

**OWNER-MANAGER LEARNING IN SMALL FIRMS:  
A STUDY OF TECHNOLOGY-BASED FIRMS IN THE  
RHINE VALLEY REGION**

**Stefan A. Sohler**

A thesis submitted to  
the University of Gloucestershire  
in accordance with the requirements of the degree of  
Doctor of Philosophy  
in the Faculty of Business, Education and Professional Studies

October 2014



## ABSTRACT

Small and medium-sized enterprises (SMEs) with fewer than 250 employees are the category of firm which accounts for the majority of businesses worldwide. In spite of their strategically important role as “engines of economic growth”, scant research has been devoted thus far to the underlying owner-manager learning processes in SMEs. In the literature on learning, little distinction is made between micro, small and medium-sized businesses in terms of company size or ownership structure. The literature also provides few reference points for the question of how owner-managers learn in start-ups and small family firms as their businesses develop. The investigation of both types of owner-managers in small firms enriches the research context.

The research main aim is to explore the learning of founding owner-managers<sup>1</sup> (‘founders’) and initial successor owner-managers (‘successors’) in small family firms in greater depth, focusing on both *content* and *process* which lead to the growth of start-ups and small family firms, taking into account the development of Human Capital (HC). The social and contextual integration of owner-managers into the business environment is also considered. The research interest and emphasis are directed at analysing the learning of owner-managers on the basis of their understanding and interpretation of critical events during the development of the firm within its business and social environment. In order to capture these learning processes of the individual owner-managers, a phenomenological research paradigm is adopted.

To fulfil the research aim, extensive literature research was carried out on the themes of entrepreneurial learning, learning at the workplace, Intellectual Capital (IC) and HC as well as the development of small and family firms. In order to explore these themes in the context of entrepreneurial development in the Rhine Valley, the research topic was extended to include regional business and training development in this geographical area (with its bordering countries Austria, Liechtenstein and

---

<sup>1</sup> The term owner-manager is used in this thesis for both types of owner-managers, i.e. founders and successors, in small firms.

Switzerland). The research sample with a multiple-case study design encompasses six owner-managers, founders and initial successors of technology-based small firms with fewer than 50 employees in the Rhine Valley region. The empirical data collection was based on a pilot interview phase with the owner-managers, followed by two interview phases in autumn 2008 and spring 2010 as part of a longitudinal study. The iterative data analysis integrates several systematic approaches to code, analyse and compare these six case study firms to identify the learning approaches of the owner-managers.

The key findings obtained are described with the aid of the developed “Hexagon Framework”<sup>2</sup>. This model visualises the dynamics of continuous learning for owner-managers, founders and successors in small firms. The knowledge contribution of the thesis lies in the identification and analysis of the different learning trajectories of the owner-managers, who either founded a start-up or took over a firm as initial successor. The findings make a significant contribution towards an enhanced understanding of the dynamics of continuous learning processes for owner-managers in small firms during development phases. In addition, the developed framework of the owner-manager learning continuum contributes to entrepreneurial learning theory.

---

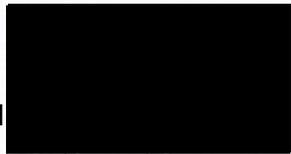
<sup>2</sup> The hexagon framework is introduced in subsection 5.7.5

## DECLARATIONS

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 educational 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.

Signed

A black rectangular box redacting the signature of the author.

Stéfan A. Sohler

Date: 12<sup>th</sup> October 2014

## ACKNOWLEDGEMENTS

Today, time has become a valuable resource in a rapidly changing environment. At the same time, both the economic gap and the skills gap remain wide within the European Union. These underlying economic conditions call for owner-managers and organisations that are prepared to accept the challenge of entering new (niche) markets and key positions. It has been a source of great excitement for me to learn more about small and family-run companies and the passion which drives the owner-managers to undertake continuous learning and to lead small companies and family businesses successfully through stormy economic times.

I would like to thank the many people who have supported this thesis on the subject of “Owner-manager learning in small technology-based firms”.

My thanks to:

My wife Petra for her understanding, encouragement, patience and moral support during a tough period of work and study over seven years;

My first supervisor Professor Gerald Watts at the University of Gloucestershire for his introduction to the real research world of business and social sciences, for his interest and identification with the theme, suggestions, valuable discussions about small firms, entrepreneurs and entrepreneurship, the demanding process for publishing the initial research paper as well as his trenchant reflections triggering new ideas and approaches. His highly instructive research seminars and his great enthusiasm for the subject have been particularly inspiring and are greatly appreciated.

My second supervisor Professor Dr. Urs Baldegger, holder of the Van Riemsdijk chair of entrepreneurship at the University of Liechtenstein, for his challenging questioning, reviewing, suggestions, the worthwhile insights regarding the business plans for the business plan competitions in the Rhine Valley from 2009 dating back to the beginning of 2004, as well as his critical reflections and remarks. The valuable opportunities to share research seminars with PhD students of the University Liechtenstein;

My PhD colleagues at the University of Gloucestershire for the interesting insights into their research fields and fruitful discussions at numerous research seminars.

Each of the six owner-managers who provided their time, experience, knowledge, commitment and insights into their critical learning events and social business environments which provided the source for this thesis.

## TABLE OF CONTENTS

<b>Chapter</b>	<b>Page</b>
<b>ABSTRACT</b> .....	<b>III</b>
<b>DECLARATIONS</b> .....	<b>V</b>
<b>ACKNOWLEDGEMENTS</b> .....	<b>VI</b>
<b>TABLE OF CONTENTS</b> .....	<b>VIII</b>
<b>LIST OF TABLES</b> .....	<b>XVI</b>
<b>LIST OF FIGURES</b> .....	<b>XVIII</b>
<b>LIST OF ABBREVIATIONS</b> .....	<b>XX</b>
<b>CHAPTER 1: INTRODUCTION</b> .....	<b>1</b>
1.1 Introduction – background to the research.....	1
1.2 Structure of the introduction chapter .....	3
1.3 Owner-manager learning in small and family firms .....	3
1.4 Theoretical foundations .....	6
1.4.1 Introduction of applied theory.....	6
1.4.2 Definition of small and family firms.....	7
1.4.3 Owner-manager learning and the development of small firms.....	9
1.4.4 Human capital development in small firms .....	10
1.5 The Research .....	11
1.5.1 Owner-manager learning – identified gaps in knowledge .....	11
1.5.2 Research aims.....	13
1.5.3 Research questions .....	13
1.5.4 Research objectives .....	14
1.6 Methodological context of the research.....	14
1.7 Structure of the thesis.....	15
1.7.1 Chapter one: Introductory chapter.....	16
1.7.2 Chapter two: Significance and context of the study .....	16
1.7.3 Chapter three: Owner-manager learning in small firms .....	16

1.7.4 Chapter four: Human and intellectual capital .....	17
1.7.5 Chapter five: Research methodology .....	17
1.7.6 Chapter six: Findings relating to owner-manager learning in small firms	17
1.7.7 Chapter seven: Discussion of the key findings .....	18
1.7.8 Chapter eight: Conclusion and further research perspectives.....	18
<b>CHAPTER 2: GROWTH TO FOSTER A COMPETITIVE REGION .....</b>	<b>19</b>
2.1 Overview.....	19
2.2 Learning processes and HC in small firms in the Rhine Valley .....	19
2.2.1 Historical overview .....	21
2.2.2 Small firm development in Liechtenstein .....	25
2.2.3 Formal learning environment.....	26
2.2.4 Initial vocational training .....	27
2.2.5 Higher education in the Rhine Valley.....	29
2.2.6 WorldSkills and its relationship with the Rhine Valley .....	30
2.3 Regional development .....	31
2.4 Summary .....	32
<b>CHAPTER 3: OWNER-MANAGER LEARNING IN SMALL FIRMS.....</b>	<b>34</b>
3.1 Introduction .....	34
3.2 Issue-specific learning frameworks .....	36
3.2.1 Learning forms .....	38
3.2.2 Forms of workplace learning .....	42
3.2.3 Participants of learning.....	46
3.2.4 Communities of practice.....	49
3.2.5 The learning-cycle theory .....	53
3.2.6 Learning approaches and metaphors.....	56
3.2.7 Summary of the specific learning frameworks .....	57
3.3 Learning and training in small firms.....	58
3.3.1 Development of training in small firms.....	60
3.3.2 Uniqueness of small firms .....	61
3.3.3 Small firms and their position in the life-cycle .....	62
3.4 Introduction of owner-manager learning in small firms .....	66

3.4.1 Owner-manager learning and training in small firms .....	69
3.4.2 Development and transfer of knowledge in small firms .....	70
3.4.3 Generation and transfer of knowledge in family firms.....	72
3.4.4 Owner-manager learning in family firms.....	73
3.5 Entrepreneurial learning .....	75
3.5.1 Concepts of entrepreneurial learning .....	77
3.5.2 Dynamic learning perspective of entrepreneurship .....	81
3.5.3 Synthesis of entrepreneurial learning frameworks.....	82
3.6 Conclusion – learning in small firms.....	84
3.6.1 Relationship between learning concepts.....	84
3.6.2 Parallel learning processes.....	85
3.7 Summary.....	87
<b>CHAPTER 4: HUMAN AND INTELLECTUAL CAPITAL .....</b>	<b>89</b>
4.1 Introduction.....	89
4.2 Interface between human capital and intellectual capital .....	91
4.3 Classification of intellectual capital.....	93
4.3.1 Overview of intellectual and human capital frameworks .....	94
4.3.2 Edvinsson and Malone “Skandia IC Navigator” .....	96
4.3.3 Stewart .....	98
4.3.4 Bontis: “The flow and stock of knowledge approach” .....	100
4.3.5 Summary of the analysed IC models .....	102
4.4 HC in relation to owner-manager learning in small firms .....	103
4.4.1 Critiques of the concept of human capital .....	103
4.4.2 Human capital and workplace learning .....	104
4.4.3 Investment in human capital .....	105
4.4.4 Utilisation of human capital in small firms.....	106
4.5 Summary of human capital frameworks .....	108
<b>CHAPTER 5: RESEARCH METHODOLOGY.....</b>	<b>109</b>
5.1 Introduction.....	109
5.2 Phenomena under study.....	111
5.3 Research philosophy .....	113

5.3.1 Ontology.....	113
5.3.2 Epistemology .....	114
5.3.3 Positivism.....	115
5.3.4 Critical realism.....	116
5.3.5 Phenomenology .....	117
5.3.6 Justification of the research paradigm .....	118
5.4 Inductive or deductive research approach.....	120
5.5 Research strategy.....	121
5.5.1 Qualitative research design.....	122
5.5.2 Nature of research strategy.....	125
5.5.3 Qualitative research strategy.....	125
5.5.4 Case-based research in SME learning.....	128
5.5.5 Time horizon of the research.....	129
5.5.6 Research sample design.....	130
5.6 Data collection .....	135
5.6.1 Introduction .....	135
5.6.2 Interview types .....	135
5.6.3 Critical Incident Technique .....	136
5.6.4 Interview process and time frame.....	137
5.6.5 Main sources of the case studies .....	138
5.6.6 Data quality and replication logic.....	142
5.6.7 Research boundaries .....	143
5.6.8 Gaining access.....	144
5.6.9 Research ethics .....	145
5.6.10 Role of the researcher.....	145
5.7 Data analysis .....	146
5.7.1 Introduction .....	146
5.7.2 Process of data analysis .....	147
5.7.3 Interpretative Phenomenological Analysis.....	149
5.7.4 Framework of the case analysis.....	149
5.7.5 Hexagon framework of the individual case analysis .....	161
5.7.6 Robustness of the findings .....	163

5.8 Summary .....	165
<b>CHAPTER 6: FINDINGS: OWNER-MANAGER LEARNING IN SMALL FIRMS.....</b>	<b>166</b>
6.1 Introduction.....	166
6.2 Critical learning events related to the hexagon framework.....	167
6.3 Owner-manager learning in start-up firms A, B and C.....	169
6.3.1 External orientation of start-ups .....	170
6.3.2 External orientation of start-ups during the economic crisis .....	171
6.3.3 Internal orientation of start-ups .....	173
6.3.4 Internal orientation of start-ups during the economic crisis.....	175
6.3.5 Knowledge sharing and owner-manager development in start-ups .....	178
6.3.6 Knowledge sharing during the economic crisis.....	179
6.3.7 Summary of owner-manager learning in the start-ups.....	182
6.4 Owner-manager learning in family firms D, E and F.....	186
6.4.1 External orientation of family firms .....	186
6.4.2 External orientation of family firms during the economic crisis .....	188
6.4.3 Internal orientation of family firms .....	189
6.4.4 Internal orientation of family firms during the economic crisis.....	191
6.4.5 Knowledge sharing – owner-manager development in family firms .....	193
6.4.6 Knowledge sharing during the economic crisis.....	195
6.4.7 Summary of knowledge sharing in family firms .....	197
<b>CHAPTER 7: DISCUSSION: OWNER-MANAGER LEARNING IN SMALL FIRMS .....</b>	<b>201</b>
7.1 Introduction.....	201
7.2 Critical learning events encountered by owner-managers.....	202
7.3 Owner-manager learning and firm establishment.....	206
7.3.1 Owner-manager learning during the start-up process .....	209
7.3.2 Owner-manager learning during the succession process.....	213
7.3.3 Owner-manager learning by establishing a firm structure .....	214
7.3.4 Owner-manager learning based on the economic crisis.....	216
7.3.4 Summary of learning during the start-up and succession phases .....	218
7.4 Owner-manager learning and human capital development .....	219
7.4.1 Workplace learning and human capital development .....	221

7.4.2 Fostering apprenticeships for human capital development .....	222
7.4.3 Owner-manager learning following initial recruitment .....	223
7.4.4 Knowledge generation – recruitment and community of practice.....	225
7.4.5 Owner-manager learning through role transitions.....	227
7.4.6 Process of delegation.....	229
7.4.7 Owner-managers learn by jumping into new tasks .....	231
7.4.8 Formal study programmes for HC development in small firms.....	234
7.4.9 Summary of knowledge creation and sharing in small firms .....	235
7.5 Learning continuum of owner-managers .....	237
7.5.1 Framework of the learning continuum .....	239
7.5.2 Learning continuum of owner-managers in start-ups.....	243
7.5.3 Learning continuum of owner-managers as initial successors .....	245
7.5.4 Conceptual framework of owner-manager learning .....	246
7.5.5 Summary of the learning continuum.....	247
<b>CHAPTER 8: CONCLUSION.....</b>	<b>249</b>
8.1 Introduction .....	249
8.2 The hexagon framework .....	250
8.3 Critical events and owner-manager learning .....	252
8.3.1 How owner-managers conceptualise critical events .....	252
8.3.2 Interpretation of reported critical events .....	253
8.4 Key findings about owner-manager learning .....	254
8.4.1 Key finding 1: The different learning trajectories in small firms .....	255
8.4.2 Key finding 2: Shape of the owner-manager learning trajectories.....	258
8.4.3 Key finding 3: High level framework of owner-manager learning .....	259
8.4.4 Key finding 4: Human capital development in small firms .....	262
8.5 Contribution to knowledge.....	263
8.5.1 Longitudinal view of founder owner-manager learning.....	264
8.5.2 Longitudinal view of successor owner-manager learning.....	265
8.5.3 Hexagon framework .....	265
8.5.4 Link between entrepreneurial learning and human capital.....	267
8.6 Limitations of the research .....	269
8.6.1 Regional scope .....	269

8.6.2 Small technology-based firms .....	270
8.6.3 Sample size .....	270
8.6.4 The impact of dual vocational education and training .....	271
8.6.5 Focus on the owner-manager .....	271
8.6.6 Comparison with existing studies .....	272
8.7 Implications for further research .....	272
8.7.1 Comparative studies .....	273
8.7.2 Longitudinal studies .....	273
8.7.3 Small firms and human capital development .....	273
8.7.4 Curricula for owner-manager education .....	274
8.8 Implications for practice .....	275
8.8.1 Combination of formal and informal training .....	276
8.8.2 Fostering of community of practice development for small firms .....	277
8.8.3 Dual vocational education and training system .....	278
8.8.4 Transfer of knowledge between generations .....	279
8.9 Implications for policy .....	280
8.10 Personal reflection .....	281
<b>REFERENCES .....</b>	<b>284</b>
<b>APPENDIX A: SUCCESS STORY OF PRACTICE IN THE WORKPLACE .....</b>	<b>321</b>
Worldskills a community of learning in the workplace .....	321
Competition as learning source and human capital development .....	321
Small firms and networking with engineering companies .....	322
From learner to trainer .....	324
From trainer to the leader of WorldSkills .....	326
<b>APPENDIX B: PROFILES OF THE SIX CASE STUDY COMPANIES .....</b>	<b>328</b>
Case A: Prototyping .....	328
Case B: Mechanical engineering services .....	331
Case C: Exhibition stand design and consulting .....	333
Case D: Plastics research and development .....	335
Case E: Metal construction .....	338
Case F: Deep-drawing and mould making .....	341

<b>APPENDIX C: QUESTIONNAIRES.....</b>	<b>343</b>
Questionnaire I: 2008.....	343
Questionnaire II: 2010.....	345
Pre-Questionnaire: February 2008 .....	347
<b>APPENDIX D: CRITICAL LEARNING EPISODES – CHRONOLOGICAL ANALYSIS.....</b>	<b>351</b>
<b>APPENDIX E: INSIGHTS FROM THE KEY FINDINGS OF THE SAMPLE .....</b>	<b>357</b>
<b>APPENDIX F: LEARNING TRAJECTORIES OF THE SAMPLE .....</b>	<b>363</b>

