for the right hotel for me and actually replaces the booking platforms for the customer. So I see various hotels that are connected to the blockchain and the AI says: Hey, take a look at this hotel, this and this and this, and then I just press book. But there is actually no external service provider in between, instead I conclude the contract directly with the other party, as with booking.com, but I am assured via the blockchain that the contract will be fulfilled, because if I don't arrive, for example, or the hotel doesn't exist, the intelligent contract says: No, I won't trigger the payment. That's the idea of practical .
Interviewee 10 (14:49): Sehe ich tatsächlich nicht. Ein Teil meiner Entscheidung sind die Bilder, die ich von dem Hotel sehe, meine Wertung, wo ich sein will. Und das in der Blockchain, auch wenn sie intelligent ist, anzuvertrauen, wie ich ein Bild zu interpretieren habe, auch wenn das gefällt oder nicht, ist ein weiter Weg. Eine KI kann mit Sicherheit eine Hilfeleistung sein, wenn ich jetzt frei suche.	Interviewee 10 (14:49): I actually don't see that. Part of my decision is the images I see of the hotel, my judgement of where I want to be. And to entrust that to the blockchain, even if it is intelligent, how I should interpret an image, even if I like it or not, is a long way off. An AI can certainly be a help if I'm searching freely now.
Researcher (14:54): Hm.	Researcher (14:54): Hm.
Interviewee 10 (15:09): Ja, das kann ich sagen. Habe ich die Auswertung und das hätte ich gerne in Hotels, dann sagt mir die KI: hier sind 30 Hotels, dann gucke ich mir die an, dann habe ich eine Auswahl. Aber ob ich das definitiv definiert über Blockchain machen würde, hätte ich Zweifel.	Interviewee 10 (15:09): Yes, I can say that. If I have the evaluation and I would like to have this in hotels, then the AI tells me: here are 30 hotels, then I look at them, then I have a selection. But I would doubt whether I would definitely do this in a defined way via blockchain.
Researcher (15:15): Hm. Mhm. Genau, ich zeige jetzt aus methodischen Gründen mal ein Schaubild, weil das ist so etwas, das tatsächlich, wenn man sozusagen nur noch den Keyword sucht, Blockchain and Tourism, die Zahl der Paper verdoppelt sich jedes Jahr, also in der Wissenschaft ist das gerade so ein heißes Thema. Deswegen versuche ich die Brücke zu schlagen, eben zu Ihnen, zur Industrie, zu Besitzern von Hotels. Sehen Sie das Schaubild?	Researcher (15:15): Hm. Mmm. Exactly, I'm going to show you a diagram for methodological reasons, because it's something that actually, if you just search for the keyword, so to speak, blockchain and tourism, the number of papers doubles every year, so it's such a hot topic in science right now. That's why I'm trying to build a bridge to you, to the industry, to hotel owners. Can you see the diagram?
Interviewee 10 (15:25): Ja. Mhm. Ja.	Interviewee 10 (15:25): Yes. Mhm. Yes.
Researcher (15:50): Genau. Also das ist genau meine Forschung. Also tatsächlich ist sozusagen Blockchain-based distributed Ledger for Smart Payment Contract and Reviews, das habe ich vergessen zu sagen. Also auch diese ganzen Bewertungen werden dann auch über die Blockchain abgesichert, weil wir sehen ja so Fake Reviews und so, das wird dann damit auch ein bisschen schwieriger. Der Status quo, Sie haben eben 70% gesagt, das ist interessanterweise eine Zahl, die ich ganz oft gehört habe, von anderen Experten. 70% läuft...	Researcher (15:50): Exactly. So that's exactly my research. So it's actually a blockchain-based distributed ledger for smart payment contracts and reviews, I forgot to say. So all these reviews will also be secured via the blockchain, because we see fake reviews and so on, and that will make it a bit more difficult. The status quo, you just said 70%, which is interestingly a figure I've heard quite often from other experts. 70% is running...
Interviewee 10 (16:07): Gut.	Interviewee 10 (16:07): Good.
Researcher (16:21): ...bei dem sogenannten Status quo, ich nenne das eben der Intermediator, also die Buchungsplattform in der Mitte, die einfach zwischen den Menschen agiert. Viele der Forscher sagen: Naja, Blockchain hat technologisch das Potenzial, sich an diese Stelle zu setzen und den Handel zwischen zwei sogenannten Peers, also zwei Nutzern	Researcher (16:21): ...with the so-called status quo, I just call it the intermediary, so the booking platform in the middle that just acts between people. Many of the researchers say: Well, blockchain has the technological potential to take this place and directly link trading between two so-called peers, i.e. two users.
, direkt miteinander zu verknüpfen. Natürlich wird es, so sagen die Forscher, für Buchungsplattformen wie Booking & Co. auch noch einen Markt geben, sie müssen sich dann mehr spezialisieren. Sie hatten eben angemerkt, ich habe das nämlich den anderen auch so erklärt: Sie müssen sich vorstellen, die Blockchain in letzter Konsequenz ist sozusagen einfach, Sie haben eine digitale Wallet, wo alle Ihre Daten und Ihre Vorlieben sind. Und die Hotelwebsite hat auch eine Wallet und der Channel Manager schickt die gleichen Bilder, die gleichen AGBs, die gleichen... statt zu booking.com einfach an eine Blockchain, die kooperativ ist. Also das Hotel und der Kunde sind selber Teil der Blockchain, wie bei Bitcoin. Die Miner, das ist nämlich ganz spannend, stellen ja Speicherkapazität zur Verfügung, werden dafür belohnt. So ist auch bei den Hotels, die teilnehmen, die stellen Speicherkapazität zur Verfügung, damit sie am System teilnehmen können. Und tatsächlich der Stand der Forschung sagt: Die Technologie hat die Möglichkeit, eine Influence zu haben, wie Sie hier sehen, dass die Buchungsplattformen, dass die wirklich also als Nischenprodukt werden, statt jetzt die dominante Macht zu sein. Das ist so, worüber ich forsche.	directly with each other. Of course, according to the researchers, there will still be a market for booking platforms such as Booking & Co. and they will have to specialise more. As you just mentioned, I explained this to the others: you have to imagine that the blockchain is ultimately simple, so to speak, you have a digital wallet where all your data and preferences are stored. And the hotel website also has a wallet and the channel manager sends the same pictures, the same terms and conditions, the same... instead of to booking.com simply to a blockchain that is co-operative. So the hotel and the customer are themselves part of the blockchain, as with Bitcoin. The miners, which is quite exciting, provide storage capacity and are rewarded for it. This is also the case with the hotels that participate, they provide storage capacity so that they can participate in the system. And in fact, the current state of research says that the technology has the opportunity to have an influence, as you can see here, that the booking platforms will really become a niche product instead of being the dominant force. That's what I'm researching.

Interviewee 10 (17:59): Gut. Würde bedeuten, dass jeder sein dann dein persönliches Profil in der Blockchain hat.	Interviewee 10 (17:59): Good. That would mean that everyone would have their own personal profile in the blockchain.
Researcher (18:05): Ja.	Researcher (18:05): Yes.
Interviewee 10 (18:05): Und seine persönlichen Vorlieben von mir aus hinterlegt.	Interviewee 10 (18:05): And stored his personal preferences for all I care.
Researcher (18:07): Mhm, ja.	Researcher (18:07): Mhm, yes.
Interviewee 10 (18:09): Wenn man das will, dann ja. Also ich wollte jetzt nicht, aber ich bin jemand, ich kenne mich ja, glaube ich, als sehr experimentierfreudig.	Interviewee 10 (18:09): If that's what you want, then yes. Well, I didn't want to now, but I am someone, I think I know myself, as very keen to experiment.
Researcher (18:17): Hm. Ja.	Researcher (18:17): Hm. Yes.
Interviewee 10 (18:22): Aber ich weiß nicht, ob der Weg nicht ein bisschen zu offen ist.	Interviewee 10 (18:22): But I don't know if the path isn't a bit too open.
Researcher (18:28): Also ich frage jetzt mal ganz ketzerisch: Jetzt hat man ein Profil bei Booking 1, bei HRS 1, bei so und so. Unsere Plattformen leben ja von unseren Daten, also wir geben ja unsere Daten ständig auf jeder neuen Plattform frei. Und jetzt reise ich sozusagen einfach nur mit einer Wallet, die mir gehört, und die gibt nur die Daten frei bei den Transaktionen, die ich erlaube.	Researcher (18:28): So I'm going to ask heretically: now you have a profile on Booking 1, on HRS 1, on so and so. Our platforms live from our data, so we are constantly releasing our data on every new platform. And now I just travel with a wallet that belongs to me, so to speak, and it only releases the data for the transactions that I authorise.
Interviewee 10 (18:35): Mhm. Das Argument zieht ja. Ich sehe bloß den Sprung noch nicht zur Auswahl. Aber ja, wenn die KI, also die Kombination aus Blockchain und KI, könnte das könnte ein Game Changer werden.	Interviewee 10 (18:35): Mhm. The argument is valid. I just don't see the leap to choice yet. But yes, if AI, the combination of blockchain and AI, could be a game changer.
Researcher (19:20): Mhm, ja, also da gibt es ganz, ganz viele Paper, das also ich muss dann entscheiden bei meiner, bei meinem Budget zwischen Blockchain und KI. Irgendwie kommt jetzt gerade wieder alles zusammen. Game Changer ist ein tolles Keyword, ja.	Researcher (19:20): Mhm, yes, so there are quite, quite a lot of papers that so I have to decide then with my, with my budget between blockchain and AI. Somehow everything is coming together again right now. Game changer is a great keyword, yes.
Interviewee 10 (19:32): Also ich sehe es halt nur in Kombination mit der Auswertung von den... also das reine Datenbank sehe ich...	Interviewee 10 (19:32): So I just see it in combination with the analysis of the... So I see the pure database...
Researcher (19:34): Hm.	Researcher (19:34): Hm.
Interviewee 10 (19:38): ...dann sehe ich es nicht. Aber als in Kombination mit der KI...	Interviewee 10 (19:38): ...then I don't see it. But in combination with the AI...
Researcher (19:40): Hm.	Researcher (19:40): Hm.
Interviewee 10 (19:43): ...hat das eine Wirkung, ja.	Interviewee 10 (19:43): ...it has an effect, yes.
Researcher (19:47): Ja. Sehr gut. Tatsächlich wäre es jetzt schon, weil die nächste Frage, wäre tatsächlich, was sind Hinderungsgründe, dass das passiert? Da haben wir schon drüber gesprochen. Jetzt frage ich noch, also abschließend: Was wäre denn, was wäre das Gute daran, wenn das so kommen würde?	Researcher (19:47): Yes, very good. In fact, it would already be, because the next question would actually be, what are the obstacles to this happening? We've already talked about that. Now I'd like to ask, in conclusion: What would be the good thing about it if it were to happen?
Interviewee 10 (20:10): Jetzt kommt drauf an, wer dann damit mit welchen Daten Geld verdient. Inzwischen ist es ja so, dass man nicht mit dem Produkt Geld verdient, sondern mit den persönlichen Daten. Das heißt, wo ist die Wertschöpfung? Wenn die Wertschöpfung frei bleibt, sprich bei mir bleibt oder dann hinterher vielleicht sogar beim Hotelier, fände ich das eine deutlich interessantere Lösung. Wenn das bei dem Dienstleister verbleibt, der sozusagen den Markt...	Interviewee 10 (20:10): Now it depends on who earns money with which data. It's now the case that you don't earn money with the product, but with the personal data. In other words, where is the added value? If the added value remains free, i.e. remains with me or perhaps even with the hotelier afterwards, I would find that a much more interesting solution. If it remains with the service provider, who, so to speak, controls the market...
Researcher (20:18): Hm. Hm.	Researcher (20:18): Hm. Hm.
Interviewee 10 (20:35): ...auch ein bisschen terrorisiert, ne.	Interviewee 10 (20:35): ...terrorised a bit too, ne.
Researcher (20:38): Das war ein sehr gutes Keyword, sehr gut. Ja, ja, genau, genau da, das haben viele andere Experten eben auch gesagt. Es geht letztendlich darum, dass die Wertschöpfung, dass das natürlich für einen Vermittler, also ich meine, der tut nichts, also eine Website vermarkten und schöpft, ja, ich habe hier stehen 15 bis 30, also ich habe ganz von ganz vielen 18% gehört,	Researcher (20:38): That was a very good keyword, very good. Yes, yes, exactly, right there, that's what many other experts have just said. At the end of the day, it's about the added value, that of course for an intermediary, I mean, he doesn't do anything, so he markets a website and creates, yes, I have 15 to 30 here, so I've heard from quite a lot of 18%, that seems to be the current

das scheint so bei booking.com gerade aktuell die Zahl zu sein, aber andere Sachen der anderen Plattformen, je nachdem wie eingestellt sind...	figure for booking.com, but other things on the other platforms, depending on how they are set...
Interviewee 10 (20:54): Mhm.	Interviewee 10 (20:54): Mhm.
Researcher (21:08): ...bis zu 30% werden deswegen, ja ganz, ganz spannend.	Researcher (21:08): ...up to 30% because of that, yeah quite, quite exciting.
Interviewee 10 (21:13): Die Frage ist, ob die Wertschöpfung der persönlichen Daten irgendwo wirklich dann beim Privaten ist.	Interviewee 10 (21:13): The question is whether the added value of the personal data is somewhere really then with the private individual.
Researcher (21:20): Mhm.	Researcher (21:20): Mhm.
Interviewee 10 (21:20): Oder ob das dann wieder jemand anderes abgreift.	Interviewee 10 (21:20): Or whether someone else then taps into that again.
Researcher (21:23): Genau. Also tatsächlich. Also das sind tatsächlich, ich denke mal, das wird mein nächstes Paper, sozusagen die praktische Implementierung, weil wenn die Wertschöpfung nicht wirklich letztendlich den beiden Peers, also den beiden Nutzern zugute kommt, dann brauchen wir es letztendlich auch nicht. Also der Hotelier muss mehr davon haben und der Kunde auch. Alles andere...	Researcher (21:23): Exactly. So actually. So these are actually, I think that will be my next paper, the practical , so to speak, because if the added value doesn't really benefit the two peers, i.e. the two users, then ultimately we don't need it. So the hotelier has to get more out of it and so does the customer. Everything else...
Interviewee 10 (21:45): Oder dafür 30 mal hintereinander die entsprechende Werbung kriegt.	Interviewee 10 (21:45): Or get the appropriate adverts 30 times in a row for that.
Researcher (21:51): Genau. Prima. Nein, tatsächlich. Also das war es auch schon. Wie gesagt, ich vergleiche tatsächlich nur, was die Forschung gerade sagt. Sie sagt, da könnte was kommen und ich frage eben, wir haben Destinationsmanager, Hotelbesitzer, Hotelmanager, ein Consultant und ich fasse diese Interviews, da bin ich nämlich gerade schon dran, von allen Experten zusammen. Dann wird daraus ein sogenannter Konsensus, also nach dem Motto, was sagen die Experten?	Researcher (21:51): Exactly. Great. No, actually. So that's it already. As I said, I'm really just comparing what the research says. They say that something could come up and I just ask, we have destination managers, hotel owners, hotel managers, a consultant and I summarise these interviews, because I'm already doing that, from all the experts. Then it becomes a so-called consensus, in other words, what do the experts say?
Interviewee 10 (21:52): Ja. Wie?	Interviewee 10 (21:52): Yes, how?
Researcher (22:23): Und dann schick ich Ihnen das. Und dann sagen Sie einfach nur so, ja, Herr Liebes, und entscheidend ist es, es gibt ja diese zweite Runde, wo Sie sagen, ja, Herr Liebes, man kann seine Meinung auch noch ändern. Also wenn Sie dann sagen, ja, Liebes, was ich da gesagt habe, ne, ich will das anders haben, Ziel ist am Ende so eine Aussage der deutschen Tourismusindustrie, vertreten durch 12 Experten, die sich auf einen Konsens geeinigt haben.	Researcher (22:23): And then I send you that. And then you just say, yes, Mr Liebes, and the crucial thing is, there is this second round where you say, yes, Mr Liebes, you can still change your mind. So if you then say, yes, dear, what I said there, no, I want it to be different, the goal is ultimately a statement by the German tourism industry, represented by 12 experts who have agreed on a consensus.
Interviewee 10 (22:46): Die Meinung alles noch ist auch nur das Ergebnis von verschiedenen Informationen, ne. Die Kombination aus Blockchain und KI ist aus meiner Sicht...	Interviewee 10 (22:46): The opinion everything still is also just the result of different information, ne. In my view, the combination of blockchain and AI is...
Researcher (22:55): Mhm.	Researcher (22:55): Mhm.
Interviewee 10 (22:57): ...Thema, als sie die Blockchain alleine, auch wenn es 2 oder 3 Nummern hat...	Interviewee 10 (22:57): ...topic than they did the blockchain alone, even if it has 2 or 3 numbers...
Researcher (22:58): Ja. Mhm.	Researcher (22:58): Yeah. Mhm.
Interviewee 10 (23:02): ...im Moment noch nicht als Game Changer.	Interviewee 10 (23:02): ...not as a game changer at the moment.
Researcher (23:03): Genau. Das ist ganz spannend. Wie gesagt, weil Blockchain, also denn das Blockchain dritte Generation, das ist eben sozusagen die Datenbank plus intelligente Verträge plus künstliche Intelligenz, das passiert jetzt gerade, weil KI ist durch die Decke gegangen, dieses Jahr, das haben wir beide mitbekommen. Da passieren viele, viele Dinge und sozusagen jetzt so ein bisschen abschließend, es ist einfach so, dass wir auch, dass ich glaube, ein gesellschaftliches Ding haben, dass wir sagen, diese Plattform-Ökonomie, die wir seit den Neunzigern jetzt erlebt haben...	Researcher (23:03): Exactly. That's quite exciting. As I said, because blockchain, the third generation of blockchain, that's the database plus smart contracts plus artificial intelligence, so to speak, that's happening right now, because AI has gone through the roof this year, we've both noticed that. There are many, many things happening and, to conclude, it's just that I think we also have a social thing that we're saying, this platform economy that we've been experiencing since the nineties...
Interviewee 10 (23:18): Ja, das ist ja spannend.	Interviewee 10 (23:18): Yeah, that's exciting.
Researcher (23:34):	Researcher (23:34):

...wo nicht der, der produziert, eigentlich die höchste Rendite hat, sondern der, der vermittelt. Könnte schon sein, dass das gesellschaftlich irgendwann gesagt wird, so nach dem Motto, die haben sich die Taschen ein bisschen zu voll gemacht. Also da, aber das ist nicht mein Part, das müssen Soziologen untersuchen.