## LIST OF TABLES

<b>Table</b>	<b>Page</b>
Table 1-1: Definition of SMEs .....	8
Table 2-1: Three generations of start-ups in the Rhine Valley .....	23
Table 2-2: Eleven leading companies .....	24
Table 2-3: Persons employed by economic sector in 2010 .....	25
Table 2-4: Development in the numbers of enterprises in Liechtenstein .....	25
Table 2-5: Education system: from VET to HE .....	26
Table 2-6: Current percentages of apprentices .....	28
Table 3-1: Different forms of continuing vocational training .....	43
Table 3-2: Place of learning and workplaces .....	44
Table 3-3: Four learning approaches .....	56
Table 3-4: Five learning metaphors .....	57
Table 3-5: Life-cycle stage characteristics .....	64
Table 3-6: Dimensions and life-cycle stages of small firms .....	65
Table 3-7: Life-stages .....	78
Table 3-8: Entrepreneurial learning frameworks .....	83
Table 3-9: Relationships between the concepts .....	84
Table 4-1: Level and dimensions of human capital .....	92
Table 4-2: Conceptual models of intellectual and human capital .....	95
Table 5-1: Research paradigms .....	118
Table 5-2: Methods of research design .....	124
Table 5-3: Case study companies .....	134
Table 5-4: Steps in data analysis .....	148
Table 5-5: Number of categories in relation to owner-manager learning .....	152
Table 5-6: Categories of relationship and network .....	156
Table 5-7: Categories of human capital .....	156
Table 5-8: Categories of business and management .....	157
Table 6-1: Identified critical learning events related to the six key categories .....	168
Table 6-2: Key findings regarding what and how OMs learn in start-up firms .....	185
Table 6-3: Key findings regarding what and how OMs learn in family firms .....	200

Table 7-1: Critical learning events for owner-managers in start-ups.....	204
Table 7-2: Critical learning events for owner-managers in family firms.....	205
Table 7-3: Owner-manager learning matrix of delegation.....	231
Table 8-1: Usefulness of the hexagon framework to explore OM learning.....	251
Table A-1: Number of participants and medal table from 1968 to 2013.....	326

## LIST OF FIGURES

<b>Figure</b>	<b>Page</b>
Figure 1-1: Three levels of analysis .....	6
Figure 1-2: Structure of the chapters .....	15
Figure 3-1: Overview of the analysed learning topics .....	36
Figure 3-2: Three perspectives of analysis for workplace learning.....	38
Figure 3-3: The learning pyramid.....	46
Figure 3-4: Modes of knowledge creation.....	47
Figure 3-5: Spiral of organisational knowledge creation.....	48
Figure 3-6: Components of a social theory of learning.....	51
Figure 3-7: Characteristics of practice as the property of a community.....	52
Figure 3-8: Kolb's "learning cycle" .....	54
Figure 3-9: Kolb's "learning styles" .....	54
Figure 3-10: Development of entrepreneurial capability.....	79
Figure 3-11: Triadic model of entrepreneurial learning.....	81
Figure 3-12: Five significant areas of research .....	82
Figure 3-13: Conceptual framework of owner-manager learning .....	87
Figure 4-1: Scorecard and human capital.....	91
Figure 4-2: Skandia IC navigator .....	96
Figure 4-3: Human capital in relation to added value.....	99
Figure 4-4: Discriminating IC subdomains .....	101
Figure 4-5: Understanding strategic human resource management.....	107
Figure 5-1: Interrelationships within the research process .....	110
Figure 5-2: Research philosophy and paradigms.....	115
Figure 5-3: Research philosophy framework .....	120
Figure 5-4: Research strategy process.....	122
Figure 5-5: Owner-managers' learning and growth aspirations.....	131
Figure 5-6: Time frame for the interview process.....	138
Figure 5-7: Case analysis framework .....	151
Figure 5-8: Critical learning episodes – chronological analysis .....	154
Figure 5-9: Concept of cross-case analysis .....	159

Figure 5-10: Hexagon as framework of analysis .....	162
Figure 6-1: Three central owner-manager learning phases.....	166
Figure 6-2: Insights from the key findings of Firm A .....	169
Figure 6-3: Owner manager learning and development in start-ups.....	184
Figure 6-4: Owner manager learning and development in family firms.....	199
Figure 7-1: Learning and interaction in the light of HC development in SMEs .....	220
Figure 7-2: Role transition of the owner-managers .....	233
Figure 7-3: Owner-manager learning continuum in small firms .....	242
Figure 7-4: Learning contribution of founders.....	246
Figure 7-5: Learning contribution of successors.....	247
Figure 8-1: Framework of the owner-manager learning continuum .....	259
Figure 8-2: Visualisation of the shift of owner-manager learning in start-ups.....	267

## LIST OF ABBREVIATIONS

ASS	After-Sales Service
BSC	Balanced Score Card
CAD	Computer-Aided Design
CEDEFOP	European Centre for the Development of Vocational Training
CEO	Chief Executive Officer
CIT	Critical Incident Technique
CNC	Computer Numerical Control
CoP	Community of Practice
CVT	Continuous Vocational Education and Training
CVTS	Continuing Vocational Training Survey
DILHR	Department of Industry, Labour and Human Relations
EEA	European Economic Area
EFMD	European Foundation for Management Development
ERP	Enterprise Resource Planning
EU	European Union
FOB	Family-Owned Business
GUESSS	Global University Entrepreneurial Spirit Students' Survey
HC	Human Capital
HCD	Human Capital Development
HE	Higher Education
HR	Human Resources
HRD	Human Resource Development
HRM	Human Resource Management
IC	Intellectual Capital
ICT	Information and Communications Technology
IHRM	International Human Resource Management
IIP	Investors in People
IPA	Interpretative Phenomenological Analysis
ISO	International Organization for Standardization
KC	Knowledge Creation
KS	Knowledge Sharing
KSA	Knowledge, Skills, and Abilities

LE	Large Enterprises (> 249 employees)
M&A	Mergers & Acquisitions
MBA	Master of Business Administration
OM	Owner-Manager
OECD	Organisation for Economic Co-operation and Development
QCF	Qualifications and Credit Framework
R&D	Research and Development
SBA	Small Business Administration
SME	Small and Medium-sized Enterprises (including micro SMEs)
TQM	Total Quality Management
TMT	Top Management Team
UNESCO	United Nations Educational, Scientific and Cultural Organization
VET	Vocational Education and Training
YE	Youth Enterprises

**Country codes:**

AT	Austria
CH	Switzerland
DE	Germany
LI	Liechtenstein
UK	United Kingdom
USA	United States of America



# CHAPTER 1:

## INTRODUCTION

### **1.1 Introduction – background to the research**

The broad aim of the thesis is to explore owner-manager experiences and learning processes that contribute to the management of survival and growth in small technology-based firms. The study explored these issues with two types of research participants. These are the founding owner-managers ('founders') and second-generation owner-managers of family firms ('successors'), both of these categories being in the context of small firms. The geographical context for the research was the Rhine Valley region that lies to the South of Lake Constance and embraces the border areas of Austria, Switzerland and the Principality of Liechtenstein. The area of the Rhine Valley region, extending from the south of Liechtenstein to Lake Constance, covers approximately 600 square kilometres and has a population of 350,000 inhabitants.

Despite the small size of the region, it is one of the leading areas in Europe for engineering and technology development and is well known as a region which fosters the spirit of entrepreneurship. It has been ranked among the top 10 regions of over 1200 regional clusters all over Europe and endures to be one of the most vibrant regions (CONTOR, 2004; Scherer and Gutjahr, 2012). The context raises questions of particular interest as to how the owner-managers of small firms in this region learn, and how these processes are embedded in their firms and in the region. The research presented here seeks to explore the *content* of this learning in greater depth and to explore what is learnt by owner-managers, their changing priorities for doing so and the drivers of this prioritisation.

The research field provides a convergence of interdisciplinary scientific fields of owner-manager learning and the interrelated development of HC (Pittaway et al., 2014). To provide an introduction to the region and the development of the thesis, the author briefly outlines his relationship with the area and with the research topic. This is followed by two extensive literature review chapters examining the research fields of learning in the workplace with particular emphasis on owner-manager learning and the development of HC in the context of the complexity in small firms. The framework

of the three-level analysis, the micro, meso and macro level, is introduced to cope with this complexity and the interrelationship between the internal and external business and social environment of a small firm.

The author identifies strongly with the region, as he grew up there and has lived in all three countries of the Rhine Valley. Since the start of his four-year apprenticeship as a mechanic in a family micro-business in 1984, he has gained wide work and training experience in small and multinational companies in several branches of industry as well as in the fields of vocational training, international education and entrepreneurship. In recent years, his research interests have been focused on owner-manager learning and the related development of HC in small firms, particularly in technology-based firms. The relationship with small firms and start-ups has been enhanced through contacts with the Institute of Entrepreneurship at the University of Liechtenstein as well as by the start-up founded by the author's brother in the service field of engineering maintenance in 2007.

The social integration into the life of a small business is a rich source of learning and for the most part takes place through informal learning (Marsick et al., 1999; Marsick, 2009; Ahlgren and Engel, 2011). The way in which the interaction and integration of an apprentice in a small family business can shape the process of learning and trigger the knowledge sharing process is described by the experience of the author in Appendix A.

The success story of practice at the workplace relates to the author's learning in a small manufacturing firm located in the Rhine Valley. It shows how the author took the chance to represent this small family firm in the largest skills competition worldwide. The strength of owner-manager learning and Human Capital Development (HCD) in small firms, while sometimes underestimated, turns out to be a sustainable asset. The passion, engagement and commitment of owner-managers in small and family firms promote learning and help to drive entrepreneurial spirit (Kirkwood, 2007; European Commission, 2012). The learning philosophy illustrated in this story shows many parallels with the applied learning approaches in small firms.

## **1.2 Structure of the introduction chapter**

The introduction in chapter 1 pursues three goals. Firstly, it provides an initial insight into owner-manager learning in small technology companies and secondly, it introduces the reader to the economic area of the Rhine Valley. Thirdly, as this thesis calls for a conceptual understanding of owner-manager learning as an inherently social phenomenon, the thesis is directly interwoven with firms and owner-managers in the Rhine Valley. Therefore, it is also important to point out at the beginning that the literature on the Rhine Valley is mainly written in German.

Section 1.3 begins by setting out a holistic starting point for the topic of owner-manager learning in small firms, focusing on the mutual learning process of individuals – in this case, the owner-managers within and with their small firms. The following section 1.4 defines SMEs in the context of this thesis and introduces the central theoretical frameworks. The research aim, objectives and questions in section 1.5 are shaped by the identified gap in the research relating to owner-manager learning. The applied research methodology in the context of the thesis is outlined in section 1.6. Finally, section 1.7 summarises the structure of the thesis.

## **1.3 Owner-manager learning in small and family firms**

The analysis is aimed at providing a deeper insight into the complex interrelations between owner-manager learning in small firms and their operational and social environment (Down, 1999; Cope and Watts, 2000; Rae, 2006; Deakins and Freel, 2009; Fayolle and Matlay, 2010). The research presented here seeks to address this gap by studying the parallel development processes of the owner-manager and the firm in more depth – in other words, to explore what is learnt by owner-managers, their changing priorities for doing so and the drivers of this prioritisation. Owner-manager learning in small firms has rarely been studied in the context of the continuing learning process (Cope and Watts, 2000). For this reason, the focus is on small and family firms, while the owner-manager learning is combined with critical development phases of the firm to underline the continuing process of learning. In particular, the question of how owner-managers learn and develop entrepreneurial knowledge in small firms is largely unanswered in the literature (Cope and Watts, 2000; Devins et al., 2005; Lichtenstein et al., 2006; Politis, 2008). The topics of owner-manager learning in the workplace and the development of HC have been

studied by several authors (Becker, 1993; Gonon et al., 2005; Gruber et al., 2008; Marsick, 2009; Jones et al., 2010). In his fundamental work in 1964, Becker (1993) analyses the investment in HC and the return on investment in relation to the increase in wages. Becker (1993) recognises that productivity is increased by learning new skills on the job. Today, in the era of knowledge workers, not only technical skills and competencies are crucial (Drucker, 1999; European Parliament and Council, 2008; Guldenberg and North, 2008) but also the ability to process information and knowledge. An even more interesting area of investigation is to be found in the similarities and differences between owner-manager learning in young small developing firms and family firms where the founder has handed over the reins to the initial successor (Rubenson and Gupta, 1996).

Owner-managers of small technology-based firms operate in a highly complex, dynamic and interrelated social system between employees, customers and multiple networks with fewer formal structures. These factors and the dominance of the owner-manager distinguish them from larger firms (Jones et al., 2007). The phenomenon of owner-manager learning acts in a dynamic, interdisciplinary and complex adaptive social system which cannot be treated in isolation (Down, 1999; Cope and Watts, 2000; Rae, 2006). Fuller and Moran (2001, p. 50) stress that: "Each enterprise is itself a complex adaptive system influenced, for example, by the character and intentions of the key human agent in the system [the owner-manager] ... ." The owner-managers are the protagonists in these open systems, which makes them difficult to analyse. One approach is the application of system concepts. Such concepts enable multi-level analysis of the social system in which the owner-managers operate their small firm in a competitive environment. The owner-manager and the phenomenon of learning are placed at the centre of the research process. Although the focus is on owner-manager learning, it is essential to consider the business environment (Fiol and Lyles, 1985). The mutual learning of individuals – in this case, the owner-managers within and with their small firms – is a parallel development process. The work environment influences and stimulates the learning process (Lans et al., 2008).

Authors in social science and complexity research have developed frameworks with different numbers of levels to consider this complexity. For example, Bronfenbrenner (1979) developed a model of ecological system theory with the main three levels of a

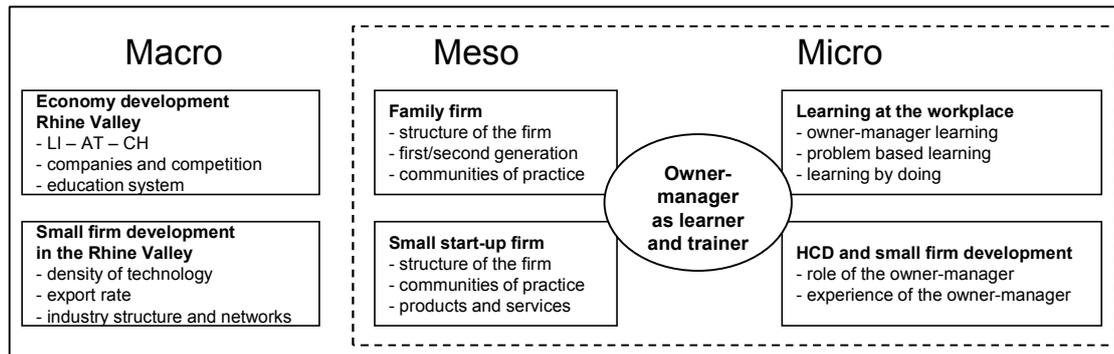
micro, meso and macro architecture. In contrast, Fuller and Moran (2001) developed a framework which is based on the interconnectedness of six ontological layers specifically aimed at understanding the enterprise dynamic. The relevant layers are positioned between the system limits of macro-economics and physiology, and encompass networks and internal functions through to the individual cognitions and mental models of the owner-managers (Fuller and Moran, 2001). The layers elaborated by Bronfenbrenner (1979), Fuller and Moran (2001) reflect the key domains of the individual, internal social and competitive business environment of small firms as well as the networks of the external business environment which influence informal and entrepreneurial learning in small firms (Birley and Westhead, 1989; March, 1991; Rae and Carswell, 2001; Devins et al., 2005; Rae, 2006; Marsick, 2009; Wiklund et al., 2009). Irrespective of the level of detail within the models, they all share the main layers of micro, meso and macro as a minimum. These are necessary to cover the dynamic system of small firms. The longitudinal study of a small firm by Lichtenstein et al. (2006) confirms that the most relevant factors of knowledge creation and performance in a small firm are training (micro level), working atmosphere and internal communication with employees (meso level) as well as socialising with external stakeholders (macro level), to name but a few. Knowledge creation and sharing in small firms is a hyper-interlinked process which addresses all three levels. Studies refer to this level system but only “a handful of studies address all three” (Macpherson and Holt, 2007, p. 177).

This simplified system of three main layers is applied in this research to cover the phenomenon of owner-manager learning in small firms in the Rhine Valley. The model provides a starting point at the macro level of economic development in the Rhine Valley with its firm structure and relationships between customers, competitors and other stakeholders. The thesis centres on the interrelationship between the meso and micro levels, which represent the firm environment and owner-manager learning. This ecological system theory forms the basis for understanding how owner-managers learn in small firms and how this learning linked with the HCD and firm development in their social environment.

Figure 1-1 shows an adapted framework of the three levels of micro, meso and macro according to the research aims. The focus of the thesis is on owner-manager

learning, which is at the centre of the micro and meso levels and is symbolised by a dotted line in the framework. Although the individual learning of the owner-manager is central to the development of the firm, it cannot be analysed without considering the context of the external business environment, i.e. the macro level.

**Figure 1-1: Three levels of analysis**



Source: Author

## 1.4 Theoretical foundations

### 1.4.1 Introduction of applied theory

This section begins with the definition of small firms as this provides the context of the research. Moreover, theoretical and empirical approaches of entrepreneurial learning, workplace learning and the theory of IC and HC are examined in respect of their suitability to describe owner-manager learning in small firms during firm development. The life-cycle theory is used to visualise the transition of the owner-manager learning focus during the firm development stages.

The thesis focuses on owner-manager learning in the workplace and embeds their learning in the business and social environment. Although the theory of cognitive learning processes such as Piaget’s (1969) stage theory of cognitive development is fundamental to learning, it is not the focus of this thesis. However, the thesis does focus on the applied theory of entrepreneurial learning and *content*-related workplace learning build on the theory as “learning in the strict sense is defined as the acquisition of information ... and skills through ... experience and exercise” (McCarthy Gallagher and Reid, 2002, p. 39).

### **1.4.2 Definition of small and family firms**

The definition of small firms varies widely and consequently the label is open to interpretation (Bolton, 1971; Hill and Steward, 2000; Macpherson and Jayawarna, 2007). “There is no universal definition of a micro-firm” (Kelliher and Reinl, 2009, p. 522). However, one characteristic common to all definitions of small firms is the idea that it is the opposite of large, established, hierarchical and multinational firms. In the following, the key definitions which are relevant to the purpose of this research are explained.

In their cross-sectional analysis, Birley and Westhead (1989) identified eight different types of small firms which are characterised by internal variables and by external variables. Their analyses revealed fundamental variables for identifying small firms. Ownership structure proved to be the most decisive variable. Further variables are the business sector, the age of the firm, the product and service ranges as well as the customer, supplier and competitor structures. Finally, the variables of product and market positioning complete their findings. The ownership structure is subdivided into four classifications: owner-manager led, diluted owner-manager led, manager led with founders as partners and mature family businesses with successions.

Wynarczyk et al. (1993) used different types of variables and perspectives on defining a small firm to describe the types of firms such as size, age or turnover, which are in contrast with the conventional variables. This approach is based on the typical characteristics of uncertainty, innovation and evolution that distinguish small firms from large enterprises.

- The uncertainty is associated initially with the small market share along with the limited number of customers and product portfolio. Small firms are often dependent on one or two key customers, or are subcontractors of large firms.
- Small firms play a central role in innovation in their particular niche, where they can provide customised products or services which distinguish them from the standard provided in larger firms (Storey, 1994).
- The third main difference between a small and a large firm is the position within the life-cycle. A young, small firm has a greater likelihood of

transitioning into becoming a larger established firm. Each movement from one life-cycle stage to another requires various adjustments and changes in the management, the employees and the organisation structure in order to cope with the next evaluation stage successfully.

In comparison with the definition of characteristics to describe small firms, the approach of the European Commission relies on figures. The definition of small and medium-sized firms according to the European Commission (2003a) is one of the most widely quoted standard definitions in Europe. Table 1-1 below summarises the definition by key figures for SMEs in Europe. Nonetheless, there are different definitions in use and this makes the comparison of research results difficult. The U.S. Small Business Administration (SBA, 2009) describes companies with fewer than 500 employees as a small enterprise.

**Table 1-1:  
Definition of SMEs**

<b>Enterprise category</b>	<b>Headcount</b>	<b>Turnover</b>	or	<b>Balance sheet total</b>
Medium-sized	< 250	≤ € 50 million		≤ € 43 million
Small	< 50	≤ € 10 million		≤ € 10 million
Micro	< 10	≤ € 2 million		≤ € 2 million

Source: European Commission (2003a)

Bolton (1971) provided a definition of small firm in order to overcome the problem of classifications. The interesting feature of his approach is the fact that the number of employees was related to different sectors as well as to market share, and is still used by the U.S. Small Business Administration to this day. A firm in the manufacturing sector was defined by Bolton as small when the headcount was less than 200. In contrast, a firm in the construction sector was defined as small when the number of employees was less than 25.

Storey (1994, p. 16) points out that “researchers, however, are likely to have to continue using their own definitions of small enterprises which are appropriate to their particular ‘target’ group.” As long as the debates about the definition and the classifications of small firms, and in particular micro firms, are ongoing, the literature will present a biased picture of the training provided and undertaken in small firms.

Therefore, the definition of small firms of the European Commission is applied to categorise small firms in this thesis. This definition is even more important as “in the enlarged European Union of 25 countries, some 23 million SMEs provide around 75 million jobs and represent 99% of all enterprises” (European Commission, 2003a, p. 5).

The topics of owner-manager learning and knowledge sharing in small firms are fundamental sources of the thesis. The next subsections provide an overview of owner-manager learning and HCD in small firms.

### **1.4.3 Owner-manager learning and the development of small firms**

Rae and Carswell (2001, p. 150) call “for a greater understanding of how entrepreneurial capabilities are developed through life and work.” According to Rae and Carswell (2001), entrepreneurial learning can be divided into two main areas. Firstly, learning occurs in all the processes in which owner-managers recognise and act on opportunities and secondly, they learn from experience when they manage and organise their firms.

Cope and Watts (2000) analysed the parallel processes of personal development and organisational growth. They note that critical incidents and episodes are important events for the development of a business and at the same time these events trigger the transformational learning process of the entrepreneurs. The same authors emphasise that it is important when developing a conceptual framework to consider the hyper-complex interactivity between the owner-manager and the dynamic business environment. A useful concept is the learning prior to the start-up (‘learning history’) and during the entrepreneurial process (‘learning tasks’) (Cope, 2005). The process of entrepreneurial learning in particular is recognised as an important source of competitiveness (Wiklund and Shepherd, 2003; Rae, 2006). However, the interrelated processes of entrepreneurial learning and HC from the owner-manager’s point of view have barely been explored in the context of small growing firms (David and Watts, 2008; Jones et al., 2010; Ahlgren and Engel, 2011).

#### **1.4.4 Human capital development in small firms**

The topic of HR practices in small firms, as related to attracting, staffing and social networking for new employees in SMEs, has started to become a central research issue due to the shortage of skilled labour in the modern knowledge-based economy (Heneman and Berkley, 1999; Audretsch and Thurik, 2001; Rollag et al., 2005; Barber, 2006; Marlow, 2006). Small entrepreneurial firms often have an unknown reputation and limited resources to attract employees (Williamson, 2000). David and Watts (2008) suggest that hiring the first employee is often a critical event and that owner-manager experience of becoming an employer has a significant impact on future employment strategy and practices. Matlay (2000) showed that training in small firms takes place both incidentally as a reactive strategy and intentionally as a proactive approach, concluding that only a minority of small business owner-managers manage learning in a strategic manner. Although small entrepreneurial firms have these limitations, owner-managers are able to leverage the available resources in order to create a competitive advantage; Johnson et al. (2003, p. 7) argue that “the value of a resource depends not on its existence but on its utilisation.” The HC of the owner-manager is applied in creating a working atmosphere in which knowledge and learning are valued (Jones et al., 2007; Jones et al., 2010). Tornikoski and Newbert (2007, p. 330) suggest that “specifically improvising and resource combination behaviors” foster the legitimacy of a young organisation. The internal processes of cooperation foster the development of tacit knowledge and enhance “the uniqueness of a firm’s human capital” (Lepak and Snell, 1999, p. 35). Stewart (1997) emphasises that HC is embodied in employees and is therefore difficult to replace. The ‘HR Architecture’ matrix by Lepak and Snell (1999) shows that HC is defined by the functions of uniqueness and value. Despite the shortage of skilled labour, young firms often develop and promote their employees rapidly (Hayton, 2006).

## **1.5 The Research**

### **1.5.1 Owner-manager learning – identified gaps in knowledge**

The thesis has investigated the literature and body of research on entrepreneurial learning and the development process of small and family firms as well as intellectual and HC theory in order to illuminate the phenomenon of owner-manager learning in small technology-based firms when firms develop. In terms of the main findings of the literature review, knowledge creation and owner-manager learning in small firms mainly take place in the workplace and in the social network (Down, 1999; Fuller-Love, 2006; Rae, 2006; Lans et al., 2008; Deakins and Freel, 2009; Higgins, 2009; Wenger, 2009; Man, 2012; Higgins et al., 2013), as highlighted in chapter three. Most of this learning is informal, incidental and often unconscious (Marsick and Watkins, 1990, 2001; Eraut, 2004a; Carr and Gannon-Leary, 2007). The gap in academic research exists with regard to how owner-managers of small or small family firms learn, what they do in this owner-manager learning process and how they utilise the knowledge in the context of social networking to increase the stock of knowledge and, HC as the firm develops.

The literature provides a rich source of insights that allow an enhanced understanding of the learning fields of the owner-managers. However, the learning flow for owner-managers over time has not been the subject of such extensive analysis. The training and HRD literature on small firms concentrates on skills, training and learning forms mainly investigated from the employees' point of view "rather than for owner-managers of such businesses" (Johnson, 2002, p. 285). The owner-manager is responsible for the training provided and therefore often indirectly reflects his/her learning attitude (Matlay, 2002). Lindgren and Packendorff (2009, p. 27) criticise the fact that existing research practices are refined and adapted "without questioning the views of human beings."

The analysis of the literature in the field of owner-manager learning in small firms shows that learning is often related to external formal training courses or to the number of staff involved (Westhead, 1998; Patton and Marlow, 2002; Jayawarna et al., 2007). Other key indicators in surveys about learning in small firms include the percentage of profits spent on further training or the participation in national training

programmes (Matlay, 2004). Particularly in small firms, the management knowledge and skills of owner-managers contribute to the survival and growth of the business (O'Dwyer and Ryan, 2000; Fuller-Love, 2006; Kelliher and Reinl, 2009).

The way in which owner-managers learn how to start a business, or the skills required by successors in a small family firm are seldom addressed in the literature. Aldrich and Cliff (2003) note that today business creation is focused on the founders, although over 90% of businesses are family businesses. In their research, Carsrud and Brännback (2010) highlight eight factors to underline the complexity of family businesses, which also include the topic of knowledge transfer within family firms. Carsrud and Brännback (2010, p. 60) emphasise: "The lack of adequate research on such tacit knowledge reflects the fact that family business research has been constrained in its scope because of the theoretical concepts examined and the complexity of the interaction of those concepts in reality."

In particular, there is a research gap in respect of how owner-managers learn the required management skills in the context of small businesses (Devins et al., 2005; Fuller-Love, 2006; Zhang et al., 2006; Higgins and Aspinall, 2011). There are few key studies which investigate in depth the entrepreneurial learning process in small firms (Cope and Watts, 2000; Rae and Carswell, 2001; Hill et al., 2002; Cope, 2005; Kelliher and Henderson, 2006; Rae, 2006; Kempster and Cope, 2010) or the influences of ownership in training in SMEs (Jayawarna et al., 2007; Macpherson and Jayawarna, 2007), and few studies about the learning process in family firms (Hamilton, 2006; Zahra et al., 2007; Pardo-del-Val, 2009; Hamilton, 2013).

Besides this content-specific gap, there is also a gap in studies regarding the learning in small and family businesses in the Rhine Valley. The "Alexandria" research database of the University of St. Gallen (University of St. Gallen, 2009) and the library of the University of Applied Sciences of Vorarlberg in Dornbirn (FH Vorarlberg, 2009) were screened with the categories of "family business" and "Unternehmensführung von Klein- und Mittelunternehmen (KMU)" (management of small and medium-sized enterprises). The former shows 45 hits and the latter 43 hits. In both categories, the topic of owner-manager learning was not directly present. The analysis of the library at the University of Applied Sciences in Dornbirn showed just one master's thesis relating to the topic of small firms in the Rhine Valley: "Neue Technologien im

Innovationsprozess; Überprüfung der Auswirkungen von neuen Technologien auf den Produktentwicklungsprozess und das Outsourcing-Verhalten in der Produktentwicklung anhand Unternehmen im Rheintal” (new technologies in the innovation process; investigation of the impacts of new technologies on the product development process and outsourcing behaviour in product development on the basis of enterprises in the Rhine Valley). Neither the starting point of the topic of owner-manager learning nor the prosperous Rhine Valley with its excellent conditions for small firms has received much attention in research to date. This motivated the author to investigate this relevant and interesting research theme.

### **1.5.2 Research aims**

The research main aim is to explore the learning of founding owner-managers<sup>3</sup> (‘founders’) and initial successor owner-managers (‘successors’) in small family firms in greater depth, focusing on both *content* and *process*. An additional aim is to gain a richer understanding of the changes in the focus and perceived priorities for learning over time as the firm develops in order to map the owner-manager’s pattern of learning, or ‘learning trajectory’<sup>4</sup> over the business life-cycles. A further aim is to analyse the differences between the learning trajectories of founders and successors. Additionally, the research aims to investigate the HCD related to the *content*-specific learning in small firms.

### **1.5.3 Research questions**

1. How do owner-managers experience and conceptualise problems of growth in their small firms in the Rhine Valley?
2. How do the learning priorities of founding owner-managers change during the firm’s development?
3. How do the learning priorities of successor owner-managers in small family firms change during the firm’s development?

---

<sup>3</sup> The term owner-manager is used in this thesis for both types of owner-managers, i.e. founders and initial successors, in small firms.

<sup>4</sup> The term ‘learning trajectory’ is used throughout this thesis to represent both the direction of learning (in terms of its *content*) and its intensity, reflecting the motivation and felt priorities of the owner-manager (Sohler and Watts, 2012)

4. How are the processes of owner-manager learning and HCD in small firms interrelated?
5. How do the learning trajectories differ between founders and initial successors in small firms?

#### **1.5.4 Research objectives**

1. To analyse the aspects of small firm development that owner-managers find challenging.
2. To explore the learning processes and personal development in responding to these challenges of owner-managers who founded a firm or took over a small family firm as initial successor.
3. To understand the ways in which owner-managers of growing firms manage the development of human capital.
4. To develop a conceptual framework which provides an enriched understanding of the interrelated processes of owner-manager learning and HCD in small, growing firms.
5. To provide recommendations for customised continuous training modules for owner-managers of small firms in the Rhine Valley.

#### **1.6 Methodological context of the research**

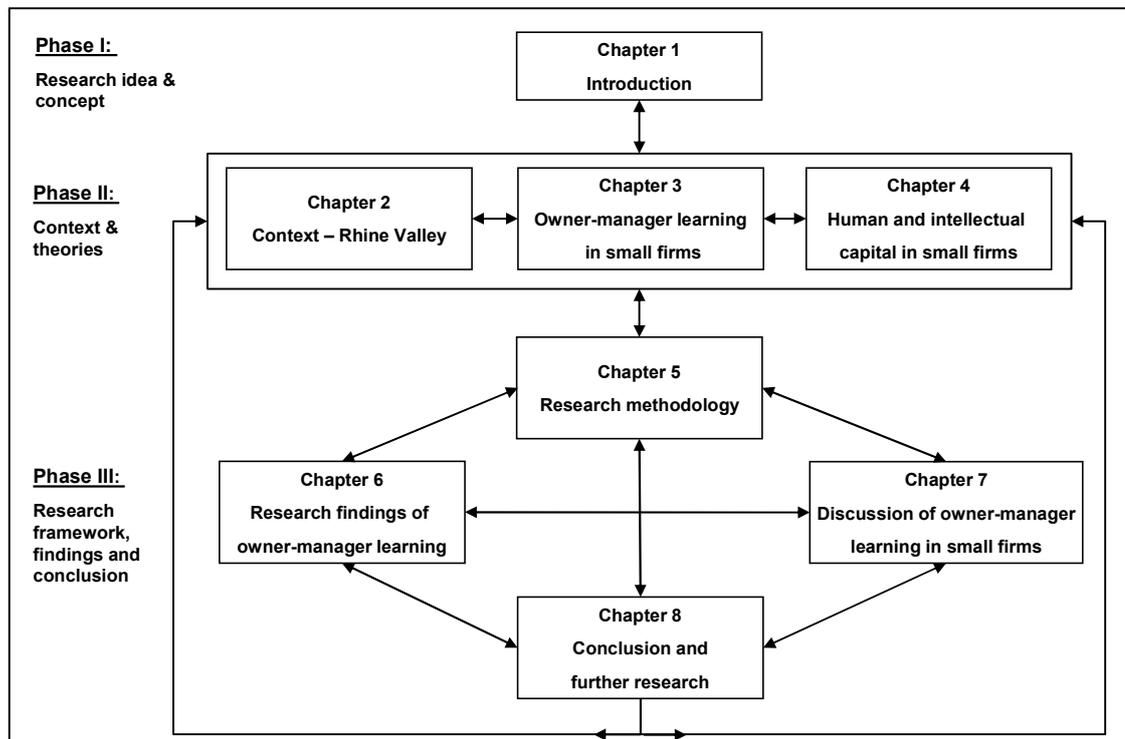
The object of the research is to explore the phenomena of owner-manager learning in small technology-based firms and the interrelated process of HCD when their firms develop. Most of the literature is focused on large firms and only a small part of the literature covers this research context of learning in small firms (Westhead and Storey, 1996; Cope and Watts, 2000; Hill and Steward, 2000; O'Dwyer and Ryan, 2000; Politis, 2008). The research questions capture both causal and contextual influences of owner-manager learning and because the focus is on the experience of owner-managers in their natural context, a phenomenological approach is appropriate (Flick, 2007a; Saunders et al., 2009; May, 2011). The interest from the relativist's perspective focuses on the understanding and interpretations of the learning and social environment of the owner-managers. The phenomenological research paradigm is adopted in order to facilitate deeper insights into the owner-manager learning processes in small technology-based firms.

Yin (2002) highlights the fact that, when the research questions “how” or “why” are being asked about a contemporary phenomenon within some real-life context, a case study research strategy is preferred. “Case study is a strategy for doing research which involves an empirical investigation of a particular contemporary phenomenon within its real-life context using multiple sources of evidence” (Robson, 2002, p. 178).

## 1.7 Structure of the thesis

The thesis captures two research areas. These are interlinked with the owner-manager learning and continuous development processes of founding owner-managers (‘founders’) and initial successor owner-managers (‘successors’) in small family firms as well as with the development of HC. Thus the research is able to overcome the frequently discussed issue of limitation of integration of research focus (Pittaway et al., 2014). The thesis is structured in eight chapters as visualised in Figure 1-2.

**Figure 1-2: Structure of the chapters**



Source: Author

### **1.7.1 Chapter one: Introductory chapter**

This introductory chapter is followed by the second, which opens the literature review with definitions and specific characteristics of the Rhine Valley. Chapters three and four provide an in-depth literature review of owner-manager learning and HCD in small firms. Chapter five highlights the applied research methodology and the model developed for analysing the field data. The field research in chapter six applies a case study strategy with a multiple-case study. In chapter seven, the findings of all six sample companies are discussed in detail and the established model of continuous owner-manager learning in small firms is described. Finally, chapter eight provides a review and conclusion on the key findings, the contribution to knowledge, limitations of the research, an outlook for future research perspectives, recommendations for policy and practice and personal reflections.

### **1.7.2 Chapter two: Significance and context of the study**

The Rhine Valley itself is often called the “Entrepreneurial Valley” (Güldenbergh, 2008). All three countries of this region – Austria, Liechtenstein and Switzerland – have shown similar economic development during the last half-century. Around 90% of companies in the Rhine Valley employ fewer than 50 people; some 99% have fewer than 250 employees (Austrian Economic Chamber, 2010; Statistik Schweiz, 2010; Office of Economic Affairs, 2012; Wirtschaftskammer Vorarlberg, 2012). Studies of regional development in the last decade come to the same conclusion (CONTOR, 2004; Eisenhut and Bodmer, 2007; Eisenhut and Schönholzer, 2008; Scherer and Gutjahr, 2012). The Rhine Valley is one of the most dynamic and competitive regions in Europe and shows a high density of high-tech companies. These companies are family businesses as well as small start-up firms.

### **1.7.3 Chapter three: Owner-manager learning in small firms**

This chapter focuses on the analyses of complementary frameworks and findings of past and current research in the field of learning in small firms. First of all, the development of entrepreneurial learning literature is analysed. Learning in the workplace and the community of practice (CoP) approach are ranked as important modes of learning in small firms. The empirical approaches are examined in respect of their suitability to describe the different forms of formal, informal and non-formal learning.