Interviewee 10 (23:51):
Mal schauen, wie die neuen EU-Richtlinien zur KI eine Rolle spielen. Es gibt da ja auch Richtlinien.

Researcher (24:00):
Ich glaube, mit der tatsächlichen Kombination Blockchain und KI hat sich die EU, glaube ich, noch nie auseinandergesetzt, ehrlich gesagt.

Interviewee 10 (24:05):
Die Kombination KI und Blockchain geht ja um die KI, die Einsatzfähigkeit, in welchen Bereichen die eingesetzt werden darf und wie.

Researcher (24:08):

Mhm. Bei der KI sind es hauptsächlich diese Datenschutzbedenken. Und tatsächlich, das kann ich nachvollziehen, interessanterweise, die Forscher sagen ganz klar, also wenn wir Blockchain so definieren, jeder hat eben seine Wallet mit seinen Daten, und Sie haben doch vielleicht von einem Fall gehört, wo jemand seine Wallet mit Bitcoins, mit irgendwie 2 Millionen verloren hat, sein Passwort nicht mehr hat. Der kommt an das Geld nie wieder dran, das liegt auf irgendeiner Müllhalde. Ich weiß nicht, ob Sie das mitbekommen haben, der arme Junge hat irgendwas 10 Bitcoins gekauft, was sind jetzt irgendwas nicht 800.000€ oder so. Das heißt...

Interviewee 10 (24:44):
Alle mal 3.

Researcher (24:46):
Ja, oder sogar mehr.

Interviewee 10 (24:48):
Aber bei 17 hab ich die Nerven verloren.

Researcher (24:53):
Das ist schon krass. Ja, deswegen tatsächlich. Das Thema Datenschutz würde ich eher so, wie ich die Forschung verstehe, als Vorteil der Blockchain sehen, weil man hat seine Datenhoheit und man reist sozusagen mit seiner Wallet. Man kann letztlich nur mit der Blockchain-Wallet auch bei Ebay einkaufen oder so, weil man dieses... dass man überall seine Daten neu eingeben muss und die eigentlich sozusagen, nichts im Leben ist umsonst, man zahlt halt mit Daten. Ich glaube, gesellschaftlich wird das ein immer wichtigeres Thema und die EU macht das mit Datenschutz richtig. Also das ist schon...

Interviewee 10 (25:21):
Mhm.

Researcher (25:28):
...gut und wichtig, dass wir uns so unterhalten. Von daher...

Interviewee 10 (25:31):
Ja, richtig. Also, wie gesagt, wir hatten das mit Bitcoin. Wir hatten 2006, glaube ich, drei Stück für den XXX Hof gekauft...

Researcher (25:41):
Mhm.

Interviewee 10 (25:41):
...um damit ein bisschen zu spielen und dann war die Fluktuation riesig. Wir haben damals entschieden, das nicht zu machen, weil wir auch das Thema Umsatzsteuer nicht richtig bewerten konnten. Finanzamtstechnisch ist es nicht ganz clean.

Researcher (25:43):
Ja. Mhm. Ja.

Interviewee 10 (25:55):
Aber ja. Bleibt spannend.

Researcher (25:58):
Immer, auf jeden Fall. Es waren super Insights drin und es ist, wie gesagt, ich fasse das alles dann halt nochmal zusammen. Das wird dann entweder nochmal so ein 2-Minuten-Anruf, dass Sie mir bestätigen: "Ja, das passt, dieser Konsensus," oder es ist einfach direkt ein Online-Formular, wo man direkt klicken kann, so nach dem Motto: "Ja, das soll so veröffentlicht werden." Vielen Dank auf jeden Fall, dass das so kurz... also Sie sind jetzt der

...where it's not the one who produces that actually has the highest return, but the one who mediates. It could be that society will say that at some point, along the lines of, they've filled their pockets a bit too much. So there, but that's not my part, that's for sociologists to analyse.

Interviewee 10 (23:51):
Let's see how the new EU directives on AI play a role. There are also guidelines.

Researcher (24:00):
I don't think the EU has ever dealt with the actual combination of blockchain and AI, to be honest.

Interviewee 10 (24:05):
The combination of AI and blockchain is all about AI, the usability, in which areas it can be used and how.

Researcher (24:08):

Mhm. With AI, it's mainly these data protection concerns. And actually, I can understand that, interestingly enough, the researchers say quite clearly, so if we define blockchain in this way, everyone has their wallet with their data, and you may have heard of a case where someone has lost their wallet with bitcoins, with somehow 2 million, and no longer has their password. They'll never get their money back, it's lying in some rubbish dump. I don't know if you've noticed, the poor guy bought something like 10 bitcoins, which is now something like €800,000 or something. That is...

Interviewee 10 (24:44):
All times 3.

Researcher (24:46):
Yes, or even more.

Interviewee 10 (24:48):
But I lost my nerve at 17.

Researcher (24:53):
That's pretty blatant. Yes, that's why really. As I understand the research, I would tend to see the issue of data protection as an advantage of blockchain, because you have data sovereignty and you're travelling with your wallet, so to speak. Ultimately, you can only use the blockchain wallet to shop on eBay or something like that, because you don't have to... that you have to re-enter your data everywhere and that actually, so to speak, nothing in life is free, you just pay with data. I think this is becoming an increasingly important issue for society and the EU is doing the right thing with data protection. So that's already...

Interviewee 10 (25:21):
Mhm.

Researcher (25:28):
...good and important that we talk like this. That's why...

Interviewee 10 (25:31):
Yeah, right. So, as I said, we had that with Bitcoin. I think we bought three of them for the XXX Hof in 2006...

Researcher (25:41):
Mhm.

Interviewee 10 (25:41):
...to play with it a bit and then the fluctuation was huge. We decided not to do it back then because we couldn't properly assess the VAT issue. From a tax office point of view, it's not entirely clean.

Researcher (25:43):
Yeah. Mmm. Yes.

Interviewee 10 (25:55):
But yes. Remains exciting.

Researcher (25:58):
Always, definitely. There were great insights in it and, as I said, I'll summarise it all again. It will then either be another two-minute call to confirm: "Yes, this consensus fits," or it will simply be an online form where you can click directly, along the lines of: "Yes, this is how it should be published." Thank you in any case for being so brief... So you are now the penultimate, I have the last interview on Friday. But I'm already analysing the data and it all looks...

vorletzte, ich habe Freitag das letzte Interview. Aber ich bin schon in der Datenanalyse und es sieht alles... Interviewee 10 (26:27): Okay. Researcher (26:30): ...alles gut aus. Also der Unterschied zwischen Forschung, also zwischen Theorie und Praxis, ist da. Der ist da tatsächlich, das ist mir wichtig. Interviewee 10 (26:38): Also dann wünsche ich viel Erfolg bei der Doktorarbeit. Researcher (26:39): Super. Dankeschön und Ihnen noch einen schönen Tag. Dankeschön, bis dann, ciao. Interviewee 10 (26:43): Ihnen auch. Ciao.	Interviewee 10 (26:27): Okay. Researcher (26:30): ...everything looks good. So the difference between research, between theory and practice, is there. It really is there, that's important to me. Interviewee 10 (26:38): Well then, I wish you every success with your doctoral thesis. Researcher (26:39): Great. Thank you and have a nice day. Thank you, see you, ciao. Interviewee 10 (26:43): You too. Ciao.

Bilingual Interview Transcript Interviewee 11

Transkription des Interviews vom 25. Juli 2023 Zeitstempel: 10:02 AM bis 10:33 AM Dauer: 31 Minuten und 1 Sekunde Researcher 0:05: Also, und ich schaue bei mir rechts, die automatische Transkription funktioniert auch prima. Ich habe dieses Interview heute wird dazu führen, dass ich dann eine Aggregation von allen Experten zusammenstellen werde. Also, was haben die Experten in Summe gesagt. Ich werde Ihnen das dann einfach mal schicken und dann müssen Sie einfach nur bestätigen. Ja, ich stimme dem Konsensus zu oder Sie sagen einfach, nein, die anderen Experten haben alle Unrecht. Interviewee 11 0:35: Ja. Klar, ich muss noch kurz unterschreiben, wenn meine. Wir sind ja fast fertig, dauert nur 2 Minuten, eine Minute. Researcher 0:46: Überhaupt alles gut. Ich bin ja froh, dass Sie da sind. Wie gesagt, das ist bei mir ganz, ganz wichtig, noch mehr Hotelmanager dabei zu haben. Interviewee 11 0:55: Während schreiben. Kredit. Researcher 0:59: Nein. Interviewee 11 1:04: Aber ich kann nicht. Nein, vielen Dank. Ja, jetzt bin ich ganz Wein. Researcher 1:16: Prima genau. Also ich schicke Ihnen dann, ich denke mal so in 2 Wochen, nicht mit meiner durch, sind sowas wie einen Konsensus, also was die Experten gesagt haben, also worauf sich die Experten geeinigt haben und dann wird so eine Art Schieberegler sagen, ist einfach sagen, Hey ja, das sehe ich auch so, ich will nicht spoilern, aber tatsächlich ich forsche an etwas, was noch relativ unbekannt ist. Sie brauchen sich gar nicht vorbereiten, ich will nur so ein bisschen hören, wie Experten das einschätzen und die Einstiegsfrage ist einfach nur erstmal ganz ganz ganz allgemein. Wie Sie den Einfluss von allem bewerten? Interviewee 11 1:18: Mhm. Mhm. Mhm. Researcher 1:46: Allgemein. Wie Sie den Einfluss von alles gut. Interviewee 11 1:51: XXXXX Andere Person Researcher 1:56: Also muss dazu sagen, ich, ich komme aus der Hotellerie, ich hab 4 Jahren heute gearbeitet, ich kenne das, das ist, man muss auf überall gleichzeitig sein. Interviewee 11 2:04: Ja, das ist normal. Ich dachte mir so heute, so ein ganz entspannter Tag. Ich hab mit den Colts hat die 4 alles, damit ich in einem Haus heute mal klar Schiff mache und genau heute kommt der Ort um 08:00 Uhr morgens und nicht so, na klar, gar kein Problem, weil das sind halt unangekündigt. Der und ich so, okay, aber schnell, wie ich hab' wieder Golf los.	Transcription of the interview from 25 July 2023 Timestamp: 10:02 AM to 10:33 AM Duration: 31 minutes and 1 second Researcher 0:05: So, and I'm looking at my right, the automatic transcription is also working fine. I have this interview today will then lead to me compiling an aggregation of all the experts. So, what did the experts say in total? I will then simply send it to you and then you just have to confirm. Yes, I agree with the consensus or you simply say, no, the other experts are all wrong. Interviewee 11 0:35: Yes. Sure, I still have to sign if mine. We're almost done, it'll only take two minutes, one minute. Researcher 0:46: Everything's fine. I'm glad you're here. As I said, it's very, very important for me to have more hotel managers with me. Interviewee 11 0:55: While writing. Credit. Researcher 0:59: No. Interviewee 11 1:04: But I can't. No, thank you very much. Yes, now I'm all wine. Researcher 1:16: Great, exactly. So I'll send you then, I think in about 2 weeks, not with my through, are something like a consensus, so what the experts have said, so what the experts have agreed on and then a kind of slider will say, is just say, hey yes, I see it that way too, I don't want to spoil it, but actually I'm researching something that is still relatively unknown. You don't need to prepare yourself, I just want to hear a bit about how experts assess it and the initial question is just a very general one. How do you rate the influence of everything? Interviewee 11 1:18: Mhm. Mhm. Mhm. Researcher 1:46: In general. How do you rate the influence of everything? Interviewee 11 1:51: XXXXXX (other Person) Researcher 1:56: So I have to say, I, I come from the hotel industry, I've worked for 4 years today, I know that, that's, you have to be everywhere at the same time. Interviewee 11 2:04: Yes, that's normal. I thought to myself that today would be a very relaxed day. I've got everything with the colts so that I can clear a house today and today the place is coming at 08:00 in the morning and not, of course, no problem at all, because they're just unannounced. He and I so, okay, but quickly, like I've got golf going again.

Researcher 2:22: Sehr gut. Nein, genau dann gehen wir da einfach so. Meine Frage ist immer, wie bewerten Sie den Einfluss von Information, Informationstechnologie, also ganz allgemein die Informationen und den Einfluss auf die Tourismusindustrie und zwar speziell auf die Vermittlung, zum Beispiel eben von Hotelzimmern.

Researcher 2:41: Und da ist er so eine Vergangenheit. So wie war das in den letzten Jahren?

Interviewee 11 2:47: Also, bedingt dass die Gäste die Hotels buchen oder eher aus Mitarbeitersicht, weil da sind immer so unterschiedlich aus.

Researcher 2:56: Eher die Sicht der Betreiber von Hotels, wie Technologien ihr Geschäft verändert haben.

Interviewee 11 3:00: Sehr stark zum Positiven, tatsächlich. Wir hatten erst vor 3 Jahren ein Rebranding mit der neuen Firma, also XXXXXX hat uns abgekauft, wir waren XXXXXX und XXXXXX und dort war eher nichts mit Technologie, also wenig, das heißt alles manuell, alles händisch. Ich komme aus einem privaten Hotel, wo alles händisch gemacht worden ist. Also alles und da ging die Zeit einfach verloren für das Wichtigere, sag ich jetzt mal.

Interviewee 11 3:36: Egal, ob es Kanäle sind, wo man Informationen bekommt, was man ausarbeitet, Prozesse, alles in einem. Wir sind jetzt auch dran bei XXXXX, das mehr in die Technologie umzugestalten, dass es aber nicht zu technologisch ist. Aber uns die Arbeit einfach erleichtert und wir mehr Fokus auf die Menschen setzen können.

Researcher 4:00: Prima, da hab' ich da direkt einhaken, weil das ist ein spannendes Thema. Sie haben geschrieben, dass Sie vorher aus einer privaten oder, und so. Wie würden Sie denn insgesamt so die Hotellerie in Deutschland, wir bleiben bei der Deutschland und so, wie gut sind die Technologien zu adaptieren?

Interviewee 11 4:02: Adaptieren ist hier, ist immer so eine Geschichte in Deutschland. Es ist sehr, also in Deutschland, und das ist wirklich der deutsche Markt, weil wir haben den Vergleich mit UK, wir sind die Kette, aber beziehungsweise UK Mutterkonzern. Da ist es gang und gäbe, dass man Sachen anpasst. Man ist da offener gegenüber der Geschichte. In Deutschland ist es sehr, sehr schwierig, in den Hotels oder bei den Leuten das umzusetzen, weil man muss es schnell spontan machen, sich adaptieren und anpassen. Und das funktioniert im deutschen Markt noch nicht. Und in deutschen Hotels, weil es braucht Zeit, man muss daran die Leute davon überzeugen, weil alle Veränderungen sind immer schlecht. Egal welche Art. Und das ist sehr, sehr schwierig, das merken wir hier auch.