#### **1.7.4 Chapter four: Human and intellectual capital**

Chapter four explores HC and the related fields of IC and organisational development. The elements of HC are related to the specific owner-manager learning and development processes in small firms.

Organisational development presents a challenge for the owner-manager in several respects, as he or she has to react to both external and internal changes (March, 1991; Matlay, 2005; Politis, 2008). This illustrates the dual role of an owner-manager as learner and trainer. The development of HC is analysed according to owner-managers of two types of small firms: the small start-up firm and the small family firm. The analysis of these two types of small firms focuses on synergies, patterns of HCD, learning processes and external recruitment.

#### **1.7.5 Chapter five: Research methodology**

Chapter five is focused on the research methodology. The choices of philosophical perspective and research approach are justified. The chapter reviews a number of research paradigms to underline the different philosophical positions, research methods and research strategy before making these choices. Furthermore, the methodological processes of qualitative data collection and analysis are described in detail in order to fulfil the research objectives. The sample, the developed hexagon framework and the case analysis process are described in detail. The sample consists of six owner-managers running small firms. These are divided into two groups. Group one includes three founding owner-managers and group two consists of three owner-managers who are the initial successors to the management of small family firms. Finally, the topics of research ethics, robustness of the findings and limitation are discussed.

#### **1.7.6 Chapter six: Findings relating to owner-manager learning in small firms**

Chapter six presents key findings surrounding the different learning trajectories of owner-manager learning in small firms. Furthermore, it shows the problems with growth encountered by the owner-managers, which are related to critical learning events (Phelps et al., 2007). The analysis of these critical learning events uses the

hexagon framework developed in chapter 5. The hexagon framework is used as graphic device for the mapping of the learning trajectories according to the six main learning dimensions of the owner-managers. The in-depth analysis of each critical episode along the compiled life-cycle diagrams of all six case study firms identified an owner-manager learning process which can be divided into three phases.

### **1.7.7 Chapter seven: Discussion of the key findings**

Chapter seven is divided into three sections to discuss the key findings. The first section addresses the processes of owner-manager learning and related role transitions. The investigation of the interrelated development of HC in small firms is the focus of the second section. The final section concludes with the introduction of the developed holistic conceptual framework for mapping the continuing owner-manager learning in small firms. The development processes of the firm and the learning of the owner-manager are shown to be closely interrelated and mutually dependent.

### **1.7.8 Chapter eight: Conclusion and further research perspectives**

The key research findings and the central contribution to knowledge are addressed in depth in chapter eight. These findings indicate that owner-manager learning in small firms primarily takes place in the workplace. However, the founding owner-managers and the initial successors to family businesses followed very different learning trajectories, and the reasons for this are summarised. Two conceptual frameworks are proposed as valuable devices for the analysis of owner-manager learning and the learning trajectories pursued. The research is critically reviewed and its limitations are discussed, as are recommendations for future research and implications for policy and practice. The chapter closes with a personal review of the research journey followed by the author.

## CHAPTER 2:

### GROWTH TO FOSTER A COMPETITIVE REGION

#### **2.1 Overview**

This chapter includes findings on owner-manager learning processes and HC generation in small firms in the Rhine Valley. While the region has only a few firms with more than one thousand employees, there are thousands of small firms with fewer than fifty employees (Austrian Economic Chamber, 2010; Statistik Schweiz, 2010; Office of Economic Affairs, 2012). These firms are small in absolute terms but create value and “are critical to the economy in which they are found” (Gartner and Birley, 2002, p. 393). The Rhine Valley has given rise to a vibrant environment in which to establish a firm (Scherer and Gutjahr, 2012). The process of industrial restructuring has been transforming developed economies, where small firms account for a greater share of economic activity (Audretsch et al., 2002; Carr and Gannon-Leary, 2007). Studies of regional socio-economic development underpin a link between the development of a region and the available human and entrepreneurial capital (Matlay, 2002; Audretsch and Keilbach, 2005; Audretsch and Monsen, 2008; Gries and Naude, 2008). However, there exists a gap in the knowledge of how owner-managers of small firms align and multiply their HC to develop the firm within the specific niche. The purpose of the following part of the thesis is to explain the educational framework conditions and business environment of small firms in the Rhine Valley.

#### **2.2 Learning processes and HC in small firms in the Rhine Valley**

The author analyses the experience and the participative observation<sup>5</sup> of owner-manager learning and HC development in small firms in three countries of the region of Lake Constance and the Rhine Valley (Austria, Liechtenstein and Switzerland). The analysis is aimed at providing an initial insight into the complex interrelations between the topics of learning of owner-managers, accumulation of knowledge,

---

<sup>5</sup> The observation and experience have been analysed with the aid of additional studies and publications to provide a holistic insight into the topic as well as a triangulation approach.

development of HC in small firms and their operational and social environment. Human beings are the active drivers who exploit the passive capital and natural resources in order to carry forward development (Psacharopoulos and Woodhall, 1997).

The analysed region of Lake Constance and the Rhine Valley is one of the leading areas in Europe for engineering and high-tech development and a place which fosters the spirit of entrepreneurship (Kirkwood, 2007; European Commission, 2012). It was ranked among the top 10 regions of over 1200 regional clusters all over Europe and continues to be one of the vibrant regions (CONTOR, 2004; Scherer and Gutjahr, 2012). The question of particular interest is why this region is so successful for owner-managers.

It can be argued that there is not one activity which is responsible for this success. It is the sum of a wide range of strategic activities in this region at different levels which generate the success (CONTOR, 2004; Saurwein, 2008; Scherer and Gutjahr, 2012). One key driver is based on the cultural background and the “friendly competition” between the adjoining regions of all three countries (Scherer and Gutjahr, 2012). The technological development in one country encourages the other country to top this technology. Another reason for the healthy economic development is the large commuter streams, in particular from Austria to Switzerland and Liechtenstein, and from Switzerland to Liechtenstein, which are the most intensive of those in the Rhine Valley (Eisenhut and Schönholzer, 2008; Saurwein, 2008; Herzberg et al., 2010).

The traditional cross-border cooperation and networks have been strengthened since Liechtenstein became a member of the EEA<sup>6</sup> and Austria joined the EU<sup>7</sup> in 1995. Membership of the EU and the EEA has provided both countries with access to a wide range of European programmes, in particular in the fields of structural funds, research, education and learning. Moreover, Austria’s EU membership and Liechtenstein’s EEA membership have enabled them to take advantage of EU grants to stimulate regional development, particularly in the fields of research and education.

---

<sup>6</sup> The European Economic Area (EEA) consists of Iceland, Liechtenstein and Norway. The EEA provides for the free movement of persons, goods, services and capital.

<sup>7</sup> The European Union (EU) is a politico-economic union of 28 member states in Europe

In the area of education, all three countries in the Rhine Valley promoted the introduction of children's universities between 2003 and 2005. Taking part in the lectures not only arouses the children's curiosity and improves their attentiveness, but also enhances their learning performance (Wojewoda, 2007; MacBeath, 2011). Topics are introduced to the children in a playful manner. This fosters their understanding of technical and socially relevant issues and provides them with experience that can help them later on in life with educational and career choices. The evaluation of the side effects and impacts of the early contact with universities is in its infancy. In the German-speaking countries, the concept of children's universities began with programmes in the year 2002 (Wojewoda, 2007). The initial results of the evaluation of children's universities in the United Kingdom show positive effects on school attendance as well as on self-driven and collegial learning (MacBeath, 2011).

Moreover, the cross-border cooperation between universities and the coordination of study subjects like the Global University Entrepreneurial Spirit Students' Survey (GUESSS) or the programme of Youth Enterprises (YE) has enhanced the position of universities. The latest cooperation between the universities of St. Gallen and Liechtenstein is strengthened by the joint publication of one of the oldest journals in the field of entrepreneurship. The journal "Zeitschrift für KMU und Entrepreneurship" is already in its 58th volume and is the only one published in German (Baldegger et al., 2010).

Based on this introduction, it becomes apparent that several factors influence the success of a region as well as the development of entrepreneurial spirit and the associated owner-manager learning in small firms. A brief overview of the history of the Rhine Valley in the context of its development, its strong vocational training system, the learning places and the economic figures is aimed at familiarising the reader with the setting and the framework conditions of the Rhine Valley and the thesis.

### **2.2.1 Historical overview**

Before the economic development of the Rhine Valley and, in particular, the entrepreneurial landscape is explained, it is worth taking an in-depth look at the significant and at the same time difficult position of small firms in order to obtain a full

understanding. During the industrialisation period, the existence of small firms received minor attention from politicians and researchers. Stokes and Wilson (2006, p. 7) state: “Guided by politicians and management theorists, public perception of small business has shifted in recent times from extremes of neglect and ignorance to hype and over-expectation.”

The chronological focus of the analysis itself covers the last two decades. However, for an overall understanding of the general framework conditions of the Rhine Valley, it is important to briefly go back to the middle of the 20<sup>th</sup> century. The solid and entrepreneurial backbone of the Rhine Valley is based on at least five components. These are firstly the development and enormous growth of a new start-up generation from the middle of the last century, secondly the interrelated shift from agriculture to the industrial sector, thirdly the expansion of the dual vocational training system, fourthly the establishment of further Vocational Education and Training (VET) institutions as well as Higher Education (HE) and research institutions, and finally the strong commitment to the membership of WorldSkills International (Blum, 2004; Masdonati et al., 2010; Hoffman, 2011). WorldSkills International was founded in 1950 in Spain and has become established as the largest international competition for young skilled workers (WorldSkills, 2010).

The review of start-up companies in the Rhine Valley can be differentiated into three generations from the middle of the last century. Audretsch (2002, p. 6) underlines that “first, the relative role of SMEs varies systematically across countries, and secondly, in most European countries and in North America, SMEs began increasing their relative importance starting in the mid-1970s.” The owner-managers of the first generation of start-up companies focus on new product developments. New technologies have been established within the clusters and networks of these first-generation companies. The prosperous period of the nineteen-sixties, seventies and eighties provided the incentive for experienced and skilled employees from these companies to start up their own (family) businesses. This marked the second start-up generation as suppliers of niche products for these first-generation companies. Hicks and Hegde (2005) identified that small firms also tend to be specialist suppliers of technology in well-developed markets. Start-up companies of the third generation in the time span from the nineties to the present day have assumed a leading role in the

development of components, software and services, e.g. consulting and marketing activities for firms of the first or second generation. Table 2-1 summarises the definition of the start-up generations, the triggers and the main time period.

**Table 2-1:  
Three generations of start-ups in the Rhine Valley**

<b>Start-up / Generations</b>	<b>Trigger for Start-ups</b>	<b>Time Period</b>
First	The development of new products is the prime motivation. The large, nowadays multinational pioneer firms represent this generation.	1940 to 1959
Second	These start-ups emerged mainly as niche suppliers of products for the first generation. Many of today's family firms belong to this second generation. The second generation shows a close relationship with the parent company.	1960 to 1989
Third	The third generation is mainly focused on services, e.g. marketing, consulting, software development or project management for companies of the first and second generations.	1990 to today

Source: Author

Most of today's multinational companies in the Rhine valley were established in the 1940s and 1950s (Merki, 2007; Austrian Economic Chamber, 2010; Office of Economic Affairs, 2012). Table 2-2 shows 11 leading pioneer companies and their development from start-up to multinational company. While this brief overview does not claim to be complete, the selected firms have played a major role in the development of vocational training systems in the region analysed. There are countless other medium, small and micro firms which have invested efforts in the successful development of the dual system of vocational training in the Rhine Valley (Blum, 2004; OPET, 2007; Austrian Economic Chamber, 2010; Office of Economic Affairs, 2012).

**Table 2-2:  
Eleven leading companies**

Founder	Country	Company	Year of foundation	Business / Sector	Employees 2012
Konrad Doppelmayr	AT	Doppelmayr	1892	Ropeway technology, cable cars (cable car over the Thames in 2012)	2,200
Heinrich Wild	CH	Wild Heerbrugg AG, now Leica	1921; Wild Heerbrugg AG was founded 1954	Optical, mechanical and electronic precision instruments, e.g. GPS- and laser-based systems	3,500
Family. Stadler	CH	SFS Holding AG	1928	Hardware store	4,100
Gustav Ospelt	LI	Hoval	1936	High-tech heating, cooling and heat exchanger systems	1,000
Martin und Eugen Hilti	LI	Hilti AG	1941	High-tech products for construction, e.g. drilling and demolition	22,000
Not available	LI	Presta, now ThyssenKrupp Presta AG	1941	Manufacture of steering columns and assembled camshafts	4,000
Dr.Dr.h.c. Max Auwärter	LI	Balzers AG, today OC Oerlikon Balzers AG	1946	Solar, thin film, vacuum propulsion, textile and precision technology	17,200
Alfred Grass	AT	Grass GmbH	1947	Engineering: furniture fittings and drawer slide systems	1,800
Dr. Walter Zumtobel	AT	Zumtobel Group	1950	Lighting solutions	7,500
Julius Blum	AT	Blum	1952	Engineering: furniture fittings and drawer slide systems	5,500
Alwin and Helmut Lehner	AT	ALPLA	1955	Plastic bottles, tubes and caps	11,500

Source: Author

To date, these 11 companies have generated around 80,000 workplaces on a global scale. It is worth noting that all companies foster the dual vocational training system and provide training places for over 1,000 apprentices in the region. The enormous growth of these companies has influenced the region in several business fields and training methods. Employees have been attracted by a new kind of work and work-based training (Oberholzer and Dorr, 2008; Härtel, 2009; Austrian Economic Chamber, 2010). Table 2-3 summarises the employment figures of all three sectors in

Austria, Germany, Liechtenstein and Switzerland. A remarkable feature is the fact that the services sector dominates in all countries, while Liechtenstein also has a high industrial share with around 40% (Office of Economic Affairs, 2012).

**Table 2-3:  
Persons employed by economic sector in 2010**

	<b>Austria</b>	<b>Germany</b>	<b>Liechtenstein</b>	<b>Switzerland</b>
Sector 1: Agriculture	5.2%	1.6%	0.8%	3.4%
Sector 2: Industry	25.0%	28.2%	40.6%	21.6%
Sector 3: Services	69.8%	70.2%	58.6%	75.1%

Source: Office of Economic Affairs, Statistics Division (2012)

## 2.2.2 Small firm development in Liechtenstein

Liechtenstein is geographically an entire part of the Rhine Valley. All other countries only have subareas within the Rhine Valley. For this reason, the figures and economic structures relating to Liechtenstein have been used to represent the area as a model region. Table 2-4 shows the development of the numbers of enterprises in Liechtenstein according to the three economic sectors and the size of company.

**Table 2-4:  
Development in the numbers of enterprises in Liechtenstein**

	<b>2005</b>	<b>2009</b>	<b>2010</b>	<b>Change 2009/10 (%)</b>
<b>Economic sectors</b>				
Sector 1: Agriculture and forestry	126	98	98	0.0
Sector 2: Manufacturing	597	578	578	0.0
Sector 3: Services	2531	3095	3151	1.8
<b>Company size</b>				
1 - 9 employees	2784	3248	3301	1.6
10 - 49 employees	394	428	437	2.1
50 - 249 employees	59	78	72	-7.7
> 250 employees	17	17	17	0
<b>Total</b>	<b>3254</b>	<b>3771</b>	<b>3827</b>	<b>1.5</b>

Source: Office of Economic Affairs (2012)

### 2.2.3 Formal learning environment

Since the middle of the 20<sup>th</sup> century, economic growth in all business fields has led to an abundance of new techniques, technologies and working methods being established (Drucker, 1999; Guldenberg and North, 2008). At the same time, the outstanding growth of the pioneer companies and the development of second-generation businesses caused a significant demand for skilled workers in the Rhine Valley (Blum, 2004; Merki, 2007; Hoffman, 2011). The use of new technologies called for new concepts for training and for the transfer of knowledge. While four education systems of formal learning can be identified, the dual vocational training system is the most frequent form of formal learning in the Rhine Valley. Table 2-5 provides an abstract of organisation types from initial VET to CVET and HE.

**Table 2-5:  
Education system: from VET to HE**

Education system	Description of the system
Dual vocational training	The apprenticeship in a dual vocational training system is twofold. Apprentices spend three to four days training on the job and one to two days in a vocational training school. The on-the-job training is financed by the company, whereas the vocational school is financed by the state.
Vocational training schools of engineering	Schools and colleges of engineering offer courses in different areas. These focus on high-quality training in technical theory and practical training. Together, the components build a solid basis for an efficient transition into the labour market or to universities.
Technical colleges (Abendtechnikum <sup>8</sup> )	Technical colleges were established in response to the demand for highly qualified employees in industry, particularly in Switzerland and Liechtenstein. In 1955, the region's first Abendtechnikum was founded in St. Gallen, followed by the Abendtechnikum in Vaduz in 1961 and Chur in 1963. Dornbirn established its first technical college at tertiary level in 1989. In the meantime, this type of college has been replaced by the universities of applied sciences.
Universities of applied sciences	A university of applied sciences enjoys equal tertiary-level status with other universities and institutions in HE. The focus of a university of applied sciences is to promote the practical application of knowledge. The New Technikum Buchs (NTB) was founded in 1968.
Universities	Until 2008, the University of Innsbruck (founded in 1669) along with the universities of Zurich (1833), St. Gallen (1898) and Konstanz (1966) were the nearest universities for students from the Rhine Valley. In 2011, the government of Liechtenstein announced that the Hochschule Liechtenstein was to become the University of Liechtenstein.

Source: Author

---

<sup>8</sup> An "Abendtechnikum" was an engineering college for people in employment during the period from 1961 to 1992. Skilled and experienced employees attended classes every evening after their regular work, generally from 5pm to 9pm and on Saturdays. Studies took nine semesters and were completed with a dissertation. As a result of the difficulty in meeting the high threefold demands of the workplace, family and study, classes regularly had dropout rates exceeding fifty per cent over the whole study period.

## 2.2.4 Initial vocational training

The first vocational training school of the region was founded in 1908 as the Imperial and Royal School of Draughtsmanship in Bregenz (Gerhold and Trenker, 1990). In 1951, the school was renamed as the School of Engineering (“HTL Bregenz”) to meet the requirements of the changed economy and society. On behalf of industrial and employee associations, an initial Vocational Training Act was developed in Switzerland and came into force in 1933. In contrast, Liechtenstein did not obtain its initial Vocational Training Act until 1976. Before that date, vocational training in Liechtenstein was regulated in accordance with § 1173a Art. 1 ff. of the Civil Code from 1 June 1811 (Government of Liechtenstein, 1811).