Researcher 5:05: Sehr gut, ja prima sozusagen. Da waren alle Keywords drin, die ich brauche, da ist, glaube ich, auch Einigkeit bei den Experten. Jetzt ändern wir die Perspektive von Seiten der Kunden. Also hier geht es hauptsächlich um die Vermittlung, also um zum Beispiel Buchungsportale, wie hat sich das entwickelt in den letzten Jahren mit den Buchungsportalen, was sind so Ihre Erfahrungen, Ihre Sicht und gerne auch, wenn Sie die Kundensicht einnehmen, warum?

Interviewee 11 5:13: Ja.

Researcher 5:33: Warum buchen Kunden bei Buchungsportalen?

Interviewee 11 5:36: Also ich glaube aus Kundensicht ist es die Schnelligkeit und Einfachheit, was für die Kunden dazu bewegt jetzt auf booking.com zu buchen oder so. Wir sind zum Beispiel XXXXXX nicht auf booking.com. Wir sind komplett selbst Vertreiber, sag ich jetzt mal, mit Business usw. was eben es erschwert. Teilweise, weil auch unsere Homepage nicht die leichteste und freundlichste Kundenart ist. Und da arbeiten wir aber auch dran. Das heißt, wir haben dieses Jahr, wir haben beobachtet, die 3 Jahre haben wir festgestellt, das funktioniert nicht so wie in UK, jetzt passen wir das an, dass dieser gesamte Guest Journey Prozess einfacher für den Gast ist aber, das sind nicht abhängig sind von booking.com oder sonstigen Buchungsportalen, weil wir den gleichen Weg aufmachen können. Wir müssen unsere Homepage anpassen. Das dauert aber auch mit Prozessen.

Researcher 6:24: Ganz, ganz. Aber ganz, ganz spannender Punkt. Das war mir gar nicht klar, weil dann sind Sie die erste Expertin, die sagt, so, nö, wir versuchen es ohne. Also ich sag mal, ich kann es mir denken, aber ich will von Ihnen hören, warum, warum tun Sie das?

Interviewee 11 6:40: XXXXX hat dann eine ganz andere, sage ich mal, Visionen. Ganz anderes ist verankert, auch in ihrem Unternehmensziel und Philosophie kann man sagen. Es ist klar, der eine Part ist mit Kommission und dass wir das nicht von anderen einmal Geld technisch mit Kommissionszahlungen auf der anderen Seite aber. Wir sind eine unabhängige Kette. Die nicht von etwas abhängig sein möchte. Das fängt aber generell vom Bau an, das ist unser Grundstück, das ist kein Pacht oder kein gar

Researcher 2:22: Very good. No, that's when we just go like that. My question is always, how do you assess the influence of information, information technology, i.e. information in general and the influence on the tourism industry, and specifically on the provision of hotel rooms, for example.

Researcher 2:41: And that's one of the past. So how has it been in recent years?

Interviewee 11 2:47: Well, in terms of the guests booking the hotels or rather from the employees' point of view, because they are always so different.

Researcher 2:56: More from the perspective of the hotel operators, how technologies have changed their business.

Interviewee 11 3:00: Very much in the positive, actually. We only had a rebranding 3 years ago with the new company, so XXXXXX bought us out, we were XXXXXX and XXXXXX and there was rather nothing with technology, so little, that means everything manually, everything by hand. I come from a private hotel where everything was done by hand. So everything and time was simply lost for the more important things, I'd say.

Interviewee 11 3:36: Whether it's channels where you get information, what you work out, processes, all in one. At XXXXX, we're now also in the process of redesigning it to be more technological, but not too technological. But it simply makes our work easier and allows us to focus more on people.

Researcher 4:00: That's great, I've got to get straight to the point, because that's an exciting topic. You wrote that you previously came from a private or, and so on. How would you rate the hotel industry in Germany overall, we'll stick to Germany and so on, how well are the technologies being adapted?

Interviewee 11 4:02: Adapting here is always such a story in Germany. It's very, so in Germany, and this is really the German market, because we have the comparison with the UK, we are the chain, but respectively the UK parent company. It's common practice there to adapt things. They are more open to history. In Germany, it's very, very difficult to implement this in the hotels or with the people, because you have to do it quickly and spontaneously, adapt and adjust. And that doesn't work in the German market yet. And in German hotels, because it takes time, you have to convince people, because all changes are always bad. No matter what kind. And that's very, very difficult, we realise that here too.

Researcher 5:05: Very good, great, so to speak. All the keywords I need were in there, I think the experts agree on that. Now we're changing the customer's perspective. So this is mainly about intermediation, for example booking portals, how has that developed in recent years with the booking portals, what are your experiences, your view and, if you take the customer's view, why?

Interviewee 11 5:13: Yes.

Researcher 5:33: Why do customers book with booking portals?

Interviewee 11 5:36: Well, I think from the customer's point of view, it's the speed and simplicity that motivates customers to book on booking.com or something like that. For example, we are XXXXXX not on booking.com. We are completely self-distributors, let's say, with business etc. which makes it more difficult. Partly because our homepage is not the easiest and friendliest type of customer. And we're working on that too. In other words, this year, we've observed that over the last three years, we've realised that it doesn't work like it does in the UK, and now we're adapting it so that the entire guest journey process is easier for the guest, but we're not dependent on booking.com or other booking portals, because we can open up the same route. We have to adapt our homepage. But that also takes time with processes.

Researcher 6:24: Quite, quite. But that's a very, very interesting point. I didn't realise that, because then you're the first expert to say, well, no, we'll try it without. So I say, I can guess, but I want to hear from you why, why are you doing this?

Interviewee 11 6:40: XXXXX then has a completely different, I would say, vision. Something completely different is anchored in their corporate goal and philosophy, you could say. It's clear that one part is with commission and that we don't technically make money from others with commission payments on the other hand. We are an independent chain. We don't want to be dependent on anything. But that generally starts from the construction, that's our property, that's not a lease or nothing, but that's our property

nichts, sondern das ist unser Grundstück und unser Eigentum, unsere Investoren von XXXXX, von UK, die uns da unterstützen, genauso mit Mitarbeitern, das sind unsere Mitarbeiter, wir fördern sie, wir. Haben ein ganzes Netzwerk mit LND Geschichten, das gleiche auch mit Vermarktung oder vertreiben von den Zimmern. Wir haben eine starke Gruppenabteilung, eine starke Sales-Abteilung, die sich eben darum kümmern, dass die Kunden und Geschäft als Businessreisen oder auch Leisurereisen der uns auch wahrnehmen, dass man uns als Unternehmen wahrnimmt und nicht, dass wir von booking.com man uns wahrnimmt, weil bei booking.com sind 1000 Hotels gelistet. Aber so als Eigenmarke, als eigene Philosophie, werden wenige Hotels klar wahrgenommen. Wann hat kein booking.com. Man kennt Motel One als deutsche Firma, die ist noch klein, aber sie ist präsent und das ist das, was XXXXX auch machen möchte. Wir arbeiten mit booking.com, aber oder so, jetzt erst haben wir angefangen, aber nur für 2-3 Monate in den Hotels, wo wirklich die Belegung, Rand Hotels, wo es aktuell nicht funktioniert, wo noch der Kern aufgebaut wird und um die Zeit zu überbrücken genauso wie Motel One, weil Motel One hat auch in spezifischen Momenten booking.com genommen hat, aber nicht komplett, dass man sagt, man ist abhängig von denen.

Researcher 8:41:
Okay, mega spannend, komplett also den also den das also hat. Den Bereich hatte ich so noch nicht untersucht. Jetzt vielleicht ganz allgemein, wenn Sie jetzt unabhängig von sich, denn jetzt ist eine ganz spannende Brücke für mich. Trotzdem mal die Marktmacht von großen Vermittlungsplattformen. Es ist ja, wir reden oder Booking, HRS, diese Ganzen, deren Marktmacht finde ich ganz spannend, Ihre Einschätzung.

Interviewee 11 9:03: Ja. Booking.com hat eine Macht. Wir hatten, ich glaube in XXXX Express Zeiten hatten wir auch Kämpfe mit booking.com und HRS. Der gesamte deutsche Hotelmarkt hatte mit denen Kampf, weil die sehr dominant waren und auch Hotels sperren wollten. Und da gab es wirklich einen Kampf mit booking.com und, mit HRS weniger, mit booking.com. Also auch gewonnen hat, weil die sind die einzigen Monopolstellen momentan. Und für kleinere Häuser, die davon abhängig sind, brauchen Sie die.

Researcher 9:39: Ok, das danke. Das waren jetzt 2 wichtige Punkte, also kleine Häuser sagen sie sind abhängig, sie versuchen das als Strategie anders zu machen, aber eine Dominanz sehen wir dann schon im Markt. Ne, super, das ist tatsächlich so, das war so der Einstieg in das Ganze und mein Feld geht jetzt eher sozusagen in der. Also jetzt ist ein harter Bruch, Sie werden jetzt vielleicht wundern, aber das ist genau, worüber ich forsche und zwar haben Sie sich schon mal mit dem Thema Blockchain und den potenziellen Einfluss auf die Vermittlung von zum Beispiel Hotelzimmern beschäftigt.

Interviewee 11 10:13: Nein.

Researcher 10:14: Nein, tatsächlich. Es gibt eine seit 2-3 Jahren gibt es immer mehr Forscher, die irgendwie sagen, so als theoretisches Modell, was würde passieren, wenn wir die Technologie, die so schnell Finanzindustrie, Supply Chain Management. Wenn ich einfach mal auf den Tourismus projiziere und das ist halt genau mein Doktorats-Thema, das ist eher die theoretische Anwendung auf eine Branche und damit Sie das besser nachvollziehen können, habe ich so eine Art vorgefertigten kleinen Text, den lese ich Ihnen vor. Ich muss jetzt immer so nach rechts gucken.

Interviewee 11 10:48: Alles gut.

Researcher 10:49: Kann ich allen die gleiche Info gebe und ausdrücklich. Es ist also es ist nicht, dass sie sich nicht mit einem Thema beschäftigen, was wichtig für sie wäre. Das nur in der Wissenschaft wird gesagt, so was wäre, wenn. Und deswegen grundsätzlich Blockchain ist erstmal und ich sage es vorweg, es hat erstmal meine Forschung nichts mit Bitcoin zu tun. Das ist nämlich auch so die erste Zusammensetzung. Blockchain ist erstmal nur eine Technologie, wo Informationen in Form von digitalen Datenblöcken gespeichert werden.

Interviewee 11 10:51: Mhm.

Researcher 11:20: Das Interessante daran ist, jeder dieser Block hat sozusagen gewisse Menge für Daten und sobald der Block voll ist, also die Datenkapazität erreicht. Wird Informationen aus dem Block da vorgenommen, codiert und in den neuen Block reingebracht und damit sind die Daten Blöcke, Blockchain, die bilden eine Kette und jetzt wird es spannend. Das ist ja nichts ans erstmal eine Datenbank, aber diese Datenbank wird nicht von einer zentralen Autorität verwaltet, sondern auf ganz vielen Computern, auf ganz vielen Servern wird immer wieder kopiert und da jeder Block in der Blockchain Daten des Blocks davor hat, ist natürlich, sobald jemand versucht einen Block zu manipulieren, sprengt er die Kette. Da aber er auf ganz vielen anderen Computern liegt, sagt das System dann hier stimmt was nicht. Jetzt wo ich gerade scrollen und. Damit kann man erstmal ge-

and our property, our investors from XXXXX, from the UK, who support us there, as well as with employees, that's our employees, we support them, we. We have a whole network with LND stories, the same with marketing or selling the rooms. We have a strong group department, a strong sales department, which makes sure that customers and business travellers perceive us as a business or leisure travel company, that we are perceived as a company and not that we are perceived as booking.com, because there are 1000 hotels listed on booking.com. But as our own brand, as our own philosophy, few hotels are clearly recognised. When has no booking.com. Motel One is known as a German company, it's still small, but it's present and that's what XXXXX wants to do. We work with booking.com, but or so, we have just started, but only for 2-3 months in the hotels where the occupancy, edge hotels, where it is currently not working, where the core is still being built up and to bridge the time just like Motel One, because Motel One has also taken booking.com at specific moments, but not completely, that you say you are dependent on them.

Researcher 8:41:
Okay, mega exciting, completely so the so the so that has. I hadn't investigated that area yet. Now perhaps in general, if you are now independent of yourself, because now is a very exciting bridge for me. Nevertheless, the market power of large brokerage platforms. We're talking about Booking, HRS, all of these, I find their market power quite exciting, your assessment.

Interviewee 11 9:03: Yes. Booking.com has power. We had, I think in XXXX Express times we also had battles with booking.com and HRS. The entire German hotel market had a battle with them because they were very dominant and also wanted to block hotels. And there was a real battle with booking.com and, less so with HRS, with booking.com. So they also won, because they are the only monopolies at the moment. And for smaller hotels that are dependent on them, you need them.

Researcher 9:39: Ok, thank you. Those were 2 important points, so small houses say they are dependent, they try to do it differently as a strategy, but then we do see dominance in the market. No, great, that's actually the case, that was the introduction to the whole thing and my field is now moving more in the direction of the. So now it's a hard break, you might be surprised, but that's exactly what I'm researching, and you've already looked at the topic of blockchain and its potential influence on the procurement of hotel rooms, for example.

Interviewee 11 10:13: No.

Researcher 10:14: No, actually. For the last 2-3 years, there have been more and more researchers who are somehow saying, as a theoretical model, what would happen if we used the technology that so quickly financial industry, supply chain management. If I simply project it onto tourism, and that's exactly my doctoral topic, it's more the theoretical application to an industry, and so that you can understand it better, I have a kind of ready-made little text that I'll read out to you. I always have to look to the right.

Interviewee 11 10:48: All good.

Researcher 10:49: Can I give everyone the same information and explicitly. So it's not that they're not dealing with a topic that's important to them. It's just that in science, they say what if. And that's why blockchain is fundamentally, and I'll say it up front, my research has nothing to do with Bitcoin. That is also the initial composition. Blockchain is just a technology where information is stored in the form of digital data blocks.

Interviewee 11 10:51: Mhm.

Researcher 11:20: The interesting thing about it is that each of these blocks has a certain amount of data, so to speak, and as soon as the block is full, i.e. the data capacity is reached. Information is taken from the block, encoded and put into the new block and so the data blocks, blockchain, they form a chain and now it gets exciting. This is nothing more than a database, but this database is not managed by a central authority, but is copied again and again on many computers, on many servers, and since each block in the blockchain has data from the block before it, as soon as someone tries to manipulate a block, they break the chain. But since it is stored on many other computers, the system then says something is wrong here. Now that I'm scrolling and. This means you can be protected against manipulation and hacking and things like that. And now it's exciting. So we don't need a centralised control body in this system, it's what we call a consensus mechanism that repairs itself, so to speak. And if we take this from the financial

schützt gegen Manipulation und Hacking und sowas. Und jetzt ist es spannend. Wir brauchen also in diesem System keine zentrale Stelle, die Kontrolle hat, sondern das ist, wir nennen das ein Konsensus Mechanismus sozusagen repariert sich selber. Und wenn das jetzt aus der Finanzindustrie nehmen, so ist Blockchain als Technologie für Bitcoin, also wir brauchen keine Zentralbank für eine Währung, sondern die Währung liegt sozusagen in der Blockchain und generiert sich sozusagen selber. Wir brauchen eben keinen zentralen Vermittler. Im Gegenteil, Blockchain ist eine Technologie, die in der Finanzindustrie dafür konstruiert worden ist, zentrale Vermittler auszuschalten, wie eben Banken.

Researcher 11:20: Das ist jetzt vielleicht eine rhetorische Frage, aber können sich jetzt den Einfluss vorstellen, den Block fällt auf, den Tourismus haben könnte.

Interviewee 11 13:16: Interessant.

Researcher 13:17: Ja, finde ich auch.

Interviewee 11 13:18: Aha.

Researcher 13:21: Mhm.

Interviewee 11 13:21: Ich glaube schon. Also ich meine. Ich weiß nicht, wie es in der Realität, in der Praxis dann aussehen könnte, weil ich glaube, das sind eher viele im Background, was gearbeitet wird oder gemacht wird oder wie das geschützt wird, wie es voneinander abhängig ist. Ich glaube schon, dass das irgendwann da Zugriff für alle, glaube ich, Bereiche ein Teil sein wird, wenn sie mitgehen wollen. Ich glaube, wir haben sehr viel auch gesehen, dass wenn es manipuliert wird oder irgendwas gemacht wird, das ist ein sehr großer Crash sein kann, egal in welchem Bereich, ob solche Bahn ist, wo es gecrasht wurde. Oder irgendwelche anderen sehen wir ja oder hören wir auch von vielen Firmen, die uns eine Email schreiben, nichts annehmen. Wir wurden da und da gehackt, weil etcetera. Ich weiß zwar nicht und da bin ich nicht sehr in unserer IT-Firma oder als IT-Kollegen involviert, aber die oder wir haben hier ein sehr, sehr geregeltes und sehr geschütztes System auch was, weil wir jetzt nicht System auch anpassen und abändern.

Researcher 14:25: Sehr gut, ja, absolut. Also Sicherheit ist ein Riesenthema und ich setze jetzt nochmal 1 drauf, was ich Ihnen eben geschrieben habe, ist sozusagen die Blockchain Generation 1, also das was Bitcoin nutzt. Es gibt aber eine Weiterentwicklung und genau genommen schon wieder noch eine Weiterentwicklung. Die nennt sich sogenannte Blockchain Based Smart Contracts. Und die, also ich forsche genau über Blockchain based Contracts und Tourismus und Smart Contract, ist ein sogenannter intelligenter Vertrag, weil jetzt, jetzt kriegen wir einen anderen Dreh rein, ein digitaler Vertrag, der direkt zwischen Nutzern geschlossen wird, der automatisch ausgeführt wird. Also früher hat man einfach nur Daten in einen Block rein gemacht und jetzt würde man einen digitalen Vertrag zwischen 2 Nutzern reingeben, der sich also automatisch für zum Beispiel stellen sie sich vor, ein Kunde möchte ein Hotelzimmer buchen. Anstatt eine Buchungsplattform als Vermittler zu verwenden, könnte er direkt mit dem Hotel über eine Blockchain Plattform Netzwerk wie auch immer wie das nennen. Es gibt es in der Form ansatzweise, es gibt es noch nicht wirklich und dieser Buchungsvorgang der Würde im Intelligent Vertrag festgehalten werden mit den Buchungsinformationen Anreise, Abreise, Zimmerpreis, Zahlungsdetails, Stornierungs-Optionen, wichtiges Thema und das wird daran festgehalten und das heißt. Wenn diese Regeln eingehalten werden, also sinngemäß, man hat nicht storniert, ist nicht angereist, muss man zahlen. Dieser intelligenten Vertrag würde sich automatisch ausführen, das heißt, das Hotel kriegt das Geld und der Kunde ist das Geld los, wenn der Noah hat und die Stornierungsbedingungen sagen, dass und tatsächlich, da das ja eine dezentrale und transparente Datenbank ist. Das ist ja, wie mir so Netzwerk, wo alle mitarbeiten, kooperativ klar, Hotel und Kunde können auf den Vertrag gucken. Also ein Nutzer das Hotel einmal die die sehen den Vertrag, alle anderen nicht, aber die anderen können den auch nicht manipulieren. Das heißt der ist unveränderlich. Blockchain ist wird als 1 als ein ein Trust-Less dann bezeichnen, was aber Trust erzeugt. Also ich brauch nicht einen Vermittler dem ich vertraue, dass der Vertrag gemacht wird, sondern das System macht es selber, das heißt wir brauchen auch keine Buchungsplattform, da alles direkt über eine Blockchain abgespielt werden können und viele Forscher sagen, wenn wir dieses diese Technologie im Tourismus einsetzen würde, dann wird das für die Buchungsplattform, die ja nur vermitteln. Sie machen die Verträge ja auch nicht, sie vermitteln ja nur Verträge genau, also in der Forschung sagt das könnte ein ein Game Changer in der in der Industrie sein und aus methodischen Gründen zeige ich Ihnen jetzt mal einen ein ein Schaubild aus meinem aus meinem PD wird. Das beruht halt auf meiner Forschung, der Literatur weltweit, die dann so es lädt jetzt ein bisschen, im besten aller Fälle, sehen sie jetzt was. Perfekt. Also ich forsche über Blockchain based distributed ledger for smart payment contract and reviews. Ich vergesse das jedes Mal. Die Technologie beinhaltet auch die Review, der Intelligent Vertrag hält fest. Es gab eine Buchung und nur der darf eine Review machen, weil Fake Reviews wissen wir ist ist ein Problem und der Status quo ist sozusagen die

industry, blockchain as a technology for Bitcoin, we don't need a central bank for a currency, the currency is in the blockchain and generates itself, so to speak. We don't need a central intermediary. On the contrary, blockchain is a technology that has been designed in the financial industry to eliminate centralised intermediaries, such as banks.

Researcher 11:20: This is perhaps a rhetorical question, but can you imagine the impact that blockchain could have on tourism?

Interviewee 11 13:16: Interesting.

Researcher 13:17: Yes, I think so too.

Interviewee 11 13:18: Aha.

Researcher 13:21: Mhm.

Interviewee 11 13:21: I think so. Well, I mean. I don't know what it might look like in reality, in practice, because I think there are a lot of people in the background, what is being worked on or done or how it is protected, how it is interdependent. I do believe that at some point access will be a part of this for all areas, I think, if they want to go along with it. I think we have also seen a lot that if it is manipulated or something is done, it can be a very big crash, no matter in which area, whether it is such a railway where it was crashed. Or any others we see or hear from many companies that write us an email, accept nothing. We were hacked here and there because etcetera. I don't know and I'm not very involved in our IT company or as an IT colleague, but they or we have a very, very regulated and very protected system here, because we don't adapt and change the system now.

Researcher 14:25: Very good, yes, absolutely. So security is a huge issue and I'll go one better, what I've just written to you is, so to speak, Blockchain Generation 1, i.e. what Bitcoin uses. However, there is a further development and, strictly speaking, yet another further development. It's called blockchain-based smart contracts. And that, well I'm doing research into blockchain-based contracts and tourism and smart contracts, is a so-called intelligent contract, because now we're getting a different twist, a digital contract that is concluded directly between users and is executed automatically. So in the past, you would just put data into a block and now you would put in a digital contract between two users, which is automatically executed for example, imagine a customer wants to book a hotel room. Instead of using a booking platform as an intermediary, they could deal directly with the hotel via a blockchain platform network, whatever you call it. It exists in some form, it doesn't really exist yet and this booking process would be recorded in the intelligent contract with the booking information arrival, departure, room price, payment details, cancellation options, important issues and that would be recorded and that means. If these rules are adhered to, i.e. you have not cancelled, you have not arrived, you have to pay. This intelligent contract would be executed automatically, i.e. the hotel gets the money and the customer is out the money if the Noah has and the cancellation conditions say that and indeed, since this is a decentralised and transparent database. This is, as I see it, a network where everyone works together, co-operatively and clearly, hotel and customer can look at the contract. So one user, the hotel, can see the contract, everyone else can't, but the others can't manipulate it either. That means it is unchangeable. Blockchain is described as a trust-less system, which generates trust. So I don't need an intermediary whom I trust to make the contract, but the system does it itself, which means we don't need a booking platform either, because everything can be played directly via a blockchain and many researchers say that if we were to use this technology in tourism, then it would be for the booking platform, which only mediates. They don't make the contracts either, they just broker contracts exactly, so in research this could be a game changer in the industry and for methodological reasons I'm going to show you a diagram from my PD. This is based on my research, the literature worldwide, which then loads a bit, in the best of all cases, you can now see what. Perfect. So I'm researching blockchain based distributed ledger for smart payment contract and reviews. I forget that every time. The technology also includes the review, the smart contract holds. There was a booking and only that person is allowed to do a review, because we know that fake reviews are a problem and the status quo, so to speak, is the market dominance of the booking platforms, which sit between the consumer and the hotel, for example, and I'm investigating the possible influence on the right side that actually all users could, if they had some mechanism between them, I've always written it like this, there's the Ecolodge in Bangladesh and the New York couple, who now perhaps don't want to send their credit card directly to Bangladesh, but want to send their credit card directly to Bangladesh, but they have their credit card details in their blockchain wallet like in the Bitcoin wallet and connect to the wallet, the Ecolodge, and that could potentially change the market completely. Where platforms like Airbnb and Booking.com are more of a niche, but the

Marktdominanz der Buchungsplattformen, die sich zwischen den Consumer das Hotel zum Beispiel setzen und ich untersuche die mögliche Influence auf der rechten Seite das eigentlich könnten alle Nutzer, wenn sie irgendein Mechanismus zwischen sich hätten, ich hab das immer so geschrieben, da ist die Ecolodge in Bangladesch und das New Yorker Ehepaar, die jetzt nicht vielleicht direkt ihre Kreditkarte nach Bangladesch senden möchte, sondern sie haben Ihre Kreditkartendetails in Ihrer Blockchain Wallet wie in der Bitcoin Wallet und Connecten sich mit der Wallet, der Ecolodge, und das könnte potenziell dazu führen, dass sich der Markt komplett verändert. Wo so Plattform wie Airbnb, Booking.com eher so ne Nische abbilden, die Masse aber, und da würde ich jetzt gerne Ihre Meinung zu meiner Forschung hören, jetzt hab ich nämlich viel geredet.	masses, and I'd like to hear your opinion on my research, because I've talked a lot now.
Interviewee 11 18:41: Ja. Mhm. Also ich denke ich, ich lass das das Spannendste, weil das was jetzt entlang Blockchain ist es jetzt nicht genau so, aber halt bei XXXX oder Hotels die sich selbst vermarkten. Weil wir sind also jetzt XXXXXX genommen, wir sind nicht auf irgendeiner Vermittler Page und von denen abhängig, ob die Buchungen reinkommen oder nicht oder tralala etcetera, sondern das wird 1 zu 1 durch uns gemacht, was aber nur für uns ja auch zugänglich ist. Ne, also es ist nur unseres. Ich denke aber, wenn es so eine Plattform von was auch immer die dann lebt. Ins Leben gerufen wird oder das dann im Hotelmarkt, Tourismusmarkt gemacht wird, dann werden aber auch die anderen Plattformen entweder komplett die dann nicht mehr existieren irgendwann, weil ich glaub auch mit einer Zeit entweder die werden. Ja, die gibt es dann nicht mehr. Wenn sich viele Unternehmen dann entscheiden, hey, wir machen das, so ist es sicher, ist es einfacher. Auch Kostenfaktor ist immer ein Teil davon. Je nach dem Kosten nutzen Faktor. Dann kann es werden. Wenn es aber teilweise nicht so dominant ist und nicht alle daran, nicht viele daran teilnehmen und mir dann doch noch bei booking.com, sag ich jetzt mal, bleiben, aus welchen Gründen auch immer. Kann es einen Moment geben, wo man sagt, ja, das nutzen wir aber dann irgendwann. Nee, weil dann doch Booking oder so die ganzen anderen dominanter werden. Das heißt, da muss man, glaube ich, was aus Unternehmer Sicht, was hab ich da einen Vorteil, was habe ich davon, den Vorteil, wo sind die Vorteile, kosten nutzen am Ende des Tages überwiegend, das nutzen wir dann.	Interviewee 11 18:41: Yes. Mhm. So I think I'll leave that as the most exciting thing, because what's happening along blockchain isn't exactly the same now, but it is with XXXX or hotels that market themselves. Because we are now XXXXXX, we are not on some intermediary page and dependent on them whether the bookings come in or not or tralala etcetera, but that is done 1 to 1 by us, which is only accessible to us. No, so it's only ours. But I think that if there is a platform like this, whatever it is, that lives from it. I think that if a platform like this is launched or it's done in the hotel market, the tourism market, then the other platforms will either completely cease to exist at some point, because I believe that over time either they will. Yes, they will no longer exist. If many companies then decide, hey, we'll do it, that's for sure, it's easier. The cost factor is also always a part of it. Depending on the cost utilisation factor. Then it can become. But if it's not so dominant in some cases and not everyone takes part, not many take part and then stay with booking.com, let's say, for whatever reason. Can there be a moment when you say, yes, but we'll use that at some point. No, because then booking or something will become more dominant. In other words, I think you have to decide from an entrepreneurial point of view, what advantage do I have, what do I get out of it, what are the advantages, what are the costs, at the end of the day we mainly use that.
Researcher 20:33: Genau bei den Kosten. Ganz wichtige Zwischenfrage bei mir in der Grafik steht Kommission 15 bis 30% das ist das, was in der Literatur angegeben wird und ihre Meinung als Expertin ist das ein realistischer Wert.	Researcher 20:33: Exactly with the costs. Very important intermediate question in my case, the chart says commission 15 to 30%, that's what's stated in the literature and in your opinion as an expert, that's a realistic value.
Interviewee 11 20:49: Booking.com ist das Höchste, Booking.com ist, glaube ich aktuell bei 25 oder 30%. Kommission was dahin geht, also booking.com, ist das höchste, wo, wo man Kommission tatsächlich zahlt, ja.	Interviewee 11 20:49: Booking.com is the highest, I think Booking.com is currently at 25 or 30%. Commission that goes there, so booking.com, is the highest, where you actually pay commission, yes.
Researcher 21:04: Genau, sie hatten schon ein paar Sachen schon teilweise Faktoren genannt. Also also jetzt geht es darum so was wären Dinge, die das ganze System fördern und was wären Themen die das System vielleicht behindern würden zu sich zu entwickeln?	Researcher 21:04: Exactly, you've already mentioned a few things as partial factors. So now it's about what would be things that promote the whole system and what would be issues that might hinder the system to develop?
Interviewee 11 21:21: Fördern wir, glaube ich, vom Unternehmer und Gastseite die Einfachheit und die Sicherheit für das Unternehmen. Das heißt, wenn man sagt. Ganz banal: Gast bucht hinterlegt eine Karte oder wir haben das Geld da im Falle von No Show/ Cancellation was auch immer das ist glaube ich von Unternehmer sich das Allerwichtigste wie da der Prozess ist. Auf der anderen Seite aber auch für jetzt aus XXXXX Sicht gesprochen, wie es für den Gast am einfachsten zu buchen ist, weil da legt man sehr viel Wert auf die Guest Journey also wo bekommt der Gast diese Information her, dass er auf dieser Plattform des Buchen kann? Das ist, wenn es für den Gast einfacher ist, wenn das Google XXXXX Nürnberg muss, diese Plattform als aller erstes auftauchen und dass er da drauf klicken kann und nicht irgendwas anderes. Wenn momentan eingibt kommt unsere Homepage, weil kein booking.com wird von anderen Häusern ein kommt booking.com als allererstes.	Interviewee 11 21:21: Let's promote simplicity and security for the company, I think, from the entrepreneur and guest side. That is, if you say. Quite banal: Guest books a ticket or we have the money there in case of no show/cancellation whatever that is I think the most important thing for the entrepreneur is how the process is. On the other hand, from XXXXX's point of view, how is it easiest for the guest to book, because a lot of emphasis is placed on the guest journey, so where does the guest get this information that he can book on this platform? That's when it's easier for the guest, when Google XXXXX Nuremberg has to be the first platform to appear and that they can click on it and not something else. If you enter our homepage at the moment, because no booking.com is used by other hotels, booking.com comes up first.
Interviewee 11 22:20: In der Geschichte, und das glaube ich was was ist, fördern könnte einfach, dass das ist für das Unternehmen und für für den Gast leicht und sicher ist. Schwierigkeit wird glaub ich einfach durch die Dominanz der anderen bestehenden. Plattformen seien. Die zu übertreffen oder die. Sag ich jetzt mal vom Platz zu stoßen. Das ist das gleiche wie bei XXXXX. Wenn sie jetzt neu auf den Markt gegangen gekommen sind, diese neu auf den Markt. Es gibt Motel One, es gibt die anderen Sachen, die kriegen wir hin, dass die Leute uns vertrauen, uns zu uns kommen, und das ist ein Jahresprozess mit ganz verschiedenen Aktionen mit, angefangen bei den Teams beim gestern bis unser Vermarktung und da sind wir immer noch alle dran. Aber ich glaub, das wär das schwierigste glaube ich für so eine Plattform die bestehenden. Daran zu also ein Platz 1 zu kommen. Weil wenn man dann oben ist oder sagt, Hey, wir sind die, wo viele schon da dran sind. Dann würden sich mehr daran teilnehmen. Und dann wird das andere ja dann ein bisschen in den Hintergrund Rücken.	Interviewee 11 22:20: In the story, and I think that's what's important, it could simply be that it's easy and secure for the company and for the guest. I think the difficulty will simply be the dominance of the other existing platforms. platforms. To surpass them or the. I'm going to say knock them off their perch. It's the same as with XXXXX. If they are new to the market now, they are new to the market. There's Motel One, there's the other things that we manage to get people to trust us, to come to us, and that's a year-long process with very different actions, starting with the teams yesterday through to our marketing, and we're all still working on that. But I think that would be the most difficult thing for a platform like this, the existing ones. To get to number 1. Because if you're then at the top or say, hey, we're the ones where many are already there. Then more would take part. And then the other things take a bit of a back seat.
	Researcher 23:29: Then I'll give you an impulse at the end, so to speak, then I'd like your, your, your idea, that's exactly what I'm dealing with, so I