Lave and Wenger (1991) describe situated learning according to the concept of the apprenticeship in a work-based learning environment. Europe does not have a uniform approach to VET. The development of VET has been closely related to the country’s tradition, culture and the development of the economy (Grollmann and Rauner, 2007). All four German-speaking countries count on the strengths of the dual VET system (Deissinger and Hellwig, 2005; Hoffman, 2011). The broad acceptance of the dual VET system in small and large companies confirms that the concept is anchored in the region of the Rhine Valley.

The dual VET system includes education and training in the company where the apprentice completes the apprenticeship (Masdonati et al., 2010; Hoffman, 2011). At the same time, the apprentice attends the vocational training school one or two days per week. All four countries, Austria, Germany, Liechtenstein and Switzerland, have continuously developed their training systems over the last decades. Therefore, additional courses, e.g. the introduction to a trade or preparation for the final exam, are supplemented by courses at training centres. This is, in fact, a trial VET system (vocational training school, training at the company and additional courses) aimed at meeting all the requirements of employers and vocational training schools in each country.

The transition towards the labour market already starts at the beginning of the apprenticeship, whereas the transition from school to the VET scheme does not always run smoothly (Masdonati et al., 2010). However, this early acclimatisation with labour market conditions shows its strengths when it comes to integration into the labour market after completion of the apprenticeship. In tough economic times, all countries with an applied dual vocational training system outperform all other countries in terms of the youth unemployment rate (Dietrich, 2012). This explains why the concept has been readopted by several European countries. In Switzerland and Liechtenstein, around 60% of young people enter the labour market by starting an apprenticeship (OPET, 2007).

Table 2-6 compares the percentage of apprentices in the three regions of Liechtenstein (Office of Economic Affairs, 2011), the Canton St. Gall (2008) and the province of Vorarlberg (Schneeberger and Nowak, 2008). In all three regions, apprentices represent over 50 per cent of school leavers. Against the background of the engineering schools in Vorarlberg, the province has the highest percentage of vocational training of all three regions.

**Table 2-6:  
Current percentages of apprentices**

Country / Region	School Leavers (compulsory)	Apprentices (%)	10 <sup>th</sup> School Year	Engineering Schools (%)
LI	338	58.6	19.2	7.2
Canton of St. Gallen	6,578	67.9	15.5	Not available
Vorarlberg	8,001	> 50	Not available	> 15

Source: Author

After compulsory education, approximately 60 per cent (roughly 350 young people) start an apprenticeship in Liechtenstein every year. Altogether, around 1,200 apprentices complete a three- to four-year apprenticeship in more than 100 different trades in Liechtenstein. Around one third of the apprentices are commuters from Switzerland. Over 50 per cent, namely 192 out of 367 companies, employed one apprentice and only two firms trained more than 50 apprentices in Liechtenstein in the year 2010 (Office of Economic Affairs, 2011). The number of apprentices in firms

tends to be proportionate to company size, with many of the training companies belonging to sector 2, i.e. industry and manufacturing.

### **2.2.5 Higher education in the Rhine Valley**

Based on the needs of the pioneer companies in Liechtenstein, the first college of education for engineering (Abendtechnikum) was established in Vaduz in 1961. Initially, only a handful of students took on the burden of studying in the evening over a period of nine semesters alongside their full-time employment. Since then, the college of education for engineering has grown and constantly adapted to the requirements and needs of the economy. Today, the University of Liechtenstein looks back with pride to its pioneer phase in the subjects of mechanical engineering and architecture. More recent subjects at the University of Liechtenstein include business solution IT, finance, entrepreneurship and architecture. In particular, the subject of founding competencies and entrepreneurship at the University of Liechtenstein was ranked in first place in student surveys among 14 universities in Austria, Liechtenstein and Switzerland (Schmude et al., 2009; Baldegger et al., 2012). Particularly since the financial and economic crisis, the interest in studying the subject of entrepreneurship has grown again. Today, entrepreneurship is widely acknowledged by national and international policymakers as the “driving force for economic recovery by creating innovation, jobs and growth” (Audretsch and Monsen, 2008; Gries and Naude, 2008; Littunen and Niittykangas, 2010; European Commission, 2012; Rae and Woodier-Harris, 2013). Moreover, entrepreneurship education is a central pillar to meet the economic challenges in Europe (Matlay, 2008a; Pickernell et al., 2010; Baldegger et al., 2012; European Commission, 2012; Henry and Chatzichristou, 2014).

Similarly, the other technical colleges in the Swiss part of the region have experienced enormous growth since their foundation in the 1950s and 1960s. In 1999, the tertiary education field was completely restructured in the region. There were two main reasons for this. Firstly, the HE landscape in the Rhine Valley had grown and several institutions offered similar curricula. Secondly, business and technology had changed, and therefore it was important for tertiary education in the Rhine Valley to take advantage of the synergies and strengths of every single institution (Merki, 2007; Saurwein, 2008).

In Switzerland, the cantons of Appenzell-Innerrhoden, Appenzell-Ausserrhoden, Glarus, Grisons Schaffhausen, Schwyz, St. Gallen, Thurgau and Zurich founded the University of Applied Sciences for Eastern Switzerland. All the existing universities of applied sciences in these cantons became affiliates.

In Vorarlberg, the first technical college at tertiary level was founded in Dornbirn in 1989. A decade later, the University of Applied Sciences in Dornbirn had already obtained equal tertiary level status with other universities and institutions of HE. The University of Applied Sciences in Dornbirn has reinvigorated the tertiary landscape in the region.

### **2.2.6 WorldSkills and its relationship with the Rhine Valley**

The economic recovery in the second half of the last century led to a demand for skilled workers not only in the region of the Rhine Valley but globally. In 1946, José Antonio Elola Olaso launched the idea of the Skill Olympics for vocational training in order to attract more young people to a career based on an apprenticeship (Wilson, 2000; WorldSkills, 2010). His achievement aroused great interest right from the beginning. As a result of its success, Spain invited young professionals from France, Germany, Morocco, Switzerland and the UK to participate in the competition in 1953 (WorldSkills, 2010).

During the last 64 years, WorldSkills has grown to become the largest worldwide network of international experts in the field of vocational training. Today, WorldSkills counts 72 member states<sup>9</sup> around the world. The power of WorldSkills in promoting vocational competencies is reflected in the figures for the 41<sup>st</sup> competition in London in 2011. After Birmingham in 1989, the WorldSkills competition was held in the UK for a second time, this time in London, with 931 participants competing in 46 trades for gold, silver and bronze medals, and then over 1,000 competitors in Leipzig in 2013. The participants were accompanied by thousands of experts in the related professions and delegates from vocational educational training institutions around the

---

<sup>9</sup> Status of member states in September 2014

world. The exchange of knowledge, experience and learning phases during the four competition days were tremendous for all stakeholders.

From the perspective of learning and the development of HC, the WorldSkills competitions themselves are only the tip of the iceberg. The training, preparations and national skill competitions held currently in 72 countries are a remarkable source of informal and non-formal learning. Workplace learning is a valuable contribution to the development of HC in companies, regions and countries (Ahlgren and Engel, 2011). Blum (2004) highlights the fact that the industrial elite is the decisive criterion for safeguarding manufacturing locations in Austria.

The idea of WorldSkills has been deeply rooted in the region of the Rhine Valley with the dual vocational training system. Switzerland joined WorldSkills in 1953<sup>10</sup>, Austria followed in 1958 and Liechtenstein became a member of WorldSkills International in 1968. Since then, WorldSkills Liechtenstein has trained 172 young people to participate and they have won 15 gold, 13 silver and 19 bronze medals. It is remarkable that participants from the region of the Rhine Valley are the most successful at the WorldSkills competition.

### **2.3 Regional development**

Audretsch (2002) contributed important insights for the regional development of entrepreneurship in Western European countries. As well as different levels of start-up activity, the local socio-economic environment may also produce different structural characteristics of the new firms, and there a point is reached where the environment can directly be linked to growth (Tödting and Wanzenböck, 2003).

---

<sup>10</sup> The UK joined the WorldSkills organisation in 1953. However, UK Skills was only established in 1990 after the Skills Olympics (former name of WorldSkills) were held in Birmingham in 1989. UK Skills promotes the profile of skills in the UK and is in charge of managing the UK team for participation at WorldSkills, the largest skills competition in the world.

The firms in the Rhine Valley region provide a large number of opportunities for formal and informal learning at the workplace such as apprenticeships within the dual vocational training system, which are work and classroom based. The completion of a three- or four-year apprenticeship leads to a formal qualification in one of more than 100 different trades. In the small business environment, informal learning activities, in particular the workplace learning, contribute the majority of knowledge (Marsick et al., 1999; Marsick, 2009; Ahlgren and Engel, 2011; Mc Kee and Eraut, 2011). The contexts of the learning place, the Rhine Valley and the workplace influence the individual learning of entrepreneurs (Taylor and Thorpe, 2004). The following chapter analyses approaches and forms of learning and owner-manager learning in small firms.

## **2.4 Summary**

The Rhine Valley area provides an entrepreneurial environment that is a result of the economic developments in the second half of the last century. The successful transition from an agricultural area into a technology-based economy has been the outcome of multiple factors. These include the close cooperation across national borders and knowledge transfer due to commuter flows from Austria to Liechtenstein and Switzerland, and from Switzerland to Liechtenstein. This traditional cross-border cooperation and the networks established as a result have been strengthened since Liechtenstein became a member of the EEA and Austria joined the EU in 1995. Although the Rhine Valley is small in terms of size, the innovative power resulting from the three different economic groups, namely the EEA, EU and Switzerland, is substantial. The key economic figures for the countries Austria, Germany, Liechtenstein and Switzerland are applied to represent this particular Rhine Valley region. Of the four, Liechtenstein is the only country which lies entirely within the Rhine Valley. All other countries have only subareas within the Rhine Valley. For this reason, the data and economic structures relating to Liechtenstein have been used to represent the area as a model region.

In terms of owner-manager learning, the region has strategically developed a wide range of formal and informal learning opportunities. These include in all countries the introduction of the 'Children's Universities', the strong dual VET system with a particular emphasis on the WorldSkills Championships, and well-established higher education institutions for technology and economics. At the same time, the

development of multinational companies in the region has triggered countless business opportunities for small firms since the 1970s. The mix of start-ups, small family businesses and large companies, along with the well-established VET and higher education system in the region, has contributed to the creation of a particularly innovative and competitive region (Scherer and Gutjahr, 2012).

Following the discussion of the educational and business structure of the Rhine Valley, the next chapter introduces the topic of owner-manager learning in small firms.

## CHAPTER 3: OWNER-MANAGER LEARNING IN SMALL FIRMS

### 3.1 Introduction

“The most valuable assets of a 20<sup>th</sup> century company were its production equipment. The most valuable assets of a 21<sup>st</sup> century institution, whether business or non-business, will be its knowledge workers and their productivity” (Drucker, 1999, p. 135).

A characteristic of the 21<sup>st</sup> century is the continuous and rapid change in the high-tech technology sector. Learning and knowledge transfer have become key drivers for the development of new products, trigger innovation and are essential for the competitiveness of each company (Deakins and Freel, 1998; Wiklund and Shepherd, 2003; Rae, 2006; Saunders et al., 2014). Nevertheless, there is limited understanding of “how to create and leverage it in practice” (Wenger, 1998, p. 1).

This chapter illuminates owner-manager learning in small firms from different viewpoints. The aim of the chapter is to analyse complementary frameworks and findings of researchers against the background of their interests in order to specify the owner-manager learning in small firms. Firstly, the literature of learning and training in small firms is analysed to obtain an overview of the interrelated learning literature. The owner-manager learning literature provides a diverse picture of owner-manager learning, not only from the different viewpoints such as small firms, start-ups, fast growing firms and family firms or learning organisation, but also from the complexity in terms of a holistic view about learning, knowledge and growth (Macpherson and Holt, 2007).

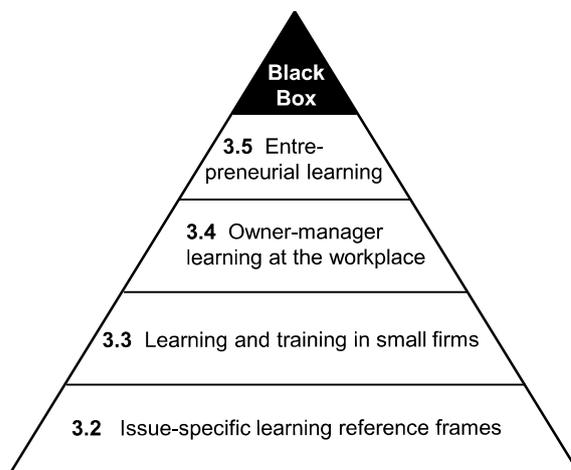
The main place of learning for owner-managers is their firm, the workplace and its social environment (Faure et al., 1972). The three principal locations of training in companies are learning-on-the-job, learning-near-the-job and learning-off-the-job (Dehnbostel and Pätzold, 2004; Gruber et al., 2008). As foundation frameworks, Kolb’s model of the learning-cycle (1984), the four learning approaches of Mumford (1994) and the modes of knowledge creation of Nonaka (1994) are introduced. Supplementing these learning approaches, the concept of action learning of Revans

(1998) as well as the learning levels of Argyris and Schön (1978) are described within the perspective of small firms.

The development of entrepreneurial learning literature is also the focus of this chapter. Although this topic has seen immense development, the relationship between learning and entrepreneurial achievement is not well understood (Rae and Carswell, 2001; Warren, 2004; Cope, 2005). The owner-manager learning in small firms is investigated on the basis of two different management structures. These are founding owner-managers ('founders') and initial successor owner-managers ('successors') in small family firms as described in the research aims. Finally, the chapter highlights the concept of community of practice of (Wenger, 1999), McDermott and Snyder (2002) as an important source of learning. All these models illustrate the characteristics and support the various owner-manager learning concepts applied in small firms.

Chapter three is organised according to the investigated owner-manager learning topics in small firms illustrated in Figure 3-1. The analysis is performed from the bottom up. The section 3.2 highlights the specific elements of learning reference frames before learning and training in small firms in section 3.3 and the owner-manager learning in section 3.4 are investigated. The layer of entrepreneurial learning is the central element of the literature review in section 3.5 and is related to the topics of the owner-managers, the firm and workplace, and the network in order to capture the holistic learning life-world of the entrepreneurs (Rae, 2006). The "black box" at the top of the triangle symbolises the skills and knowledge generated in small firms and provides the link to chapter four, "Human and Intellectual Capital".

**Figure 3-1: Overview of the analysed learning topics**



Source: Author

### **3.2 Issue-specific learning frameworks**

In the context of small firms, the theme of workplace learning is widely acknowledged. “The field of workplace learning has developed exponentially over the last decades as writers have either reformulated existing concepts or generated new concepts to analyse learning at work” (Guile and Okumoto, 2008, p. 253). The OECD (1973) was one of the first organisations to recognise the importance of knowledge creation and the linkage between learning and working. In the nineteen-seventies, both the OECD (1973) and UNESCO introduced the concept of lifelong education and learning. Influential reports include “Learning to be; the world of education today and tomorrow” (Faure et al., 1972) as well as the report “Recurrent education: a strategy for lifelong learning” (OECD, 1973). The developed principle of “lifelong education, in the full sense of the term, means that business, industrial and agricultural firms will have extensive educational functions” (Faure et al., 1972, p. 198). More recent research underlines the importance of learning in non-formal and informal settings to cope with the constantly changing requirements in the labour market and the economy, the competition for small firms in particular, the transition to a knowledge-based society and the demographic shift towards older workers (Gallenberger et al., 2000; European Commission, 2003b; Leney, 2004; Gruber et al., 2008; CEDEFOP, 2009; Council of the European Union, 2009; Ahlgren and Engel, 2011).

The European Commission (2006) introduced the Lifelong Learning education programme for the period from 2007 to 2013 – a decade after the European Year of Lifelong Learning was announced. In their report, Medel-Añonuevo et al. (2001) identified a predominately economic use of the Lifelong Learning approach. Schiersmann (2007, p. 59)<sup>11</sup> indicates that “the concept of Lifelong Learning covers principally all education systems over all life phases, but the terminology is often used as a synonym for further education.” However, the term Lifelong Learning has stimulated discussions and developments about learning concepts around the workplace (Ahlgren and Engel, 2011). One of the most familiar types of learning in the workplace is learning by doing. Researchers of this area (Gibb, 1993; Cope and Watts, 2000; Minniti and Bygrave, 2001) describe learning by doing as a useful approach to learning, particularly in relation to the environment of small firms. Entrepreneurship is described as learning by experience (Gibb, 1997; Deakins and Freel, 1998). This argument supports the idea that entrepreneurship is linked with the informal learning type. The combination of entrepreneurship and informal learning offers a new approach to analysing the field of owner-manager learning in the context of small firms.

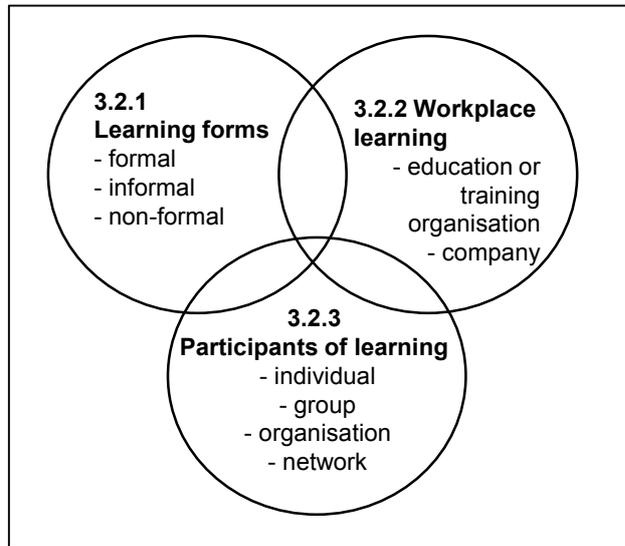
Owner-manager learning in small firms has to be considered against the background of the constantly changing and more competitive business environment. Nowadays, continuous effort is required if the owner-manager wants to remain at the cutting edge of knowledge.