Researcher 23:29: Dann dann gebe ich Ihnen sozusagen zum Ende noch so einen Impuls, dann würde ich ihre, ihre, ihre Idee gerne genau damit beschäftige ich mich also, diese praktische Anwendung soll ich jetzt nicht weiter verfolgen, aber so die theoretische praktische Anwendung, und zwar die Rolle von, denn das war spannend, die Rolle von Künstlicher Intelligenz hat in den letzten Monaten, also ich bin seit 4 Jahren an meiner Doktorarbeit, und jetzt brauch ich noch so ein extra Kapitel künstliche Intelligenz und jetzt ich, ich darf jetzt mal nur so einen Raum, weil es ist halt die Frage, ob in Zukunft Menschen überhaupt noch Googlen Hotel Stuttgart oder ob sie nicht eher einen künstlichen Travel Assistant, es ein künstlich intelligenten Travel Assistent haben, der im Netz das richtige Hotel rausgesucht, weil Menschen wollen keine Liste von Webseiten, Menschen wollen Antworten zu ihren Fragen und da wäre so eine Idee, wenn Blockchain sozusagen in der dritten Generation, also weil wir besprechen gerade zweite Generation aber durch den Fortschritt von KI ist jetzt eigentlich schon die dritte Generation, dass man eben in seiner Wallet für Buchungen auch sein KI Travel Assistent hat, der sucht das richtige Hotel.

shouldn't pursue this practical application any further now, but the theoretical practical application, namely the role of, because that was exciting, the role of artificial intelligence has in recent months, so I've been working on my doctoral thesis for 4 years, and now I need an extra chapter on artificial intelligence and now I, I'm only allowed one room, because it's just the question, whether in future people will still be Googling Hotel Stuttgart at all or whether they won't have an artificial travel assistant, an artificially intelligent travel assistant that searches the web for the right hotel, because people don't want a list of websites, people want answers to their questions and there would be such an idea if blockchain were in the third generation, so to speak, because we are currently discussing the second generation, but due to the progress of AI it is now actually already the third generation, that you also have your AI travel assistant in your wallet for bookings, which searches for the right hotel.

Interviewee 11 24:39: Ich glaub KI ist ein ganz spannendes Thema. Weil es wird kommen, ob jeder will oder nicht und egal auf welche Art und Weise. Und das hängt dann aber, wenn man ganz weit aus wird, auch von der Gesellschaft ab, wie die Gesellschaft sich, ob sie sich ändert oder ob sie sich einmal ändert und dann wieder zusammenbricht. Das ist dann davon sehr abhängig, Was natürlich sein kann, ist, dass man einfach die KI nutzen sagt such mir das aus. Und dann sucht er dir nach Parametern oder was auch immer da integriert ist. Das aus, das wird sein, auch wenn die Leute sich das nicht vorstellen können. Aber ich denke so ein paar Jährchen werden wir dann mehr und mehr hinkommen und dann versuchen, uns dann zu adoptieren mit den ganzen Geschichten. Ob das dann auf lange Sicht gut ist und passt? Weiß keiner, aber das wird es auch. Denke ich schon, dass das ein Thema. Das wird genauso, wenn jetzt Leute ganz banal daheim Alexa haben und sagen, such mir das nächste Café aus, dann spuckt es dir gleich aus. Das wird auch irgendwann auf den die größeren Geschichten annehmen. Wann das ist? Heute morgen 1,2,3,4, 5 Jahren. Weiß ich nicht.

Interviewee 11 24:39: I think AI is a really exciting topic. Because it will come, whether everyone wants it or not and in whatever way. And then, if you go really far out, it also depends on society, how society changes, whether it changes or whether it changes once and then collapses again. That's very dependent on it. What can happen, of course, is that you can simply use the AI to say choose this. And then it searches for parameters or whatever is integrated there. That will happen, even if people can't imagine it. But I think in a few years we'll get there more and more and then try to adopt ourselves with all the stories. Will it be good and suitable in the long term? Nobody knows, but it will. I think that will be an issue. It'll be the same if people have Alexa at home and say, "Pick the nearest café and it'll spit it out for you. At some point, this will also become part of the bigger stories. When will that be? This morning 1,2,3,4, 5 years ago. I don't know.

Researcher 26:04: Ja genau ne dieser, dieser dieser Blick in die Glaskugel. Natürlich schwierig, aber spannend ist, dass dieser AI Aspekte oder künstliche Intelligenz Aspekte ist. Mir sozusagen noch in die Arbeit reingerutscht, deswegen frag ich dann direkt bei den Experten nach, weil da gibt es tatsächlich zu diesen Travel Assistance KI gestützt gibt es wenig Literatur, aber ich muss ja auch ein Ausblick für andere Forscher geben, deswegen also ja tatsächlich Punktlandung, ich glaub 12:29 Uhr, also ich habe alle meine Fragen gestellt, haben Sie vielleicht noch.

Researcher 26:04: Yes, exactly this, this look into the crystal ball. It's difficult, of course, but what's exciting is that these AI aspects or artificial intelligence aspects. I slipped into the work, so to speak, so I ask the experts directly, because there is actually very little literature on this travel assistance AI, but I also have to give an outlook for other researchers, so I actually landed on the dot, I think 12:29, so I've asked all my questions, maybe you still have some.

Interviewee 11 26:24: Das wird bestimmt sein. Sehr gut.

Interviewee 11 26:24: That will certainly be the case. Very good.

Researcher 26:33: Was ist denn noch irgendwas eingefallen? Wir sagen ja, Liebes so, das könnte doch vielleicht auch spannend sein, also gibt es vielleicht zum Beispiel irgendwelche Schlüsseltechnologie, mit denen sich sonst gerade so beschäftigen.

Researcher 26:33: What else did you think of? We say, dear, that could perhaps also be exciting, for example, are there any key technologies that other people are currently working on?

Interviewee 11 26:45: Schlüsseltechnologie nicht, aber ich glaube, das ist ein ganz großer Aspekt beim Hotel, was Technologie betrifft. Der Mensch an sich. Weil je mehr Technologie also ich, wir kennen zum Beispiel XXXXXX in den UK, da kann man online und man hat keine Menschen mehr an der Rezeption, sondern man hat nur Check ins Geschichten. Was die Hotel wie zwar machen kann um das zu erleichtern, aber Hotel, Tourismus, all die Dienstleistungen besteht aus Menschen und auch wenn es vielleicht nicht so präsent sein wird, aber dieser Teil. Wird nie , wegkommen, egal wie oft man das versucht. Und wie schwierig das auch ist, ne Kombi Wäre fantastisch. Mit all den Technologien, was man hat, wenn man kann. So viel erleichtern. Man kann das so vieles einfacher machen mit Technologien, wir hatten bestes Beispiel jetzt NSF Audit, der die gesamten Küchen-Procedere und alles, was lebenswichtig ist, analysiert hat, wenn das alles digital verläuft, wenn das alles integriert ist und man das überall auf einem Database für alle hat, ja egal ob die Kühlschränke sind, ob irgendwas spuckt das auch Werte aus genauso wie Energien Energien ist ein ganz großes Thema im Hotel vor allem das alles Monitored wird und trallala also es wird viel Technologien. Ist im Hotel gibt es verschiedene Aspekte. Das ist jetzt so die Buchungsplattform. Geschichten aber in einem Hotel oder Tourismus an sich gibt es ja mehrere Bereiche, was man als Eins Auch irgendwann zusammen führen kann.

Interviewee 11 26:45: Not key technology, but I think that's a really big aspect of the hotel as far as technology is concerned. The people themselves. Because the more technology, I mean, we know XXXXXX in the UK, for example, where you can go online and you no longer have people at reception, you just have check-in stories. What the hotel can do to facilitate that, but hotel, tourism, all the services are made up of people and even though it might not be as present, but that part. Will never get away, no matter how many times you try. And however difficult that is, a combination would be fantastic. With all the technology, what you have if you can. Make so much easier. You can make so many things easier with technology, the best example we had was the NSF audit, which analysed the entire kitchen procedure and everything that is vital, if it all runs digitally, if it's all integrated and you have it everywhere on a database for everyone, regardless of whether the fridges are, whether something spits out values, just like energies Energies are a very big issue in the hotel, especially all the topic in the hotel, especially that everything is monitored and trallala, so there is a lot of technology. There are various aspects in the hotel. This is now the booking platform. Stories but in a hotel or tourism as such there are several areas, which can also be brought together as one at some point.

Researcher 28:28: Sehr gut. Darf ich das, was sie gerade am Ende sagt, so unter dem Stichwort Ich muss das später in so Keywords Ordnung, so Smart Hotel.

Researcher 28:28: Very good. Can I put what she just said at the end under the keyword I have to organise it into keywords later, so Smart Hotel.

Interviewee 11 28:36: Ja, mit Menschen.

Interviewee 11 28:36: Yes, with people.

Researcher 28:37: Es war genau smart, also ist die smarten Technologien helfen den Menschen, ihren Job so irgendwie sagten Kühlschränke, die einfach auf eine zentrale Stelle melden, dass der Mensch aber sieht, hier alle Kühlschrank funktionieren und und das System schreibt dann auch, der

Researcher 28:37: It was exactly smart, so the smart technologies help people to do their job so somehow said refrigerators that simply report to a central location, but that the person sees that all the refrigerators are working here and the system then also writes that the refrigerator is broken before everything spoils. As I said, I used to work in the hotel industry, so in my day you sometimes lost food because the fridge didn't call me and today

Kühlschrank ist kaputt bevor alles verdirbt. Ich hab ja wie gesagt in der Hotellerie gearbeitet, also zu meinen Zeiten dann hat man schon mal auch mal Lebensmittel verloren weil der Kühlschrank mich nicht angerufen hat und heute ist das eigentlich immer meine Waschmaschine sagt mir auch gerade was was gerade mit Ihr Passiert, dann würde ich das eben genau, dann würde ich das unter diesem Keyword zusammenfassen, den tatsächlich glaub, das ist ein großer Wunsch von Hotelmanagern, dass das einfach schneller und weiter, weil das bindet Ressourcen und man hat schon , zu wenig Angestellte, so haben wir eigentlich alle oder man hat Problem zurück routen. Transcription ends to ensure anonymity.	it's actually always my washing machine telling me what's happening to it, then I would summarise that exactly, then I would summarise that under this keyword, because I actually think that's a big wish of hotel managers that this is simply faster and further, because that ties up resources and you already have too few employees, so we actually all have or you have to route problems back. Transcription ends to ensure anonymity.

Bilingual Interview Transcript Interviewee 12

Transkription des Interviews vom 26. Juli 2023 Zeitstempel: 9:05 AM Dauer: ca. 27 Minuten Researcher 0:03: Die Teams-Lizenz bei mir in England, die hat die Transkriptionsfunktion super gut. Researcher started transcription. Researcher 0:09: So, es transkribiert auf Deutsch, ja perfekt, super, dann ja, vielen Dank, dass du dich für das Interview bereit erklärt hast. Für die Anonymisierung, du bist Präsident in einer regionalen Hotel- und Tourismusorganisation, ich muss das dann noch auf Englisch übersetzen, aber das wäre dann deine Anonymisierung. Bist du damit einverstanden? Interviewee 12 0:32: Ja, vollkommen einverstanden damit. Researcher 0:37: Super. Dann, wie gesagt, das Zweite, wir transkribieren, das hatte ich dich ja gefragt, ob ich das aufnehmen darf, es bleibt anonymisiert, das wird nicht bekannt, ausdrücklich wir es ist ein so ein semi-strukturiertes Interview, wo am Ende ich die gesamten Meinungen der Experten nochmal einmal aggregiere und dir nochmal zukommen lasse. Also, du siehst auch, was die anderen gesagt haben, nicht im Detail, aber ich suche nach so einem Konsensus in der Tourismusindustrie, das heißt, es wird entweder ein kurzes zweites Telefonat, vielleicht wirklich 5 Minuten geben oder ich mache das so mit einem Online-Fragebogen-Schieberegler, das muss ich noch abklären, was da gewünscht ist. Ja, ansonsten habe ich so eine, ich sag mal, ganz allgemeine Einstiegsfrage zu meiner Forschung. Interviewee 12 1:17: Mhm, mhm. Researcher 1:24: Wie bewertest du den Einfluss von ganz allgemein Informationstechnologien auf den Tourismus und speziell auf die Vermittlung zum Beispiel von Hotelbuchungen? Also wie hat Technologie, vor allem wenn man in die Vergangenheit guckt, die Industrie beeinflusst? Interviewee 12 1:48: Es hat sie in der Hinsicht beeinflusst, dass wir durch verschiedenste Informationsmedien weggekommen sind von diesen Stammgästen, ich gehe immer dorthin, ich war immer dort. Vielmehr sind jetzt Bewertungen, Kosten etc. ausschlaggebend. Wo sich jeder viel mehr informieren kann, und das sind ausschlaggebende Kriterien, nicht mehr, das kenne ich schon, habe ich mich wohl gefühlt, fahre ich wieder hin. Researcher 2:24: Mhm, ja, super spannender Aspekt, wenn ich das noch sozusagen den Faden aufnehmen darf, wenn man das jetzt, wenn man das jetzt schon von der Perspektive einmal dreht, was glaubst du, warum buchen Kunden bei Vermittlern? Das steckte da schon ebenso ein bisschen drin, aber vielleicht nochmal ganz konkret. Interviewee 12 2:42: Weil ich die Übersicht dort viel besser kriege. Also ich habe eine eine Seite, eine eine App, einen Ansprechpartner und muss mich nicht mit zig verschiedenen auseinandersetzen und die Arbeit, das einzeln rauszusuchen, habe ich einfach nicht. Ich habe den Überblick bei den Vermittlern und was glaube ich für viele auch ein großer Punkt ist auch für mich persönlich, sind gewisse Rabatte, die ich nach einer bestimmten Anzahl von Buchungen entsprechend bekomme. Researcher 2:55: Mhm. Mhm. Ja, wichtiger Punkt. Also wenn wir jetzt davon sehen, also wir haben jetzt so die Kundenperspektive gesagt, und ich glaube, da sind wir uns auch relativ einig. Wenn ich das jetzt mal so überspitzt sagen darf. Wie schätzt du den Einfluss dieser Buchungsportale?	Transcription of the interview from 26 July 2023 Timestamp: 9:05 AM Duration: approx. 27 minutes Researcher 0:03: The Teams licence with me in England, it has the transcription function super well. Researcher started transcription. Researcher 0:09: So, it transcribes in German, yes, perfect, great, then yes, thank you very much for agreeing to do the interview. For the anonymisation, you're the president of a regional hotel and tourism organisation, I'll have to translate it into English, but that would be your anonymisation. Do you agree with that? Interviewee 12 0:32: Yes, I completely agree with that. Researcher 0:37: Great. Then, as I said, the second thing, we transcribe it, I asked you if I could record it, it remains anonymised, it doesn't become known, we explicitly say it's a semi-structured interview, where at the end I aggregate all the experts' opinions again and send them to you again. So, you can also see what the others have said, not in detail, but I'm looking for a consensus in the tourism industry, which means that there will either be a short second phone call, maybe 5 minutes really, or I'll do it with an online questionnaire slider, I still have to clarify what is desired. Yes, otherwise I have a, I'll say, very general introductory question about my research. Interviewee 12 1:17: Mhm, mhm. Researcher 1:24: How do you assess the influence of information technologies in general on tourism and specifically on the mediation of hotel bookings, for example? So how has technology influenced the industry, especially if you look at the past? Interviewee 12 1:48: It has influenced it in the sense that we have moved away from these regular guests, I always go there, I've always been there, through various information media. Now it's much more about reviews, costs, etc. Where everyone can inform themselves much more, and these are decisive criteria, no more, I already know that, I felt comfortable, I'll go there again. Researcher 2:24: Mhm, yes, super exciting aspect, if I may pick up the thread, so to speak, if you turn it around from the perspective of why do you think customers book with agents? That was also a bit in there, but perhaps in more concrete terms. Interviewee 12 2:42: Because I get a much better overview there. So I have one site, one app, one contact person and I don't have to deal with umpteen different ones and I simply don't have the work of looking them up individually. I have an overview of the agents and what I think is also a big point for many people, including me personally, are certain discounts that I get after a certain number of bookings. Researcher 2:55: Mhm. Mhm. Yes, that's an important point. So if we look at it from the customer's perspective, and I think we're in relative agreement on that. If I may put it bluntly. How do you rate the influence of these booking portals? So Booking, HRS, all these players, the influence of these companies on the entire tourism industry, their influence?