The relationship between the learning forms such as informal or non-formal learning and learning place as well as the participants in the learning process are investigated in the light of small firms in the following paragraphs. Figure 3-2 symbolises the fact that these variables are interrelated and offers a multitude of combinations of possible learning situations. The aim is to provide an overview of the different approaches to categories of learning in the workplace in small firms.

---

<sup>11</sup> Author's translation of the German text on page 59 of the source text.

**Figure 3-2: Three perspectives of analysis for workplace learning**



Source: Author

### **3.2.1 Learning forms**

European and national studies confirm the added value and the active role of informal training in small firms (European Commission, 2003b; van Driel and James, 2004; Gonon et al., 2005; Kailer and Heyse, 2007; Kailer and Stockinger, 2008; Oberholzer and Dorr, 2008). Learning activities in small firms differ from those in large companies and in most cases are not orientated towards formal learning measures. For this reason, such activities are often underestimated, or not obvious as they are unlikely to be recorded (Kitching and Blackburn, 2002). The engagement of larger companies is popularly known as sponsorship for further training (Gonon et al., 2005). By contrast, informal learning has increasingly become a focus of attention and has been a growing field of research since the 1990s. Informal learning is defined as learning resulting from daily life activities related to work, family, or leisure. It is often referred to as experiential learning and can to a certain degree be understood as accidental learning (Tissot, 2004). Matthews and Candy (1999) underline in their study the importance of informal learning for the success of paid workplaces. One of the key issues in this area is the need to make the acquired competencies visible through the validation of non-formal and informal learning (Bjornavold, 2004; Tessaring and Wannan, 2004). Livingstone and Raykov (2008) analysed informal learning activities in the workplace based on published studies and at the same time compared learning

in a paid work and in a voluntary work scenario. The findings from this comparison demonstrate a close link between discretionary control and informal learning activities (Livingstone, 2001a).

The description of informal learning and other established learning forms from Eraut (2000a), the European Commission (2001), Livingstone (2001b) and Billett (2004) are compared according to their classification. The variation in the definitions of learning forms ranges from one level Eraut (2000a) to four levels Billett (2004). Independently of the number of levels, the learning forms are crucial for dividing the learning provided in small firms over all life phases of the owner-managers and the development phases of the small firms. As a consequence, formal learning is dedicated to the official learning places in colleges, universities or training and education organisations whilst the informal and non-formal learning practices are related to the workplace or other learning institutions. The interactions between the different learning forms of formal and informal learning have undergone several modifications. Both forms of learning take place through an individual's experiences.

In the following section the link is developed between the learning places in small firms and existing learning forms. The learning forms are broadly split into formal, non-formal and informal learning, but as McGivney (1999, p. 1) points out: "It is difficult to make a clear distinction between formal and informal learning as there is often a crossover between the two." Informal learning is key to analysing the different concepts of learning in the workplace. Learning by doing or learning by copying suits the complex and idiosyncratic environment of small firms. In contrast, the often de-contextualised learning environment in formal training does not (Gibb, 1997). Research into learning in advanced industrial societies has historically focused on formal learning (Scribner and Cole, 1973). They argued that many things are learned more effectively through informal processes.

In order to illustrate an extract from the wide range of serious approaches to learning forms in the literature, four definitions are presented below. Although there are even more approaches and manifestations, those analysed represent the most frequently used and have an impact on the context and definition of owner-manager learning in small firms.

### **3.3.1.1 Eraut**

Eraut (2000a) is a distinct promoter of the concept of non-formal learning and prefers the term non-formal rather than informal learning. According to Eraut, informal learning is burdened with too many other features. Consequently, Eraut (2000a, p. 12) defines five characteristics of formal learning:

1. A prescribed learning framework
2. An organised learning event or package
3. The presence of a designated teacher or trainer
4. The award of a qualification or credit
5. The external specification of outcomes.

Learning which does not comply with these characteristics should be seen as non-formal. Besides these five features, the fundamental distinction is the level of intention to learn (Eraut, 2000a). The two poles are the widely recognised phenomenon of implicit learning and deliberate learning. In contrast to the view of Eraut (2000a), the definition of the European Commission (2001) explicitly draws a distinction between non-formal and informal learning.

### **3.2.1.2 European Commission**

The European Commission (2001, pp. 32-33) defines three types of learning.

1. Formal learning: Learning typically provided by an education or training institution, structured (in terms of learning objectives, learning time or learning support) and leading to certification. Formal learning is intentional from the learner's perspective.
2. Non-formal learning: Learning that is not provided by an education or training institution and typically does not lead to certification. It is, however, structured (in terms of learning objectives, learning time or learning support). Non-formal learning is intentional from the learner's perspective.
3. Informal learning: Learning resulting from daily life activities related to work, family or leisure. It is not structured (in terms of learning objectives, learning time or learning support) and typically does not lead to certification. Informal learning may be intentional but in most cases it is non-intentional (or "incidental"/ random).

These three typologies as defined by the European Commission (2001) provide more effective coverage of the learning process encompassing education and training as well as daily life activities than the concept outlined by Eraut (2000a).

### **3.2.1.3 Livingstone**

Livingstone (2001b) completes the forms of learning with a fourth dimension of informal education in contrast to the two and three dimensions developed by Eraut (2000a) and the European Commission (2001) respectively. Informal education or training occurs “when teachers or mentors take responsibility for instructing others without sustained reference to an intentionally organised body of knowledge in more incidental and spontaneous learning situations, such as guiding them in acquiring job skills or in community development activities” (Livingstone, 2001b, p. 2).

### **3.2.1.4 Billett**

Billett takes a contrary view about the categorising of learning such as informal and formal learning as most learning takes place within social organisations or communities that have formalised structures. For example, learning at work is structured by “workplace goals and practices determine the tasks and activities in which workers engage” (Billett, 2004, p. 314). Nonetheless, the inaccurate and negative terms used to describe the workplace learning environment as informal and unstructured still persist (Billett, 2002, 2004).

### **3.2.1.5 Overview of learning forms**

All highlighted concepts contribute towards an understanding of learning in the workplace. The three-category concept of the European Commission (2001) is useful as a bridge between formal and informal learning. The central issue relating to learning forms is recognition of the learning outcomes. At the same time, the learning forms also say something about where the learning takes place. Formal learning has its roots in education in schools or universities (European Commission, 2001). This form of learning and diploma enjoys a long tradition and is well acknowledged by teachers, employers and other stakeholders. In contrast, the other two learning forms, i.e. informal and non-formal learning, have not been well established as a qualification tool, although they have a significant impact on the qualifications and skills of owner-

managers and employees. They also affect productivity and competitiveness, not only for individuals but also for firms, in particular for small firms as well as for the economy as a whole (Billett, 2004; Eraut, 2004b; Gruber et al., 2008; Livingstone and Raykov, 2008). Informal learning is often referred to as experiential learning and can to a certain degree be understood as accidental learning (Marsick et al., 1999; Malcolm et al., 2003). Another characteristic is that the learning outcomes of informal learning activities do not result in certification but can be useful to support formal learning activities.

Finally, there is another distinction to be made besides these learning forms with a strict view of learning outcomes and certifications. The environment where the learning takes place also plays a central role as it enables an interdisciplinary exchange of knowledge between individuals and groups (Faure et al., 1972; Mumford, 1999; Minniti and Bygrave, 2001; Tödtling and Wanzenböck, 2003). The different forms of workplace learning are the central topic of the next subsection.

### **3.2.2 Forms of workplace learning**

The forms of learning discussed above have been analysed by applying the criteria of formal, non-formal and informal learning but have not been concentrated around the tasks in which an owner-manager operates in small firms. Harteis and Billett (2008, p. 209) stress the “understanding about workplaces as sites of learning serves more than short-term pragmatic economic concerns of increasing business efficiency and national economic goals.” On-the-job training is often underrated although it presents an interrelation between HC, earnings, employment and other economic variables (Becker, 1993).

Workplace learning does not have a generally accepted definition as it is extremely complex (Matthews, 1999; Gruber et al., 2008). Marsick (1990, p. 4) developed one of the most holistic definitions of workplace learning which considers “the way in which individuals or groups acquire, interpret, reorganize, change or assimilate a related cluster of skills and feeling.” The terminology of workplace learning used in this thesis is based on the definition of Marsick (1990) to illustrate the phenomenon of owner-manager learning in small firms. Although the concepts of workplace learning have been developed by different scholars, it turns out that the literature divides workplace

learning into the location of learning as well as the content of learning. The main three locations for learning in companies are learning on the job, learning near the job and learning off the job (Dehnbostel and Pätzold, 2004; Gruber et al., 2008). Table 3-1 shows the definition by Eurostat (2006a, p. 12) which proposes a similar classification to describe the internal and external courses in their 3<sup>rd</sup> Continuing Vocational Training Survey.

**Table 3-1:  
Different forms of continuing vocational training**

CVT courses	“Other Forms” of CVT
<ul style="list-style-type: none"> <li>- <b>Internal CVT courses</b> (principally designed and managed by the enterprise itself)</li> <li>- <b>External CVT courses</b> (principally designed and managed by a 3<sup>rd</sup> organisation)</li> </ul>	<ul style="list-style-type: none"> <li>- <b>On-the-job training</b></li> <li>- Planned learning through <b>job rotation, exchanges, secondments or study visits</b></li> <li>- Attendance at <b>learning/quality circles</b></li> <li>- <b>Self-directed learning</b></li> <li>- <b>Attendance at conferences, workshops, trade fairs, and lectures</b></li> </ul>

Source: Eurostat (2006a, p. 12) adapted by the author

Each of these learning places highlights a certain type of learning. Learning on the job is concentrated on learning by doing or learning by action. The focus is on activities around the various and interrelated tasks involved with fulfilling a job and coping with the challenges of daily work. Learning on the job has an important social dimension as employees in firms “learn with, and from, each other” (Cuningham, 1999, p. 6).

Learning near the job describes activities which support an increase in performance or quality. The focus is on specific functions which do not belong to the daily work routine like quality circles, brainstorming or the introduction of new staff members. Near-the-job activities are time-bound and are performed mostly in a dialogue within a group of persons with a link to the work environment (Holtbrügge, 2005). The third learning place is defined as learning off the job, which is related to learning away from the firm in external courses operated by education or training organisations (Dehnbostel and Pätzold, 2004). The fourth dimension of learning along the job is not so common and centres on career development such as assistantship, trainee programmes or training an appointed successor (Dehnbostel and Pätzold, 2004).

Table 3-2 provides an overview of the relationship between the places of learning and the workplace in terms of the learning forms. According to the real context in the company environment, it would neither be possible to allocate the learning concepts nor the measurement in a non-ambiguous way (Gruber et al., 2008).

**Table 3-2:  
Place of learning and workplaces**

	<b>Learning on the job</b>	<b>Learning near the job</b>	<b>Learning off the job</b>
Relation between place of learning and workplace	Place of learning and workplace are identical	Place of learning and workplace are separated but specially connected	Place of learning and workplace are separated
Learning form	<ul style="list-style-type: none"> <li>- Informal learning</li> <li>- Integration of formal and informal learning</li> </ul>	<ul style="list-style-type: none"> <li>- Principally informal learning on the basis of or in connection with formal learning</li> </ul>	<ul style="list-style-type: none"> <li>- Principally non-formal and formal learning</li> </ul>
Examples <sup>12</sup>	<ul style="list-style-type: none"> <li>- Learning by doing</li> <li>- Project work</li> <li>- Job rotation</li> <li>- Working team</li> <li>- Practice firms</li> </ul>	<ul style="list-style-type: none"> <li>- Quality circles</li> <li>- Workshop</li> <li>- Introduction of new staff members</li> <li>- Group dynamic approaches</li> <li>- Work shadowing</li> </ul>	<ul style="list-style-type: none"> <li>- Career planning</li> <li>- Team training</li> <li>- Behaviour training</li> </ul>

Source: Dehnbostel and Pätzold (2004, p. 15) adapted by the author

An important bridge between learning place and participant are the three learning levels. Learning levels are commonly related to the single- and double-loop learning model developed by Argyris and Schön (1978). In their research, Argyris and Schön (1978) identified the relationship between learning levels and their impact on the business environment, and introduced the terms single-loop, double-loop and deuterio learning.

Single-loop learning is described as learning without an underlying impact on the behaviour of the actors. A learning situation of this kind emerges on a regular basis. A well-known example is an unidentified noise in a production line. After a short diagnosis, the mechanic detects a loose screw as the cause of the noise. The noise disappears once the screw has been tightened. If the same noise appears a second

---

<sup>12</sup> Gruber, et al. (2008, p. 15) developed a comprehensive table of personnel development measures by type of learning location

time, the mechanic will recall the situation with the loose screw and tighten it again. The mechanic remains in the single-loop learning as long as (s)he tightens the screw without questioning the reasons why this screw could become loose.

Double-loop learning requires an underlying change in the behaviour of the people involved (Argyris, 1999). The critical impact is that the person recognises the necessity to consider and analyse the current situation of the loose screw and the context described in the above example. The mechanic and, for even greater efficiency, the whole maintenance team consider the process of the loose screw to trigger the double loop learning process. Their critical reflection is not restricted to the current issue of a loose screw but is expanded around the system and the underlying values of the social network, e.g. the maintenance team, to discuss the critical event. "Double-loop learning at the individual and organisational levels also involves the important issues of competence and justice" (Argyris, 1999, p. 90). The necessity to overcome the single-loop or adaptive learning stage implies critical consideration of the situation within the context and is fostered by the access to a social network to critically discuss the event (Matlay, 2000; Clarke et al., 2006; Higgins and Aspinall, 2011).

The process of double-loop learning is twofold. Firstly, there is a visible newly developed and optimised solution which can range in the above example from a simple spring washer to a new construction of the particular part. Secondly, the consideration and development process also influences the thinking and causes the maintenance team to adapt their attitudes and beliefs. Critical consideration is the key to changing values and behaviour but at the same time this requires a link between the individual and the organisation (Revans, 1998; Argyris, 1999; Pedler and Burgoyne, 2008).

The next step up in terms of complexity within the learning levels is the so-called "deutero loop", which goes beyond the operational events to the context. Stuart (1997, p. 169) describes deutero learning as "the capacity to learn to learn, and it is this ability in individuals which must precede any effective learning, either by individuals or groups." An important aspect of deutero learning is that the individual, group and the organisation as a whole is aware of their learning abilities. Örténblad

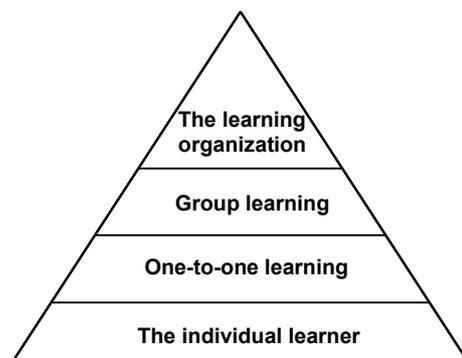
(2004, p. 141) argues that the “employees of bureaucratic organisations need to be trained to be more aware of how they learn (deutero learning).”

So far, the different learning forms, workplace learning and learning levels have been highlighted. The next subsections illuminate the participants of learning. This view covers the circumstance of who is learning. Informal learning is potentially focused on individual learning and analysis, although there is no sharp border between this and other learning forms. Non-formal learning is mainly based on learning at the workplace within groups, e.g. quality circle or workshops.

### 3.2.3 Participants of learning

So far the learning forms with their interrelated learning levels and the forms of workplace learning have been investigated. The owner-managers and employees act as participants of learning within these structures of learning in the workplace. The combination of these forms generates a large variety of learning situations where the owner-manager can learn individually, in groups or inter-organisationally. In any case, new knowledge is created, combined and shared. Learning is an individual process and can be intensified through interaction with others (Senge, 1990; Mumford, 1999). At the workplace in particular, individual learning is commonly combined with collaborative learning in a team. Mumford (1999) developed a learning pyramid and four learning styles to express the different learning forms in the workplace. The learning pyramid is shown in Figure 3-3.

**Figure 3-3: The learning pyramid**

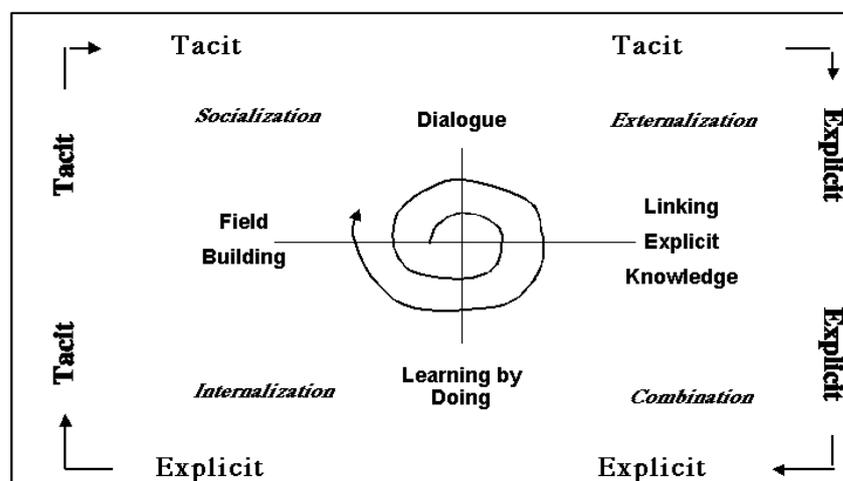


Source: Mumford (1999, p. 69)

The diagram of the learning pyramid reflects the learning process. The diagram itself illustrates a solid basis where the individual learner can build up knowledge. The learning pyramid has a structure which resembles the hierarchy of a large company. The diagram does not indicate whether the levels of learning are sequential or take place at the same time. The pyramid is reminiscent of the model of knowledge creation developed by Nonaka (1994), which characterises the flow of knowledge in a firm by four processes and combines the interaction between individuals, teams and finally networks. This knowledge flow in a firm is well documented by Nonaka's model of knowledge creation (Nonaka, 1994).

The model of knowledge creation proposed by Nonaka (1994) considers two dimensions of knowledge creation. One characteristic is the distinction between the two types of knowledge "*tacit knowledge*" and "*explicit knowledge*" and is described as the epistemological dimension to organisational knowledge creation. Explicit knowledge can be expressed in numbers and words. It "represents the tip of the iceberg of the entire body of possible knowledge" (Nonaka, 2005, p. 157). Tacit knowledge involves cognitive and technical elements. The latter encompasses skills and know-how that is applied in specific contexts, whereas the former includes beliefs, schemata or paradigms which help individuals to define their world (Nonaka, 2005). Knowledge is created by individuals and the flow of knowledge passes through several steps such as transformation and legitimisation (Nonaka, 2005).