Also Booking, HRS, all diese Player, den Einfluss dieser Unternehmen auf die gesamte Tourismusindustrie ein, deren Einfluss?	
Interviewee 12 3:46: Der Einfluss ist immer, immer größer geworden und wird gefühlt auch immer größer, weil diese Tendenzen, wie sie vor ein paar Jahren gab, eigentlich der einzelnen Leistungserbringer im Tourismusbereich, sich davon zu lösen, hat nicht geklappt. Das heißt, man muss diesen Konsens finden, man kommt nicht daran vorbei, mit denen zusammenzuarbeiten. Früher waren es die Pauschalreiseanbieter, mit denen man zusammengearbeitet hat. Das werden immer weniger, das sind eher diese Buchungsplattformen, worüber eigentlich kein Leistungsträger mehr daran vorbeikommt, seine Angebote darüber zu streuen. Und wie gesagt, wir werden ja auch ausgeweitet. Weg rein von Hotelplattformen hin, dass ich dort alle Leistungen, die ich für eine Reise in Anspruch nehmen möchte, buchen kann.	Interviewee 12 3:46: The influence has always, always grown and it feels like it's getting bigger and bigger, because the tendency of the individual service providers in the tourism sector to break away from it, as it was a few years ago, hasn't worked. That means you have to find this consensus, you can't avoid working with them. In the past, it was the package holiday providers that we worked with. These are becoming fewer and fewer; it's more these booking platforms that no service provider can avoid using to distribute their offers. And as I said, we are also expanding. We're moving away from hotel platforms and towards being able to book all the services I want for a trip.
Researcher 4:46: Super, ganz, ganz, ganz toller Punkt. Also das ist ganz, ganz entscheidend diese Entwicklung. Wenn ich jetzt noch einmal von der Perspektive umdrehen darf von den Kunden, was glaubst du ist der Hauptgrund, warum Kunden nicht direkt bei den Hotels buchen?	Researcher 4:46: Great, great, great, great point. So this development is very, very decisive. If I can now turn around from the customer's perspective, what do you think is the main reason why customers don't book directly with the hotels?
Interviewee 12 5:07: Wie gesagt, einerseits die Bequemlichkeit, dass ich nicht verschiedene, also wirklich, dass ich sage, ich habe eine Plattform, über die ich alles abwickeln kann. Sicher auch das Thema Daten. Na, ich gebe gefühlt einer Plattform meine Daten und nicht verschiedenen Plattformen und tatsächlich wie gesagt Bequemlichkeit, Schnelligkeit, das ist glaube ich der ausschlaggebende Punkt. Unsere Zeit ist so schnelllebig einfach geworden, dass das ein ausschlaggebender Punkt ist.	Interviewee 12 5:07: As I said, on the one hand, the convenience of not having to use different, i.e. really saying that I have a platform through which I can handle everything. Certainly also the issue of data. Well, I feel like I'm giving my data to one platform and not different platforms and, as I said, convenience and speed, I think that's the crucial point. Our times have simply become so fast-moving that this is a crucial point.
Researcher 5:36: Mhm. Ich nehme den Faden direkt auf. Du sagst mit den Daten, ich gebe dir nur ein Keyword, spielt da auch etwas mit Vertrauen, hat Vertrauen etwas damit zu tun?	Researcher 5:36: Mhm. I'll pick up the thread directly. You say with the data, I'll just give you a keyword, is there also something to do with trust, does trust have anything to do with it?
Interviewee 12 5:59: Ja und Nein. Also tatsächlich ist es einerseits dieses Vertrauen, ich habe eine Plattform, der ich meine Daten gebe, obwohl jeder Kunde ja weiß, okay, ich muss spätestens im Hotel meinen Meldeschein ausfüllen, zumindest im deutschsprachigen Raum ist es ja einfach so, was das angeht.	Interviewee 12 5:59: Yes and no. So it's actually this trust on the one hand, I have a platform that I give my data to, although every customer knows, okay, I have to fill out my registration form at the hotel at the latest, at least in German-speaking countries it's just like that, as far as that's concerned.
Researcher 6:13: Hm.	Researcher 6:13: Hm.
Interviewee 12 6:22: Aber tatsächlich ist es, glaube ich, also so ein bisschen gutgläubiges Vertrauen, was man damit suggeriert.	Interviewee 12 6:22: But actually, I think it's a bit of bona fide trust that's being suggested.
Researcher 6:30: Ja, das ist ein schönes Keyword, das hatte ich bis jetzt noch nicht bei den Interviews, das mag ich, muss gucken, wie ich das ins Englische übersetze, sehr gut. Jetzt kommt gefühlt ein super harter Bruch. Weil, was wir jetzt besprochen haben, ist sozusagen einfach nur meine erste Forschungsfrage, die durch Interviews unterstützt wird. Und du merkst schon, mir geht es ganz viel um Buchungsplattformen Technologien, deswegen kommt jetzt so ein ganz harter Bruch. Hast du dich schon mal mit Blockchain und dem potenziellen Einfluss auf die Vermittlung von Dienstleistungen wie Hotelbuchungen beschäftigt? Wie könnte da, hast du da eine Meinung zu, Blockchain und Tourismus?	Researcher 6:30: Yes, that's a nice keyword, I haven't had that in the interviews yet, I like it, I'll have to see how I translate it into English, very good. Now it feels like a super hard break. Because what we've just discussed is simply my first research question, so to speak, which is supported by interviews. And as you can see, I'm very much interested in booking platform technologies, which is why there's now such a hard break. Have you ever looked into blockchain and its potential impact on the provision of services such as hotel bookings? How could, do you have an opinion on blockchain and tourism?
Interviewee 12 7:12: Tatsächlich selber hab ich mich nicht wirklich damit beschäftigt. Ich weiß, dass es in der Branche durchaus ein Thema ist. Ich selber habe mich damit nicht beschäftigt.	Interviewee 12 7:12: I haven't really looked into it myself. I know that it's definitely an issue in the industry. I haven't looked into it myself.
Researcher 7:16: Mhm. Mhm, finde ich ganz spannend. Hast du denn von Kollegen mal was dazu, irgendwie mal im Gespräch, vielleicht mal was aufgeschnappt oder so?	Researcher 7:16: Mhm. Mhm, I find that quite exciting. Have you ever heard anything about it from colleagues, somehow in conversation, maybe overheard something or something?
Interviewee 12 7:32: Wenig. Also ich weiß, dass es immer wieder irgendwie mal Thema ist. Kann jetzt aber nichts Genaues sagen. Ne, das sind die Punkte, die von allen da da immer wieder aufgezeichnet werden.	Interviewee 12 7:32: Not much. Well, I know that it's always a topic from time to time. But I can't say anything specific right now. No, those are the points that everyone keeps recording.
Researcher 7:46: Genau. Ja.	Researcher 7:46: Exactly. Yes.
Interviewee 12 7:53: Ist auch ein Thema, wenn ich mir so überlege, okay, bei wem hab ich dazu mal was gehört? Gefühlt eher Richtung Kettenhotellerie, großes weniger im privaten Hotellerie Sektor.	Interviewee 12 7:53: It's also an issue, when I think about it, okay, who have I heard about it? It feels more like the chain hotel industry, less so in the private hotel sector.
Researcher 8:09: Ja genau, kein Problem. Also wir machen das jetzt nämlich so, das ist nämlich genau der Punkt, worüber ich forsche, das ist der Kern meines Punktes, also den Einfluss von Blockchain auf den Tourismus, und das wollte ich damit nicht sagen. Es ist ein ganz neues Thema, wo es aber in der Wissenschaft da ist, also da gibt es so einen Trend, dass immer mehr zu dem Thema forschen und um das zu vertiefen, ich hab so einen kleinen Text, den ich jetzt vorlese, um erstmal so die Grundfunktionalitäten von Blockchain darzustellen und dann gehen wir sozusagen weiter. Ich muss jetzt so nach rechts gucken, weil ich hab hier so ein Skript, also Blockchain ist erstmal eine ganz einfache Technologie, bei der Informatio-	Researcher 8:09: Yes, exactly, no problem. That's exactly what we're doing now, because that's exactly what I'm researching, that's the core of my point, i.e. the influence of blockchain on tourism, and that's not what I wanted to say. It's a completely new topic, but it's there in science, so there's a trend that more and more research is being done on the topic and to go into it in more depth, I have a little text that I'm going to read out now to present the basic functionalities of blockchain and then we'll go further, so to speak. I have to look to the right now because I have a script here, so blockchain is a very simple technology in which information, digital information, is stored in the form of so-called digital data blocks. The data block

nen, digitale Informationen in Form von sogenannten digitalen Datenblöcken gespeichert werden. Der Datenblock fasst sozusagen eine gewisse Menge an Daten und dann ist er voll. Was spannend ist, diese Blöcke werden miteinander verschlüsselt, um eine sichere und transparente Datenbank zu erstellen.

Interviewee 12 8:43: Alles gut.

Researcher 9:09: Das musst du dir so vorstellen. Also der Block ist voll und bevor er sozusagen zu gemacht wird und abgespeichert wird, schaut er sich an, welcher ist der Block in der Datenbank direkt davor, macht daraus einen Code und dieser Code des Blocks davor wird damit reingegeben. Deswegen Blockchain, das heißt, wenn jemand irgendwo anfangen würde in einem Block zu manipulieren, würde die Kette brechen und man würde sagen hier stimmt was nicht und jetzt wird es spannend, diese Blockchain liegt eben nicht nur auf einem Server, auf einer zentralen Autorität, sondern wird von ganz vielen Computern gleichzeitig oder Servern gleichzeitig verwaltet. Das heißt, wenn irgendwo in diesem Netz einmal eine Block bricht, sagen alle anderen, nee, nee, Entschuldigung, das macht es ebenso spannend, weil es gegenüber, also Blockchain ist, schwer zu manipulieren oder etwas zu löschen oder zu hacken, das ist halt sehr, sehr schwer und es hat aber eben trotzdem die Sicherheit, dass Menschen, die sich nicht kennen oder Peers nennen wir die, dass die miteinander ja Transaktionen abwickeln können. Deswegen oft wird Blockchain mit Bitcoin in Verbindung gebracht, wo halt ohne eine zentrale Autorität wie eine Zentralbank oder eine Bank, die alles schützt und alle Daten schützt, dadurch dass alle Teil eines Systems sind, braucht es da eben keinen Vermittler mehr. Das heißt, der Finanzindustrie, die Idee war ja, Vermittler auszuschließen aus dem ganzen System, und jetzt habe ich natürlich schon ein bisschen in die Richtung gegeben, so kannst du jetzt den Einfluss, den die Forscher, also es gibt es in der Form so noch nicht, aber was die Forscher sich vielleicht denken.

Interviewee 12 10:46: Mhm. Klar, jetzt bezogen auch unser vorhergehendes Thema. Klar, das ist so die Frage, können wir die Vermittler wie Booking, HRS irgendwann außen vor lassen, gibt es diese Möglichkeit? Was in diesem Bereich natürlich ein ganz, ganz großer Punkt einfach ist, weil jeder Dienstleister für einen Vermittler sehr viel Geld zahlen muss, umgerechnet an seinem Umsatz, und damit ist es für diesen Bereich ein großes Thema, auch mit dem, was ich vorhin gesagt habe, dass es vor allem im Bereich Kettenhotellerie eher mal zum Thema kommt, dieser Vernetzung der einzelnen Häuser untereinander, was.

Researcher 11:49: Hm.

Interviewee 12 11:52: Leider bisher nicht gut funktioniert hat. Erst recht nicht weltweit. Was das angeht, das natürlich da verstärkte einzusetzen und.

Researcher 12:03: Mhm.

Interviewee 12 12:04: Das Erlebnis für den Kunden einfacher zu machen, indem ich alles, wenn er gebucht hat, in Anführungsstrichen weiß, weil ich diese Daten wiederum abgreifen kann, was er für Erfahrungen bereits vorher gemacht hat und.

Researcher 12:12: Mhm.

Interviewee 12 12:22: Andererseits auch. Einfacher als Anbieter das habe, weil ich alle relevanten Daten habe, ihnen im Grunde genommen wesentlich schneller in Anführungsstrichen bearbeiten kann.

Researcher 12:31: Hm. Ja, sehr gut. Ich habe mir eine Notiz gemacht, weil das sind sicher Punkt, sowas, ein nicht unerheblicher Teil des Umsatzes. Wie hoch ist der denn?

Interviewee 12 12:46: Kommission? Bei vielen zwischen 10 und 20%.

Researcher 12:52: Ja, genau, das ist ein nicht unerheblicher Teil, der wollte nur ich. Ich sammle halt Zahlen, weil klar die Buchungsplattform, also in der Literatur finde ich immer auch nur Schätzungen, aber die Experten wissen halt, und das ist ja, das ist nicht unerheblich, sind diese Formulierungen sehr gut.

Interviewee 12 12:54: Ja. Ja. Ja. Ja, 25% und die leider noch immer noch die Maßgabe, über Buchungsplattformen den günstigsten Preis anbieten zu können, teilweise anbieten zu müssen. Günstiger als auf der eigenen Website.

Researcher 13:08: Genau. Mhm. Genau, sehr gut. Tatsächlich, also aus methodischen Gründen. Du hast, du hast instinktiv schon gesagt, worüber ich forsche, aus methodischen Gründen kommt jetzt nochmal ein zweiter kleiner Block, über den ich ganz konkret forsche, und zwar, es geht um so-

holds a certain amount of data, so to speak, and then it's full. What's exciting is that these blocks are encrypted together to create a secure and transparent database.

Interviewee 12 8:43: All good.

Researcher 9:09: You have to imagine it like this. So the block is full and before it is closed and saved, so to speak, it looks at which block is in the database directly before it, makes a code out of it and this code of the block before it is entered into it. That's why blockchain means that if someone were to start tampering with a block somewhere, the chain would break and you would say something is wrong here.and now it gets exciting, this blockchain is not just on one server, on one central authority, but is managed by many computers or servers at the same time. This means that if a block breaks somewhere in this network, everyone else says, nope, nope, sorry, that makes it just as exciting, because it is difficult to manipulate or delete or hack something on the blockchain, which is very, very difficult, but it still has the security that people who don't know each other, or peers we call them, can carry out transactions with each other. That's why blockchain is often associated with Bitcoin, where without a central authority like a central bank or a bank that protects everything and protects all the data, because everyone is part of a system, there is no longer any need for an intermediary. In other words, the financial industry, the idea was to exclude intermediaries from the whole system, and now, of course, I've already given a bit of a direction, so you can now use the influence that the researchers, well, it doesn't exist in this form yet, but what the researchers might be thinking.

Interviewee 12 10:46: Mhm. Sure, now also related to our previous topic. Sure, that's the question, can we leave out intermediaries like Booking, HRS at some point, is that a possibility? Which is of course a very, very big point in this area, because every service provider has to pay a lot of money for an intermediary, converted to their turnover, and so it's a big issue for this area, also with what I said earlier, that it's more of an issue in the chain hotel industry in particular, this networking of the individual hotels with each other, what.

Researcher 11:49: Hm.

Interviewee 12 11:52: Unfortunately, it hasn't worked well so far. Especially not worldwide. As far as that is concerned, of course, the increased use and.

Researcher 12:03: Mhm.

Interviewee 12 12:04: Making the experience easier for the customer by knowing everything when they have booked, in inverted commas, because I can access this data again, what kind of experiences they have already had and.

Researcher 12:12: Mhm.

Interviewee 12 12:22: On the other hand, too. Easier than providers have, because I have all the relevant data, I can basically process it much faster in inverted commas.

Researcher 12:31: Hm. Yes, very good. I've made a note, because that's certainly a point, something like that, a not insignificant part of the turnover. How high is that?

Interviewee 12 12:46: Commission? For many, between 10 and 20%.

Researcher 12:52: Yes, exactly, that's a not insignificant part, that's just me. I just collect figures, because clearly the booking platform, so in the literature I only ever find estimates, but the experts know, and that's, that's not insignificant, these formulations are very good.

Interviewee 12 12:54: Yes. Yes. Yes. Yes, 25% and unfortunately still the requirement to be able to offer the cheapest price via booking platforms, sometimes to have to offer it. Cheaper than on your own website.