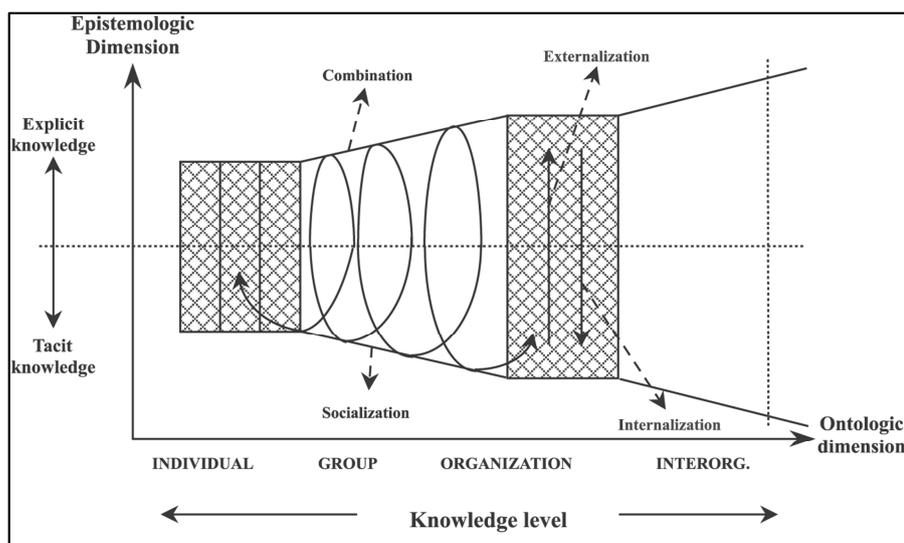
**Figure 3-4: Modes of knowledge creation**



Source: Nonaka and Takeuchi (1995, p. 71)

According to the model developed by Nonaka, the flow of knowledge in a firm is characterised by four processes. The four processes of socialisation (tacit to tacit), externalisation (tacit to explicit), combination (explicit to explicit), and internalisation (explicit to tacit) are shown in Figure 3-4. The initial process denotes members of a group sharing experiences and perspectives through interaction. In the context of learning in small firms, such situations occur when owner-managers negotiate with suppliers, anticipate in working groups or foster communities of practice, or when apprentices observe their trainers in small firms, who are often the owner-managers. Nonaka (2005, p. 162) calls the “process of creating tacit knowledge through shared experience ... socialization”. Externalisation, the second process, uses social processes, meetings or conversations to articulate and subsequently formalise tacit knowledge, therefore making it concrete and explicit. The third process is denoted as combination. Through an ongoing process of interaction, tacit and explicit knowledge is combined. Finally, the fourth process of internalisation translates the combined tacit and explicit knowledge on a higher level. This trigger for knowledge internalisation is often termed learning by doing. The repeating pattern of dynamic interaction between triggers and conversions enables a continuous spiral of knowledge as shown in Figure 3-5. Important factors for the creation of knowledge are the combination and interplay of tacit and explicit knowledge through internalisation and externalisation (Nonaka, 1994, 2005).

**Figure 3-5: Spiral of organisational knowledge creation**



Source: Nonaka (1994, p. 20)

Both of Nonaka's (1994) models visualise the dynamic exchange of experience and knowledge between owner-managers, employees, internal and external teams. The dialogue between the individuals and groups is essential to trigger the learning and knowledge creation processes. The process of learning oscillates between tacit and explicit knowledge. Nonaka's (1994) model assumes that after each oscillation the knowledge is expanded to the next level, from individual to the group, organisation and inter-organisation.

The next section takes into account these concepts and combines them with the communities of practice. Etienne Wenger is a leading researcher in this field and well known for his work on communities of practice (Wenger, 1999).

### **3.2.4 Communities of practice**

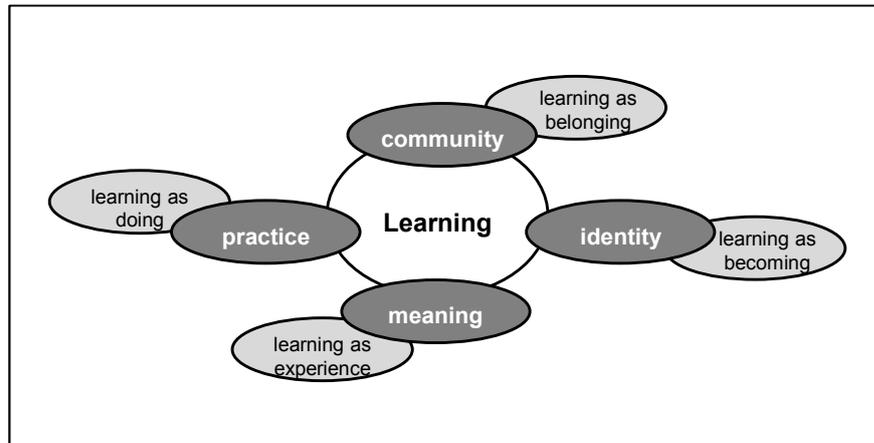
The idea of a community of practice (Wenger, 1999) has a long tradition but the concept has been given a strong conceptual foundation over the last 25 years, and inspired interest across the fields of business, management, organisational and economic development. This concept is commonly associated with the work of Wenger (Lave and Wenger, 1991; Wenger, 1999; Wenger et al., 2002).

Lave and Wenger (1991) analysed the learning process from the perspective of a social-cultural context. Social learning is unlike traditional institutional learning, which is largely based on the assumption that learning is an individual process. Furthermore, learning and knowledge are inextricably linked to emotion (Vince and Gabriel, 2011). Their model of situated learning underlines the fact that learning encompasses a process of engagement in a community of practice. The concept of communities of practice shifts the context from a theory-driven learning approach towards one experienced in an environment of social participation (Wenger, 1999). Wenger (2002, p. 4) defines communities of practice as: "Groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis." A central characteristic of communities of practice is their manifoldness and ubiquitous existence because they are an integral part of our daily lives. They are often not recognised and have neither a name nor acknowledged membership.

The domain, community and practice are crucial elements in distinguishing a community of practice from other groups and communities (Wenger et al., 2002; Wenger, 2009). The members of a community of practice are distinguished from other people by their commitment to a domain and their shared competence (Wenger, 2009). The members of the community express their interest in their relevant domain by means of information and knowledge sharing, relationship building and joint activities. Unlike a project or an operational team, in which the members work together because they have been given tasks which have to be accomplished, the members of a community of practice come together because their shared learning and interest in a particular field provide them with added value. Moreover, a community of practice differs from a network as its purpose is to create and expand knowledge and to pass on information. The members actively engage in a collective process of learning and are not just a set of relationships (Wenger, 1998). The crux of communities of practice in relation to other forms of networks or teams is the interaction of the members so they can learn from each other and together. The third characteristic which distinguishes communities of practice is the practice itself. The vast extent of a community of practice becomes visible by the developed and shared repertoire of resources for dealing with challenges and recurring problems. "The repertoire of a community of practice includes routines, words, tools, ways of doing things, stories, gestures, symbols, genres, actions, or concepts that the community has produced or adopted in the course of its existence, and which have become part of its practice" (Wenger, 1999, p. 83).

The general concept of communities of practice is shown in Figure 3-6. The four main dimensions for social participation are: meaning, practice, community and identity, which are the triggers for the learning and knowing processes under this approach in firms.

**Figure 3-6: Components of a social theory of learning**



Source: Wenger (1999, p. 5)

In contrast to the concepts of learning outlined in the previous subsections, which focused mainly on the learning methods themselves, the concept of communities of practices is concerned with meanings, identity, commitment and the sharing of practical knowledge on a voluntary basis (Wenger, 1999; Wenger et al., 2002). Attention is centred on the experience and the feelings of the members. Wenger (1999) argues that the practice itself must be understood as a learning process and therefore the communities of practice represent an emergent structure.

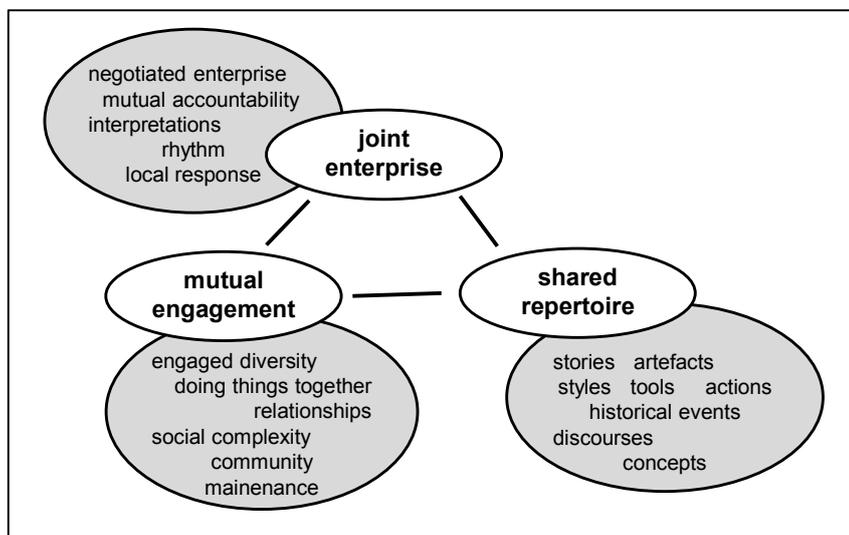
These four dimensions of social participation depicted in Figure 3-6 reflect the elements of individual learners. They provide the foundation for the emergence of a community of practice. Higgins (2009, p. 85) "suggests that in the SME enterprise, reality is socially constructed, based on the process of social interactions and discursive behaviour, which enable the emergent social construction of the firm's reality through the firm agents learning."

The model of the components of a social theory of learning shown in Figure 3-6 has some similarities with the triadic model of Rae's (2006) entrepreneurial learning depicted in Figure 3-11 on page 81. This is not surprising as both Wenger (1998, 1999) and Rae (2006) apply a holistic subjective approach to learning in a social context. In his survey, Rae (2006) identified the component of negotiated enterprise, which emphasises that a business venture is not enacted by the owner-manager alone, but is dependent on the outcome of negotiated relationships with other parties.

“The ideas and aspirations of individuals are realised through interactive processes of exchange with others within and around the enterprise, including customers, investors and co-actors such as employees or partners” (Rae, 2006, p. 49).

The properties of a community of practice also include those of a joint enterprise, mutual engagement and a shared repertoire as shown in Figure 3-7. The characteristic of community coherence is the joint enterprise which implies a collective process of negotiation and mutual engagement. It reflects the full complexity of practices in a firm (Wenger, 1999). Mutual engagement is an essential component of any practice and provides a feeling of being included in what matters. The daily work and exchange of information foster the dimension of mutual engagement. The third characteristic of shared repertoire emerges over the course of time through the joint, correlated and negotiated processing of stories, symbols or actions. The shared repertoire reflects the history of mutual engagement, which remains relevant and meaningful (Wenger, 1999).

**Figure 3-7: Characteristics of practice as the property of a community**



Source: Wenger (1999, p. 73)

Communities of practices as highlighted “are not born in their final state, but go through a natural cycle of birth, growth and death” (Wenger et al., 2002, p. 68).

From this perspective, the role of professional "managers" is not to manage knowledge directly, but to enable practitioners to do so. Practitioners have a special connection with each other because they share actual experiences. They understand each other's stories, difficulties, and insights. This allows them to learn from each other and build on each other's expertise. Whatever systems and structures you have in place, there is no substitute for practitioners who act as knowledge managers (Wenger, 2004, p. 2).

This quote emphasises that learning is a continuous process and is supported by the existence of a community of practice. In small firms, communities of practice exist in different forms, e.g. during coffee break, problem-solving meetings, introduction of new employees. Each kind of community of practice sends a positive message that the effort and work in such a team is appreciated (Wenger, 1998).

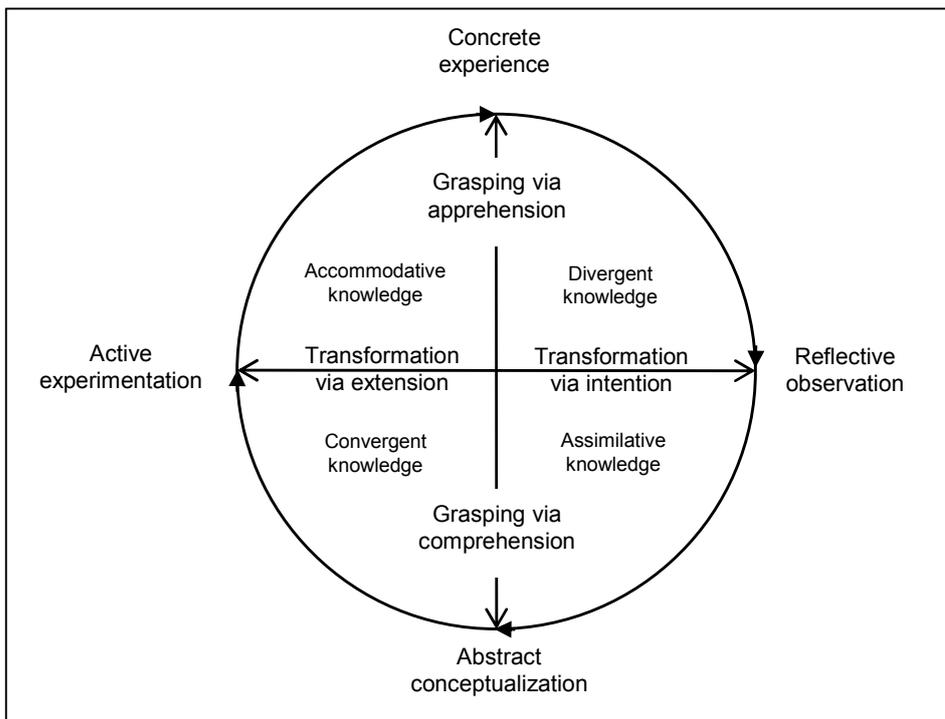
Finally, the theory of the learning cycle of Kolb (1984) is explored to conclude the investigation of the specific learning frameworks.

### **3.2.5 The learning-cycle theory**

Kolb (1984) developed four learning styles which are represented in a learning-cycle of concrete experience, observation and reflection, formation of abstract concepts and testing in new situations. Phase one often begins with a concrete new experience. Phase two contains a critical analysis of the new experience from different points of view aimed at understanding the resulting effects. Based on this new knowledge, the third step focuses on the understanding of the general principle under which the particular instance falls. Finally, in phase four, the general principle is tested through action. Based on these learning outcomes, new experiences arise which close the loop. The learning cycle is shown in Figure 3-8. Although Kolb's (1984) learning cycle is not explicitly utilised in the research, it had a powerful informing role. Moreover, it was employed as an analytical tool after the second round of interviews (Appendix C).

Kolb (1984) identified that effective learning entails the possession of four different abilities which are based on concrete experience abilities, reflective observation abilities, abstract conceptualisation abilities and active experimentation abilities.

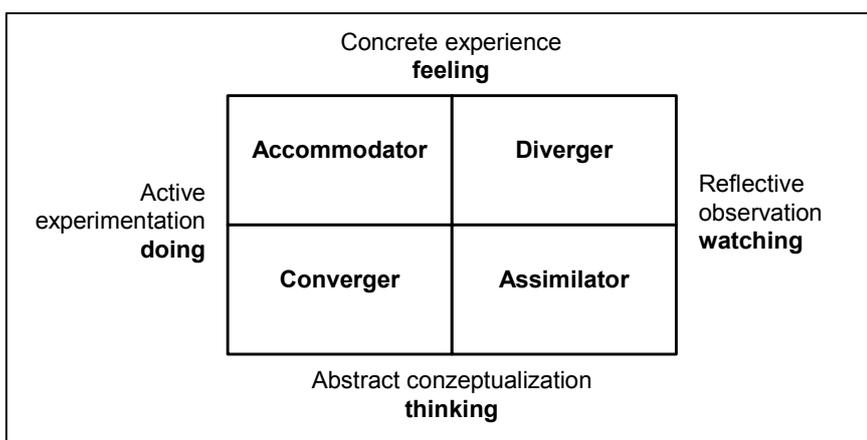
**Figure 3-8: Kolb's "learning cycle"**



Source: Kolb (1984, p. 42)

These abilities are transferred into the learning cycle with four different learning styles, which are shown in Figure 3-9 and named as converger, diverger, assimilator and accommodator. Each of these learning styles expresses different characteristics.

**Figure 3-9: Kolb's "learning styles"**



Source: Kolb (1984, p. 81) adapted by the author

Converters are people characterised by abstract conceptualisation and active experimentation. They prefer technical tasks, and are less concerned with interpersonal aspects. Their strengths are based on experiments and on work with practical applications.

Divergers look at experience from different perspectives. Their strengths are observation and the imagination to solve problems. Divergers have broad cultural interests and like to gather information. Their performance is best when they work in groups.

Assimilators prefer a reflective observation and an abstract conceptualisation. Their strengths are focused on creating theoretical models by means of inductive reasoning. People with an assimilating learning style are more interested in ideas and abstract concepts.

Accommodators prefer concrete experience and active experimentation. They are good at actively engaging with practice and actually doing things instead of merely reading about them. They tend towards intuitive problem-solving by a trial-and-error approach. Accommodators are more concerned with people than with theory.

Each of these four learning styles reflects a preferred combination of watching, doing, thinking and feeling. The idea of the learning cycle has been further developed since it was established by Kolb. Mumford (1994) developed four learning approaches a decade later. Almost a quarter of a century later, the researchers Simons and Ruijters (2008) identified five different metaphors of learning and Raelin (2008) deduced a work-based learning model which consists of the modes of learning and the forms of knowledge. The ideas incorporated in the models of both Mumford (1994) and Simons and Ruijters (2008) which are directly related to owner-manager learning are outlined in the next section.

### 3.2.6 Learning approaches and metaphors

Mumford (1994) identified four learning approaches which are closely related to the four learning styles of Kolb (1984). These learning approaches underline the importance of workplace learning and are described in Table 3-3.