Researcher 13:08: Exactly. Mmm. Exactly, very good. In fact, for methodological reasons. You've, you've already instinctively said what I'm researching, for methodological reasons, there's now a second small block that I'm researching specifically, and that is, it's about so-called blockchain-based smart contracts, blockchain-based smart contracts, and for the sake of form, have you ever heard the term?

genannte Blockchain based Smart Contracts, also Blockchain basierte intelligente Verträge und der Form halber, hast du den Begriff schon mal gehört?

Interviewee 12 13:49: Äh, als solches nicht, was das angeht. Aber natürlich ist das von dem jetzt hier. Der nachfolgende Punkt, der daraus resultieren würde.

Researcher 13:59: Genau, tatsächlich, weil was wir eben besprochen haben, das Handy Blockchain Generation 1 und ich forsche über Blockchain Generation 2 und 3. Über 3 können wir gleich nochmal reden, ist aber kein Forschungsschwerpunkt, also Smart Contracts, intelligente Verträge zwischen 2 Nutzern, die automatisch ausgeführt werden, sobald bestimmte Bedingungen erfüllt sind, ohne Anwalt, ohne Bank, ohne Agentur. Zum Beispiel, stellen Sie sich vor, Sie möchten ein Hotelzimmer buchen, anstatt eine Buchungsplattform als Vermittler zu werden, könnten Sie direkt mit dem Hotel über eine Blockchain Netzwerk Plattform, wie auch immer wir das nennen. Der Buchungsvorgang würde also im intelligenten Vertrag auf der Blockchain festgehalten werden, zum Beispiel mit Buchungsinformationen, Datum, Zimmerpreis, Zahlungsdetails, Stornierung, bla bla bla. Da diese Blockchain dezentral und transparent ist, klar, die beiden Peers, die beiden Nutzer, Hotel und der Kunde, können auf ihre Daten zurückgreifen. Aber wenn einer von beiden versucht, das zu manipulieren, ist die Manipulation eliminiert, weil es halt eben in der Blockchain sich selber schützt. Also es braucht halt eben kein Vermittler für Buchungen wie Buchungsplattformen. Es können natürlich auch Zahlungen darüber abgewickelt werden, aber ausdrücklich der Zahlungsfluss, weil viele sagen immer ja, hat das was mit Bitcoin zu tun, nein, es geht nur um die Grundtechnologie, auf der auch Bitcoin aufbaut, aber das ist sozusagen erste Generation. Und klar, die Idee und das hattest du eben schon gesagt, wenn ich mich richtig erinnere, das kann halt zu.

Interviewee 12 15:09: Ja. Ja.

Researcher 15:37: Geringeren Gebühren und Transaktionen führen, denn du hast eben glaub ich gesagt, Zitat nicht unerheblichen Anteil 10 bis 20% und wenn man natürlich den Vermittler umgehen könnte, ist natürlich der Forschung gesagt, dass das also das könnte auch wirklich die Forschungsberichte, das könnte eine sehr große wie eine Revolution in der Tourismusindustrie sein und genau darüber forsche ich und ich zeige dir jetzt ein Schaubild aus meiner Doktorarbeit. Im besten aller Fälle. Es lädt noch im besten aller Fälle. Solltest du jetzt was sehen?

Interviewee 12 16:16: Kannst du das einen Ticken größer machen?

Researcher 16:16: Oh. Das lustige ist im Moment, das peinliche ist. Ich würde jetzt, gerade weil es ist, sozusagen in der Cloud.

Interviewee 12 16:23: Hey. Wundere dich nicht. Ich schau jetzt zur Seite, weil dort habe ich den größeren Bildschirm, da kann ich das besser sehen.

Researcher 16:31: Genau, also komischerweise Moment hier, ich kriege es von der Size Nature Ding. Genau, also ich, ich sage mal, ich lese dir vor, was oben steht. Also ich forsche über Blockchain based distributed ledger for smart payment contract and reviews, das habe ich nämlich vergessen, du kannst nicht nur diese Informationen Vertrag, sondern der Vertrag erfüllt ist, darf auch derjenige, wo der Vertrag auch nur die Review schreiben, also es ist auch gegen Fake Reviews.

Interviewee 12 16:37: Jetzt passt das, auf einem größeren Bildschirm passt das.

Researcher 17:02: Tolles Tool also, so schreibt es die Wissenschaft, es gibt es ja, nehmen sie nicht und ich habe jetzt links mal so ein Status quo, da geht es. Ich forsche halt eben über diese Marktmacht, der Buchungsplattformen, die stehen sozusagen in der Mitte, weil sie sehr sehr mächtig sind, mit 15 bis 30%, das sagt die Literatur, klar, es gibt welche, die haben vielleicht günstiger, es wurde auch gesagt, dass es kann auch sogar höher sein, je nachdem was was da eingebucht wird, aber das so und was ich erforsche ist den potenziellen Einfluss, das ist auf der rechten Seite, das statt in der Mitte zentral diese Buchungsplattformen zu haben, die in eine Nische sozusagen. Die wird laut laut Forschung durchaus noch geben, aber die sind dann eher die Nische.

Interviewee 12 17:44: Nein.

Researcher 17:51: Der Nutzer verbindet sich direkt und ich habe das Beispiel. Es gibt die ökologische Lodge in Bangladesch und das New Yorker Ehepaar, die können jetzt direkt miteinander Geschäfte machen, weil die Blockchain schützt beide Parteien und meine ganz konkrete Frage.

Interviewee 12 18:01: Ja.

Interviewee 12 13:49: Er, not as such, as far as that's concerned. But of course that's from this now. The subsequent point that would follow from that.

Researcher 13:59: Exactly, actually, because what we've just discussed is mobile phone blockchain generation 1 and I'm researching blockchain generation 2 and 3. We can talk about 3 again in a moment, but it's not a research focus, so smart contracts, intelligent contracts between two users that are executed automatically as soon as certain conditions are met, without a lawyer, without a bank, without an agency. For example, imagine you want to book a hotel room, instead of becoming a booking platform as an intermediary, you could deal directly with the hotel via a blockchain network platform, whatever we call it. So the booking process would be recorded in the smart contract on the blockchain, for example with booking information, date, room price, payment details, cancellation, blah blah blah. As this blockchain is decentralised and transparent, it is clear that the two peers, the two users, the hotel and the customer, can access their data. But if one of them tries to manipulate it, the manipulation is eliminated because it protects itself in the blockchain. So there is no need for an intermediary for bookings like booking platforms. Of course, payments can also be processed via it, but explicitly the payment flow, because many people always say yes, it has something to do with Bitcoin, no, it's just about the basic technology on which Bitcoin is based, but this is the first generation, so to speak. And of course, the idea and you've just said that, if I remember correctly, that can be too.

Interviewee 12 15:09: Yes. Yes.

Researcher 15:37: Lower fees and transactions, because I think you just said, quote a not insignificant proportion of 10 to 20% and if you could of course bypass the intermediary, of course the research says that this could really be the research reports, this could be a very big like a revolution in the tourism industry and that's exactly what I'm researching and I'll show you a diagram from my doctoral thesis now. In the best of all cases. It still loads in the best of all cases. Should you see something now?

Interviewee 12 16:16: Can you make that a tick bigger?

Researcher 16:16: Oh. The funny thing at the moment is, the embarrassing thing is. I would now, just because it's, sort of in the cloud.

Interviewee 12 16:23: Hey. Don't be surprised. I'm looking to the side now because I've got the bigger screen there, so I can see it better.

Researcher 16:31: Exactly, so funnily enough, wait a minute here, I'm getting it from the Size Nature thing. Right, so I'll, I'll say I'll read you what it says above. So I'm doing research on blockchain based distributed ledger for smart payment contract and reviews, because I forgot that, you can not only write this information contract, but the contract is fulfilled, the one where the contract is also only allowed to write the review, so it's also against fake reviews.

Interviewee 12 16:37: Now it fits, on a bigger screen it fits.

Researcher 17:02: Great tool, so that's how science writes it, it exists, they don't take it and I now have a status quo on the left, it works. I'm just researching this market power, the booking platforms, they are in the middle, so to speak, because they are very powerful, with 15 to 30%, that's what the literature says, of course, there are some that may be cheaper, it has also been said that it can even be higher, depending on what is booked there, but that's how and what I'm researching is the potential influence, that's on the right side, instead of having these booking platforms centrally in the middle, in a niche, so to speak. According to research, they will still exist, but they are more of a niche.

Interviewee 12 17:44: No.

Researcher 17:51: The user connects directly and I have the example. There is the ecological lodge in Bangladesh and the New York couple, they can now do business directly with each other because the blockchain protects both parties and my very specific question.

Interviewee 12 18:01: Yes.

Researcher 18:07: Hältst du so eine Verena auch von Disruption? Also dass sich die Marktmacht des der Marktmächtigen sozusagen fällt, aus der Nische in der Nische durch eine neue Technologie hältst du das für realistisch, dass so etwas passiert?	Researcher 18:07: Do you also think that Verena is disruptive? In other words, that the market power of the powerful will fall, so to speak, from the niche within the niche due to a new technology Do you think it's realistic that something like that will happen?
Interviewee 12 18:26: Ja und Nein.	Interviewee 12 18:26: Yes and no.
Researcher 18:28: Ja.	Researcher 18:28: Yes.
Interviewee 12 18:31: Ich glaube der Wille, dass das passiert, ist bei allen da. Also wenn ich jetzt nach der Grafik gehe, sowohl Peers wie Hotels, genau wie Peers wie Consumer. Der Einfluss aber momentan	Interviewee 12 18:31: I think everyone is willing for that to happen. So if I go by the graphic, both peers and hotels, just like peers and consumers. But the influence at the moment
so groß noch ist der Plattformen, dass es eine Weile glaube ich dauern wird, das in Anführungsstrichen umzusetzen. Und dann sind wir auch wieder bei dem.	platforms is still so great that I think it will take a while to implement this in inverted commas. And then we're back to that.
Researcher 19:05: Mhm.	Researcher 19:05: Mhm.
Interviewee 12 19:10: Punkt. Vertrauen. Diesen Switch hinzukriegen, diesem Blockchain zu vertrauen, einfach zu sagen, es ist wirklich sicher, es ist eine neue Technologie und.	Interviewee 12 19:10: Point. Trust. Making that switch, trusting this blockchain, just saying it's really secure, it's a new technology and.
Researcher 19:22: Mhm.	Researcher 19:22: Mhm.
Interviewee 12 19:25: Das gab es immer da.	Interviewee 12 19:25: That's always been there.
Researcher 19:28: Genau.	Researcher 19:28: Exactly.
Interviewee 12 19:32: So gesehen. Wird es wahrscheinlich eher noch auf dem internationalen Markt passieren als auf den lokalen oder nationalen Märkten.	Interviewee 12 19:32: From that point of view. It's more likely to happen on the international market than on the local or national markets.
Researcher 19:44: Das finde ich gerade ganz spannend. Warum?	Researcher 19:44: I find that really exciting. Why?
Interviewee 12 19:47: Weil viele Buchungsplattformen tatsächlich sehr national erstmal ausgerichtet sind.	Interviewee 12 19:47: Because many booking platforms are actually very nationally orientated for the time being.
Researcher 19:53: Hm.	Researcher 19:53: Hm.
Interviewee 12 19:54: Und ich kann über die meisten auch international ein Hotel buchen, aber tatsächlich sind sie sehr national ausgerichtet und im internationalen Bereich tatsächlich immer noch die klassische, denn wie sie seit Jahren schon ist, weg von Pauschalreisen hin zu individuellen, ja Reisteilen, die ich zusammenstelle. Da wird es, glaube ich, eher funktionieren.	Interviewee 12 19:54: And I can also book a hotel internationally via most of them, but they are actually very nationally oriented and in the international sector they are actually still the classic ones, as they have been for years, away from package holidays towards individual, yes, travel packages that I put together. I think that's where it's more likely to work.
Researcher 20:28: Mhm. Okay, spannend. Ich, ich gehe mal so einen kleinen Weg, weil das hätte man am Anfang auch schon sagen können. Wie schätzt du denn, und jetzt muss ich echt Forschung ganz konkret auf dem deutschen Markt, deswegen muss ich so präzise Fragen, wie schätzt du denn die deutsche Hotellerie ein bezüglich ihrer Fähigkeiten neue Technologien zu adaptieren?	Researcher 20:28: Mhm. Okay, that's exciting. I, I'm going to go a little way, because you could have said that at the beginning. How do you rate the German hotel industry in terms of its ability to adapt new technologies, and now I really have to do some very specific research on the German market, which is why I have to ask such precise questions?
Interviewee 12 21:04: Leider nicht so positiv. Wo gesehen hat Corona der Branche, das ist der einzige Punkt, wo Corona der Branche gut getan hat, dass man dort gemerkt hat, okay, man muss sich öffnen für neue Technologien. Aber auch das ist sowohl in der Kettenhotellerie wie auch in der Privathotellerie. Es gibt immer die Ausweise, die alle schon wahnsinnig umgestellt haben. Muss auf Corona in Anführungsstrichen, dass es reine Online-Hotels gab mit Check-in und Co. Aber es wird noch eine Weile dauern, die dahin zu bekommen.	Interviewee 12 21:04: Unfortunately not so positive. Where Corona has done the industry good, that's the only point where Corona has done the industry good, that people there have realised, okay, you have to open up to new technologies. But this is also the case in both the chain hotel industry and the private hotel industry. There are always the ID cards that everyone has already changed over so much. Must be on Corona in quotes that there were pure online hotels with check-in and co. But it will still take a while to get them there.
Researcher 21:55: Sehr gut. Das passt jetzt ganz gut. Also wir nehmen das auch so ein bisschen dem Ende zu. Gibt es denn, also du hast jetzt dieses Modell gesehen, gibt es denn sonst noch so Technologien, wo du denkst, sie werden in Zukunft eine wichtige Rolle spielen? Also andere außer Blockchain.	Researcher 21:55: Very good. That fits quite well now. So we're getting a bit closer to the end. So you've seen this model, are there any other technologies that you think will play an important role in the future? So other than blockchain.
Interviewee 12 22:21: Jein. Also ich glaube, es wird viel halten, wenn Blockchain wirklich greift, wird es viele geben. Was man zusätzlich darüber abbilden kann. Auch in Anführungsstrichen mehr Daten, die ich dann irgendwo miteinander austauschen kann, gezielter austauschen kann, als es bisher der Fall ist.	Interviewee 12 22:21: Yes and no. So I think there will be a lot if blockchain really takes hold. What you can also map using it. Also, in inverted commas, more data that I can then exchange with each other somewhere, exchange in a more targeted way than is currently the case.
Researcher 22:44: Mhm.	Researcher 22:44: Mhm.
Interviewee 12 22:50: Ob es dann wirklich überprüfen, ob es eine andere Technologie ist, sei dann erst mal dahingestellt. Und wie gesagt, spontan würde ich sonst sagen. Weil auch für mich jegliche Art von Digitalisierung in diese gleiche Schiene mit reinfällt, weil.	Interviewee 12 22:50: Whether it's really checking whether it's a different technology remains to be seen. And as I said, spontaneously I would say otherwise. Because for me, any kind of digitalisation falls into this same category, because.
Researcher 23:06: Ja. Sehr gut.	Researcher 23:06: Yes, very good.

Interviewee 12 23:10: Im Endeffekt auch, dass die Erklärung zu Blockchain ja diese Sicherheit der Daten und damit hier gibt, wie viel Digitalisierung eigentlich damit reinfällt.	Interviewee 12 23:10: Ultimately, the explanation of blockchain also means that there is this security of data and therefore how much digitalisation actually falls into this.
Researcher 23:18: Ja. Genau dann gebe ich dir trotzdem mal ein Schlüsselwort, weil das tauchte durchaus bei anderen Experten auch auf und das finde ich dann immer ganz spannend. Was ist denn so deine, also in meiner Forschung geht es, Hauptsache perception, also es geht nicht um Wissen oder so, sondern nur den Eindruck von künstlicher Intelligenz und Tourismus.	Researcher 23:18: Yes. Well, I'll give you a key word anyway, because other experts have also mentioned this and I always find it really interesting. What is your, well, in my research, the main thing is perception, so it's not about knowledge or anything, but just the impression of artificial intelligence and tourism.
Interviewee 12 23:43: Mhm. Ein großes Thema. Wird sicher auch Einfluss haben. Ich glaube, was den Einfluss von Künstlicher Intelligenz im Bereich Hotellerie, Tourismus angeht, wird es unterschiedliche Einflüsse auf die Art der Gäste haben. Also für jemanden, der rein geschäftlich unterwegs ist, wird künstliche Intelligenzen größeren Einfluss haben. Sie wird auch insgesamt in unserem Alltag einen größeren Einfluss haben. Deswegen glaube ich, dass für die reinen Urlaubstouristen. Es weniger Einfluss haben wird. Genau ja wieso dieses? Ja, im Handy Urlaub, Handy frei, das ist so, das muss jetzt einfach schon dieses. Wirklich weg davon und einfach wieder ein bisschen zurück. Also deswegen wird der Unterschied, glaube ich, sehr, sehr groß sein.	Interviewee 12 23:43: Mhm. That's a big topic. Will certainly have an influence. I think in terms of the influence of artificial intelligence in the hotel industry, tourism, it will have different influences on the type of guests. So for someone who is purely travelling for business, artificial intelligence will have a greater impact. It will also have a greater impact on our everyday lives as a whole. That's why I believe that for pure holiday tourists. It will have less influence. Exactly, why this? Yes, on mobile phone holidays, mobile phone free, that's the way it is, it simply has to be now. Really get away from it and just go back a bit. So that's why I think the difference will be very, very big.
Researcher 24:53: Super. Also das ist jetzt am Ende nochmal ein ganz, ganz spannender Hinweis, das war das, was einfach nochmal auf die verschiedenen Arten der Urlauber, auf die Zielgruppe nochmal unterbrechen muss. Super, tatsächlich von meiner Seite aus, ich habe diesen sowieso Leitfaden, ich habe hier rechts neben mir, habe der ist durch, hast du sonst noch etwas, wo du denkst, das ist im Bereich Technologien und die Vermittlung von Hotelbuchungen, was du vielleicht auch noch in die Forschung mit Reingeben möchtest?	Researcher 24:53: Great. So that's another very, very exciting point at the end, that was the one that simply needs to be interrupted once again about the different types of holidaymakers, about the target group. Great, actually from my side, I have this guide anyway, I have it here to the right of me, it's done, do you have anything else where you think that's in the area of technologies and the mediation of hotel bookings that you might also want to include in the research?
Interviewee 12 25:09: Also dieses Thema auch, inwieweit die Hotellerie da auch offener sein muss. Ist natürlich, das hat man vielleicht auch auf eine Art und Weise sein wird. Das Personalproblem. Das Fachkräfteproblem. Wo man einfach ja übliche alte Abläufe, wie sie früher waren, einfach nicht mehr so darstellen kann. Und natürlich die Hoffnung, auch mit jungen Leuten, die wieder in der Branche anfangen, dass sie auch das vorantreiben und es damit einfach die ganze Branche offener wird. Das ist etwas, was ich natürlich. Ähm, jetzt in meiner Position immer wieder mitbekommen, wie der Generationsunterschied da entsprechend ist.	Interviewee 12 25:09: So this topic, to what extent the hotel industry needs to be more open. Of course, that might also be the case in some way. The personnel problem. The problem of skilled labour. Where you simply can't present the usual old processes as they used to be. And of course the hope, also with young people starting out in the industry again, that they will also drive this forward and simply make the whole industry more open. That's something that I naturally. Um, now in my position, I've noticed time and again how the generational difference is.
Researcher 26:15: Mhm.	Researcher 26:15: Mhm.
Interviewee 12 26:18: Das, ähm, wir halt im Bereich der Hoteliers durchaus diejenigen haben, die diesen Job schon seit 40 Jahren machen und weniger offen gegenüber Neuerungen sind oder kritischer sind. Und junge Leute, die einfach sagen, wir müssen es ausprobieren, wir können scheitern damit, aber wir müssen es ausprobieren.	Interviewee 12 26:18: That, um, we definitely have those in the hotelier sector who have been doing this job for 40 years and are less open to innovation or are more critical. And young people who simply say, we have to try it out, we may fail, but we have to try it out.
Researcher 26:34: Hm. Finde ich gut, das ist von meiner Seite perfektes Schlusswort, sozusagen. Ja, dann würde ich erstmal die Transkription stoppen.	Researcher 26:34: Hm. I think that's good, that's the perfect conclusion from my point of view, so to speak. Yes, then I would stop the transcription for now.
Interviewee 12 26:47: Sehr schön.	Interviewee 12 26:47: Very nice.
Researcher 26:52: So, jetzt sollte.	Researcher 26:52: So, now I should.

Appendix 8 Translation Consensus Framework

Findings 1st Delphi round	
Interrelation Context	
I.1	***Influence of ICT*** *Information technology has emerged as the backbone of the tourism industry, revolutionising every aspect from bookings to operations, and has impacted the market so profoundly that without it, tourism as we know it would be unimaginable today.* *Informationstechnologie hat sich als Rückgrat der Tourismusindustrie etabliert, indem sie jeden Aspekt von Buchungen bis hin zu Betriebsabläufen revolutioniert hat, und hat den Markt so tiefgreifend beeinflusst, dass ohne sie Tourismus wie man ihn kennt, heute unvorstellbar wäre.*
I.2	**Adoption Capabilities** *Although the tourism industry has been and continues to be strongly influenced by information technologies, the accommodation sector, in particular, has been remarkably slow at adapting to new technologies compared to other industries.* *Obwohl die Tourismusindustrie von Informationstechnologien sehr stark beeinflusst wurde und wird, ist insbesondere die Hotelbranche in der Adaption neuer Technologien im Vergleich zu anderen Branchen auffallend langsam.*
I.3	**Future Influence of ICT** *The strong influence of information technologies on the tourism industry will continue to grow and possibly have a significant impact, but its shape is uncertain.* *Der starke Einfluss von Informationstechnologien auf die Tourismusindustrie wird weiterhin bestehen bleiben, höchstwahrscheinlich wachsen, und möglicherweise einen erheblichen Einfluss haben, dessen Ausgestaltung aber unsicher ist.*
I.4	**Emerging Technologies** *Artificial Intelligence (AI) has the transformative potential to reshape services and create efficiencies while recognising the need to consider unanswered questions and complex ethical and privacy concerns.*

	Künstliche Intelligenz (KI) hat das transformative Potenzial, Dienstleistungen neu zu gestalten und Effizienzen zu schaffen, während auch die Notwendigkeit erkannt wird, offene Fragen und komplexe ethische Bedenken und Datenschutz zu bedenken.
Organisational Context	
O.1	**Intangibility & Human Interaction** *Personal guidance and human relations remain indispensable in the tourism industry despite advancing digitalisation and are key aspects that must be maintained in balance with technology.* *Persönliche Beratung und zwischenmenschliche Beziehungen bleiben trotz der fortschreitenden Digitalisierung in der Tourismusindustrie unverzichtbar und sind ein zentraler Aspekt, der im Gleichgewicht mit der Technologie erhalten bleiben muss.*
O.2	**Structure & Adaptation** *In the German accommodation sector, various organisational factors promote or hinder the adaptation of technologies, such as local and global perspectives, company size, financial resources and generational change, whereby generational change is seen as the key to success but is hindered by the shortage of skilled workers.* *Im deutschen Beherbergungsgewerbe gibt es verschiedene organisatorische Faktoren, die die Adaption von Technologien fördern oder behindern, wie z.B. lokale und globale Perspektiven, Unternehmensgröße, finanzielle Ressourcen und Generationswechsel; wobei der Generationswechsel als Schlüssel zum Erfolg gesehen wird, er jedoch durch den Fachkräftemangel behindert wird.*
O.3	**Capabilities & Readiness** *The strong challenge for the accommodation sector is to encourage direct bookings by improving the usability and functionality of their websites, especially concerning payment procedures and legal issues, with both large chains and small operators experiencing similar challenges.* *Die starke Herausforderung für das Beherbergungswesen besteht darin, Direktbuchungen zu fördern, indem die Benutzerfreundlichkeit und die Funktio-*

	nalität ihrer Websites verbessert werden, insbesondere in Bezug auf Zahlungsverfahren und rechtliche Fragen, wobei sowohl große Ketten als auch kleine Anbieter ähnliche Herausforderungen erleben.
O.4	**Strategy & Finance** *The accommodation sector pays commissions of 12-25%, and often more when using intermediary platforms, underscoring the motivation of the hotel industry to become independent from intermediaries to improve margins on the one hand and to regain direct contact with guests on the other.* *Die Beherbergungsbranche zahlt bei der Nutzung über Vermittlungsplattformen Provisionen von 12 bis 25 % und mehr, dies unterstreicht die Motivation der Hotellerie, sich von Vermittlern unabhängig zu machen, um einerseits die Margen zu verbessern und andererseits den direkten Kontakt zu den Gästen wieder zu erlangen.*
Disintermediation Context	
D.1	**General Knowledge Blockchain** *A general understanding of how Blockchain technology works varies widely in the tourism industry, from a detailed understanding of decentralisation and security and specific applications in the financial world to the fact that it is fundamentally a technology with potential without specifying it, and finally, to unawareness.* *Die Kenntnisse über die Funktionsweise der Blockchain-Technologie in der Tourismusindustrie variieren stark, von detailliertem Verständnis über die Dezentralität und Sicherheitsaspekte, sowie spezifische Anwendungen in der Finanzwelt, bis hin zu dass dies grundsätzlich eine Technologie mit Potenzial ist, ohne es zu benennen, und schließlich bis zur Unkenntnis.*
D.2	**Disintermediation Tourism** *In the tourism industry, the potentially substantial impact of Blockchain in the intermediation of hotel bookings, which has been intensively researched and published in tourism research for years, is largely unknown.* *In der Tourismusindustrie ist der möglicherweise substantielle Einfluss von Blockchain, bei der Vermittlung von Hotelbuchungen, über den in der Tourismusforschung seit Jahren intensiv geforscht und publiziert wird, weitgehend unbekannt*
D.3	**Disintermediation & Disruption**

	Blockchain technology theoretically has the potential to fundamentally impact booking processes by creating a new, direct, and trustworthy relationship between service providers and consumers, displacing traditional intermediaries and thus redistributing market power. *Die Blockchain-Technologie hat theoretisch das Potenzial, Buchungsprozesse grundlegend zu beeinflussen, indem sie eine neue, direkte und vertrauenswürdige Beziehung zwischen Dienstleistern und Verbrauchern schafft, traditionelle Vermittler verdrängt und damit Marktmacht neu verteilt.*
D.4	**Scepticism & Practicality** *Despite the theoretical possibilities of the decentralised of Blockchain in the accommodation sector, there is clear scepticism regarding the practicality of , market access and reactions from existing market participants.* *Trotz der theoretischen Möglichkeiten einer dezentralisierten Implementierung von Blockchain im Beherbergungswesen ist deutliche Skepsis hinsichtlich der praktischen Umsetzbarkeit, des Marktzugangs und der Reaktion bestehender Marktteilnehmer zu betonen.*
Technological Context	
T.1	***Perceived Technological Challenges*** *Integrating Blockchain technology in tourism, particularly in the accommodation sector, creates several industry-specific challenges, ranging from the complexity of service bundles, staff development and skills shortages to compatible interfaces with PMS and other systems.* *Die Integration von Blockchain-Technologie im Tourismus, insbesondere im Beherbergungssektor, bringt eine Reihe von branchenspezifischen Herausforderungen mit sich, die von der Komplexität der Leistungsbündel über Personalentwicklung und Fachkräftemangel bis hin zu kompatiblen Schnittstellen zu PMS und anderen Systemen reichen.*
T.2	**Perceived Technological Benefits** *The perceived benefits of Blockchain include cost savings and reducing the market dominance of large intermediaries, although communicating these benefits to hotels and guests is seen as a challenge.* *Zu den angenommenen Vorteilen von Blockchain zählen Kosteneinsparungen und die Reduzierung der Marktdominanz großer Vermittler, wobei die*

	Kommunikation dieser Vorteile an Hotels und Gäste als Herausforderung gesehen wird.
T.3	**Data Security & Access** *Blockchain can be seen as a secure and trustworthy data storage technology that can help improve data quality and avoid overbooking and data redundancy, providing direct contact with guest data and possibly AI-powered data a key factor in personalising the guest experience.* *Blockchain kann als sichere und vertrauenswürdige Technologie zur Datenspeicherung betrachtet werden, die zur Verbesserung der Datenqualität beiträgt und Überbuchungen sowie Datenredundanz vermeiden kann; zudem stellt der direkte Kontakt mit den Daten des Gastes, und möglicherweise KI-gestützt, einen entscheidenden Factor für die Personalisierung der Gasterfahrung dar.*
External Context	
E.1	**Market Dominance of Intermediaries** *Booking platforms are described as dominant market powers, often with negative connotations such as "brute" market power, a result of their enforcement of rules, their exploiting of market power and the pressure they put on suppliers; however, it is estimated that for many hotels, 70% of business is done through these booking platforms, although the advantages of being listed on these are recognised.* *Buchungsplattformen werden als dominante Marktmacht beschrieben, oft mit negativen Konnotationen wie brutale Marktmacht, die Regeln durchsetzen, ihre Marktmacht ausnutzen und Druck auf Anbieter ausüben, wobei geschätzt wird, dass für viele Hotels 70% des Geschäfts über diese Buchungsplattformen abgewickelt wird, wobei durchaus auch die Vorteile gesehen werden, dort gelistet zu sein.*
E.2	**Relationship & Dependencies** *The dependency of hoteliers on intermediary platforms is determined by their visibility in search engines and budgets, whereby the desire for independence exists, but is considered difficult to achieve for some smaller, less unique businesses.* *Die Abhängigkeit der Hoteliers von den Vermittlungsplattformen wird durch deren Sichtbarkeit in den Suchmaschinen und Budget bestimmt, wobei der*

	Wunsch nach Unabhängigkeit zwar vorhanden ist, aber ohne besondere Größe oder Einzigartigkeit als schwer erreichbar gilt.
E.3	**Guest Dynamics** *In addition to the visibility of booking platforms in search engines, the following factors are crucial from the point of view of guests: simplicity and familiarity with the system, combined with comparability and quick information retrieval, as well as trust in payment and booking processes and attractive customer loyalty programs.* *Neben der Sichtbarkeit von Buchungsplattformen in Suchmaschinen sind aus Sicht der Gäste folgende Faktoren entscheidend: Einfachheit und Vertrautheit mit dem System, verbunden mit Vergleichbarkeit & schneller Informationsbeschaffung, sowie Vertrauen in Zahlungs- und Buchungsprozesse und attraktive Kundenbindungsprogramme.*
E.4	**Societal Dimension** *Changing societal attitudes to the market dominance of large platforms could influence Blockchain development, potentially seeing it as a societal advance to reconnect people directly to promote social sustainability and leave more profit margins with the service providers rather than the intermediary.* *Eine veränderte gesellschaftliche Haltung, zur Marktdominanz großer Plattformen, könnten die Entwicklung von Blockchain beeinflussen, indem es möglicherweise als gesellschaftlicher Fortschritt angesehen wird, Menschen wieder direkt miteinander zu verbinden, um soziale Nachhaltigkeit zu fördern und mehr Gewinnmargen bei den Erbringern einer Dienstleistung zu belassen, statt dem Vermittler.*

Appendix9 RAW Data 2nd Delphi Round

Start time	Completion tim	CON_I_1	CON_I_2	CON_I_3	CON_I_4	CON_O_1	CON_O_2	CON_O_3	CON_O_4	CON_D_1	CON_D_2	CON_D_3	CON_D_4	CON_T_1	CON_T_2	CON_T_3	CON_E_1	CON_E_2	CON_E_3	CON_E_4
8.31.23 10:51:47	8.31.23 10:53:42	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
8.31.23 11:22:38	8.31.23 11:28:10	3	6	7	7	7	6	6	6	7	6	7	5	4	7	7	5	6	7	5
8.31.23 11:35:36	8.31.23 11:40:52	5	6	7	7	7	4	6	7	6	7	7	5	7	6	6	5	7	7	7
9.1.23 9:07:17	9.1.23 9:13:39	7	6	6	7	6	7	6	6	6	7	4	7	6	4	4	6	6	7	4
9.1.23 17:09:07	9.1.23 17:21:47	5	6	7	7	7	5	6	7	7	7	6	4	5	6	5	7	6	6	5
9.2.23 22:08:48	9.2.23 22:25:41	6	5	7	7	5	7	7	7	7	6	7	6	6	7	5	6	7	7	7
9.6.23 14:46:35	9.6.23 14:54:29	5	6	6	6	7	5	6	7	5	6	6	5	6	6	6	6	6	6	6
9.14.23 7:18:19	9.14.23 7:25:18	6	4	6	7	7	5	4	7	7	4	6	6	6	7	6	6	7	7	5
9.14.23 12:20:12	9.14.23 12:34:14	6	6	6	7	7	6	6	7	7	6	7	6	7	6	5	7	7	7	7
9.14.23 14:21:32	9.14.23 14:29:24	7	6	7	7	7	7	4	7	7	7	6	7	7	7	5	7	7	7	6