**Table 3-3:**  
**Four learning approaches**

Learning approach	Description of the approach
1. Intuitive	The intuitive approach involves learning from experience, but not through a conscious process. The person using the intuitive approach claims that learning is an inevitable consequence of having experiences.
2. Incidental	The incidental approach involves learning by chance from activities.
3. Retrospective	The retrospective approach involves learning from experience by looking back over what happened and reaching conclusions about it. In common with the incidental approach, the retrospective approach is especially provoked by mishaps and mistakes.
4. Prospective	The prospective approach involves all the retrospective elements but includes an additional dimension. The prospective approach includes planning to learn before an experience takes place.

Source: Mumford (1994) adapted by the author

Simons and Ruijters (2008) realised that for discussions with professionals about explicit learning, everyday language is insufficient and therefore supplemented the four learning approaches with five learning metaphors. They identified these five metaphors, which are helpful for interpreting the meanings of the preferred ways of learning, on the basis of their empirical analysis. Each of the metaphors includes characteristics of different learning methods. Interestingly, none of them is related to a formal learning programme. These metaphors underline the importance of workplace learning and are described in Table 3-4.

**Table 3-4:  
Five learning metaphors**

Metaphor name	Description of the metaphor
1. Apperception	Learners who prefer the apperception metaphor look for situations that will teach them something. They often have a talent for spotting an expert in a particular field and they learn by example and good observation. These learners are very interested in tales concerning best practice and what works.
2. Participation	People who prefer the participation metaphor learn socially. The social side of learning is being emphasised: we learn with and from each other.
3. Acquisition	Although many trainers and teachers are trying to find ways to bring theory and practice closer together and to escape the restraints of the classical system, there are people who really prefer this way of learning. They attach great importance to the transfer of knowledge and the learning of skills. They often learn well when goals are set and learning processes are defined.
4. Exercising	The greatest concern is whether what is learned can be applied in practice. For this reason, wherever possible, training is carried out in realistic situations; situations that reflect everyday practice as closely as possible. The core of this approach is that it is a "learning situation". This means that the environment must feel safe enough to dare making mistakes in it.
5. Discovery	Learning as "discovery" is based on the premise that life and learning are synonymous. We do not just learn during a course; we are always learning. There is no such thing as "not learning". Learning means finding our way through and understanding situations. Being conscious of this teaches us a great deal about daily life and those unexpected events that confront us all.

Source: Simons and Ruijters (2008, pp. 242-243) adapted by the author

Each of the introduced frameworks contributes a specific insight into the complex and interrelated learning process with particular focus on owner-manager learning in small firms.

### **3.2.7 Summary of the specific learning frameworks**

Owner-manager learning in small firms is embedded in a complex interrelated and changing environment. Learning can take place in an informal manner at the workplace or as formal training in education organisations. Formal learning and the learning in large firms are explored in more detail in the literature than learning in small firms, in particular owner-manager learning.

All the concepts of learning discussed above symbolise the continuous process of learning and underline the important dimension of social interaction. Particularly in small firms, social interaction is a crucial driver for continuous learning as well as

knowledge creation and knowledge sharing processes (Cope and Watts, 2000; Fuller-Love, 2006; Rae, 2006; Higgins et al., 2013).

The analysis of the described frameworks is by no means exhaustive. It represents a well-defined selection in terms of the analysis of owner-manager learning in small firms. This selection of frameworks builds the basis for delving deeper into the topic of owner-manager learning in small firms, which is the central topic of the next chapter.

### **3.3 Learning and training in small firms**

Eurostat (2006b) confirms that micro and small enterprises account for 98% of all enterprises and provide two-thirds of all jobs in Europe. The added value generated by companies with fewer than 50 employees in Europe is slightly below 40%, which is seven percentage points more than the contribution of large enterprises (32.7%) with more than 250 employees (Eurostat, 2006b). These figures signal the importance of small firms in the holistic context of the economy, irrespective of whether these small and micro firms are start-ups or established small family firms. They drive forward innovation. Small and new firms have been identified as being responsible for 55 per cent of the innovations and 95 per cent of all radical innovations (Robbins et al., 2000). This proposition is confirmed by the understanding that smaller firms rarely have the same economies of scale and scope as larger firms do (Thorpe et al., 2005). As a result, the availability of resources has been described as a prerequisite to engage in experimentation, risk-taking, and innovation of a limited product size rather than price (O'Gorman, 2001; Wiklund et al., 2009). When it comes to competitiveness, knowledge constitutes an important asset for small firms, while much of it is tacit and not readily transferable (Wong and Radcliffe, 2000).

Hence, it is important to increase awareness of the attractiveness of small firms as learning places. Surveys like the Observatory of European SMEs or CVTS<sup>13</sup> support the transparency of training provided in small firms. SMEs training research is mainly focused on the individual level of employees in small firms (Jayawarna et al., 2007). The contextual dimension of company size is related to other dimensions of

---

<sup>13</sup> The continuing vocational training survey (CVTS) has been performed on two previous occasions, in 1994 and 1999 within the framework of gentlemen's agreements between countries and ESTAT. This 3rd implementation (CVTS3) is for the first time underpinned by a European regulation (EC) No 1552/2005, adopted by the Council and European Parliament in September 2005 (Eurostat, 2006a, p. 3).

organisational characteristics, which is reflected in different needs of small firms in learning, training and management (Rae, 2006; Higgins and Aspinall, 2011). O'Dwyer and Ryan (2000) call for higher attention to SME management training as it is a critical success factor. At the same time, smallness also generates direct, informal communication, flexible operation and adaptability (Storey, 1994; Gibb, 1997). Owner-managers and employees in small firms often have to perform a greater variety of tasks than their counterparts in larger firms, and specialists are less likely to be found in smaller firms.

Therefore, owner-manager learning is a central underlying condition for fostering learning in small firms, and in the workplace in particular. Due to the lack of published research exploring owner-manager learning in the small business context, it is crucial to underline the importance of further research for a more enhanced understanding of how owner-managers learn within the context of small firms (Devins et al., 2005; Deakins and Freel, 2009; Zhang and Hamilton, 2009). Based on the industrial evolution, the vast majority of the literature on training and learning has been mainly based on approaches in large companies (Chaston et al., 2001; Kelliher and Henderson, 2006). Small firms are faced with a number of challenges which differ distinctly from those of large firms, and therefore the training approaches and HR issues have to be analysed with respect to their needs (Matlay, 2008b). For this reason, an attempt is made to capture the relevant characteristics of the owner-manager learning in the context of founders and initial successors in small firms.

The following literature review of training in small firms offers an approach to explaining why training in small firms has not had a high priority (Macpherson et al., 2003). Several studies confirm that small firms use a different approach to training and learning, and fear higher employee mobility as a negative side effect of learning (Hill and Steward, 2000; Patton and Marlow, 2002). Therefore, small firms show a preference for informal training activities like in-house, off-the-job training and on-the-job learning. Gruber et al. (2008, p. 31) point out: "Smaller companies show a clear preference for informal training activities to be explained by lower costs, better integration into the daily business life or better adaptability to the specific requirements of the individual employee and/or company."

A handicap to understanding the role of learning and training in small firms is the variation of definitions which exists in the literature of small firms (Bolton, 1971; Hill

and Steward, 2000; Devins et al., 2005). As a sound starting point, a closer look is taken at literature on training development in small firms with a management structure of owner-managers and the different forms and places of learning.

### **3.3.1 Development of training in small firms**

The issue of training in small firms has passed through several stages in recent decades (Matlay, 2002; Macpherson and Jayawarna, 2007). Until the 1970s, economic development was primarily achieved through mass production in large firms (Williams et al., 1987). For this reason, the majority of organisational research has been undertaken in large firms and its environment while ignoring younger firms (Daily et al., 2002) despite awareness of the fact that small and micro businesses play a vital role in the economy (Tether and Storey, 1998; European Commission, 2003b).

In the nineteen seventies, the report by Bolton (1971) not only highlighted the topic of the definition of small firms, but also identified small business management deficiencies such as raising and using finance, organisation and delegation, marketing and personnel management. Gray and Lawless (2000) underline the fact that there has been solid research evidence over the last decades that small business management training focuses on marketing, people and accounting skills. The training within these subjects is typically provided by education or training institutions and has formal learning characteristics.

However, formal training for owner-managers and employees is applied less in small businesses than in large firms (Storey, 1994; Westhead, 1998; Johnson, 2002). At the same time, several researchers have started to analyse informal training, well known under the labels of learning by doing, workplace learning, experiential learning, or firm-specific learning, from a different point of view in this context (Marsick and Watkins, 1990; Lave and Wenger, 1991; Gibb, 1993; Penn et al., 1998; Cope and Watts, 2000; Weinberg and Li, 2003; Billett, 2004; Harteis and Billett, 2008; Lehtinen, 2008; Simons and Ruijters, 2008; Marsick, 2009; Politis and Gabrielsson, 2009). This form of learning increases the knowledge, skills and ability of the employees but in most cases does not lead to a formal qualification. The informal training and learning provided in SMEs is underemphasised and hard to quantify (Curran et al., 1997).

The difference between the training approaches in small and large firms and the different classification of small firms make it difficult to compare the research results. Moreover, the organisational structures in large and small firms differ, e.g. large firms with over 250 employees usually have an HR department and HR development strategies in place. Storey, et al. (1987, p. 130) emphasise the fact that “a small firm is not simply a scaled-down version of a large firm”. Furthermore, Barber (2006, p. 101) questions the benefit for small firms of “mimicking the practice of large firms” in the context of recruitment practice. Both statements underline the otherness of small firms. Despite an awareness of the fact that small firms face different circumstances, the learning and training methods of large firms are nonetheless presented as the yardstick in the literature. It is like the argument that a caterpillar cannot have the same definition as a butterfly (Penrose, 1995).

### **3.3.2 Uniqueness of small firms**

The uniqueness of small firms provides rich combinations and a wide range of characteristics such as size, firm age, development phase and management styles (Higgins et al., 2013). A small firm with 30 employees can be a young growing firm led by the owner-manager, but might equally well be an established family-owned firm in the third generation and even belong to the same sector. Other examples are professionals who start a lifestyle business like a mountain bike dealer or a knowledge worker with a high stock of human and social capital such as lawyers or consultants. These forms of business remain predominantly small over their organisational life-cycle (Hanks et al., 1993; Storey, 1994). As a result of changes in the labour market and demographics, older individuals may start an alternative small-scale entrepreneurial activity in order to remain active (Kautonen, 2008; Kautonen et al., 2008).

Each of the cases mentioned reflects a different business environment, leadership style and management structure as well as individual learning approaches and, of course, a different position in their personal and organisational life-cycle.

The entrepreneurial research agenda has been expanded to include the topic of older entrepreneurs who engage in “small-scale entrepreneurial activity as a positive way of keeping themselves active thereby increasing their social inclusion and benefiting the society with their human and social capital” (Kautonen, 2008, p. 6). In particular, the

knowledge and experience exchange between older and younger entrepreneurs provides a melting pot for learning. Learning and training in small firms is not only influenced by the management structure, the human and social capital within the firm and the industry in which it operates, but also by the age and experience of the entrepreneur. The focus on the owner-manager learning also depends on the development of the small firm, which can be related to its life-cycle position. The life-cycle stages are in turn related to the development of the firm and its organisation structure. The link to any form of owner-manager learning derived from resolving new challenges caused by the transition during development of the firm is rarely discussed (Phelps et al., 2007). The next paragraph introduces the idea of the linkage between the life-cycle position and learning in small firms.

### **3.3.3 Small firms and their position in the life-cycle**

Business life-cycle theory describes the inherent changes and crises at predictable transitions over sequential stages of a firm (Zahra and Hayton, 2005). Within the scope of this thesis, the term “change” is often used to characterise the transition from one stage to another in the life-cycle of the firm. The transition from one development stage to the next influences the characteristics of a small firm and may mean that skills, routines, internal and external structures, roles that owner-managers as well as employees have learned become obsolete (Boeker and Karichailil, 2002; Swiercz and Lydon, 2002; Laforet, 2013).

In his life-cycle model, Greiner (1972) explained the underlying dynamics of movement caused by the transition from one stage to another which is triggered by overarching crises. In view of the fact that small businesses in particular do not necessarily grow and pass through all life-cycle stages, researchers developed an adapted five-stage life-cycle model for the small business (Churchill and Lewis, 1983; Scott and Bruce, 1987; Hanks et al., 1993)

This comprises organisational development (size, age and organisational culture) and adaptation of the leadership role and needs of the owner-manager (Matlay, 1999a). Masurel and van Montfort (2006) identified that different stages have different characteristics. This also encompasses the change in management style which emerges as a business outgrows the expertise of the founder (Scott and Bruce, 1987;

Daily and Dalton, 1992). Moreover, Grundy and Welsch (2001, p. 455) point out: "It is inevitable, as the business grows, that the owner's role changes." This change also includes the progress of learning in times of crises, uncertainty and survival "which are often attributed to the internal disruption, rancour, and turnover of personnel wrought by changes in values, routines, working relationships, and requisite skills" (Baron et al., 2001, p. 962).

Boeker and Karichalil (2002) stress that there is a critical difference between starting a successful business and managing a successful company. This is underlined by the fact that founders of high-tech firms are often replaced by chief executive officers (CEOs) when the firms reach growth phase (Baron et al., 2001; Zahra and Hayton, 2005). Rubenson and Gupta (1992) posited that, besides the classic topics of the practical ability of the entrepreneur to develop as a professional manager and the willingness to develop new managerial skills, there is a third topic to be considered, which is how fast the firm needs a change of management.

In order to understand the holistic shifts within transformation processes and in particular with regard to the development of characteristics of small firms, the model of the life-cycle theory is useful to assign the development position of the firm. Although comparison of the various stages of the available life-cycle models shows similar patterns when moving from a start-up to a declining firm, no consensus exists as to the number of stages or the time frame (Phelps et al., 2007). At the same time, it is precisely this fuzziness that reflects the uniqueness of small firms and their innumerable opportunities for growth with all the associated challenges. These challenges during the development of a small firm are complex and are also interrelated with changes in the specific internal and or external environments. Greiner (1972) labels these points in his life-cycle model as crises; Gladwell (2000) call them "tipping points", whereas Cope and Watts (2000, p. 113) describe them as "critical episodes". Irrespective of the definition of such events, the fact remains that the owner-managers have to apply a learning style which requires the combination of existing internal operational knowledge with new external knowledge in order to overcome these events and to remain competitive. One distinction is related to the owner-managers of small firms, as critical events not only affect the firm as such but also the owner-manager himself. Cope (2003a, p. 2) argues that "running a small

business is a challenging and consuming process, in which the motivations, emotions and role of small business owners are inextricably linked to the performance and success of the businesses that they personally create and/or develop.” The owner-manager has the organisation in mind which is a strong expression of emotion (Vince, 2002).

In the following, the five-stage model developed by Hanks et al. (1993) is primarily used to describe the general transition stages of small companies. Table 3-5 provides a description of the organisational life-cycle stages in relation to the dimensions of age, size and structural form through to the business tasks.

**Table 3-5:  
Life-cycle stage characteristics**

Dimension	Start-up stage	Expansion stage	Consolidation stage	Diversification stage	Decline stage
Age	Young ...	.....	.....	Older	Any age
Size	Small ...	.....	Large	Largest	Declining
Growth rate	Inconsistent	Rapid, positive	Slow growth	Rapid, positive	Declining
Structural form	Undifferentiated, simple	Departmentalised, functional	Departmentalised, functional	Divisional	Mostly functional
Formalisation	Very informal, personal, flexible, few policies	Formal systems begin to emerge, but enforcement is lax	Formal, bureaucratic; planning & control systems are enforced	Formal, bureaucratic	Excessive bureaucratisation
Centralisation	Highly centralised in founder	Centralised; limited delegation	Moderately centralised	Decentralised	Moderately centralised
Business tasks	Identify niche; obtain resources; build prototype; set up task structure	Volume production & distribution; expand capacity; set up operating systems	Make business profitable; perform cost control; establish management systems	Diversify; expand product market scope	Revitalise; redefine mission and strategy

Source: Hanks et al. (1993, p. 12)

The overview of the life-cycle stages and dimensions highlights the fact that the transition from one stage to another requires various adjustments and changes in terms of the management, the employees and the organisation structure in order to cope with the next evaluation stage successfully. However, not every company follows these stages incrementally, as Lichtenstein (2000) and Phelps et al. (2007) describe. Irrespective of whether a firm follows each stage or leapfrogs a given stage during its development, it is important that owner-managers of small firms also invest

in the development of HC during the development phase (Davidsson and Honig, 2003; Ucbasaran et al., 2008; Gabrielsson and Politis, 2012).

Table 3-6 shows an overview of the key characteristics of small firms based on their organisational life-cycle stages. The model of Hanks et al. (1993) as well as the definitions of small firms provided by Birley and Westhead (1989) in the previous subsection is adapted to include the dimension of ownership structure and learning forms.

**Table 3-6:  
Dimensions and life-cycle stages of small firms**

Dimension	Start-up stage	Expansion stage	Consolidation stage	Diversification stage	Decline stage
Age	Young ...	.....	.....	Older	Any age
Size	Smaller ...	.....	Larger	Larger	Declining
Ownership structure	Founder, funding team	Founder, funding team, managers lead with founders	Mature family businesses with successions	Family-owned, e.g. second, third generation	
Growth rate	Inconsistent	Rapid, positive	Slow growth	Rapid, positive	Declining
Learning forms	Informal, trial and error	Mainly informal, joining of networks	Networking, combination of formal and informal learning	Informal, formal	.....
Structure and organisation	Undifferentiated, simple	Departmentalised, functional	Departmentalised, functional	Divisional	Mostly functional
Formalisation	Very informal, personal, flexible, few policies	Formal systems begin to emerge, but enforcement is lax	Formal, bureaucratic; planning & control systems are enforced	Formal, bureaucratic	Excessive bureaucratisation
Business tasks	Identify niche; obtain resources; build prototype; set up task structure	Increase volume of production & expand capacity; set up operating systems	Make business profitable; cost control; establish management systems	Diversify; expand product market scope	Revitalise; redefine mission and strategy

Source: Hanks et al. (1993), adapted by the author

Each combination of the dimension and the life-cycle stage of a small firm reveals its own characteristics. These characteristics of the ownership structures, formalisation and business tasks of the firm influence the owner-manager learning approaches in small firms. Therefore, it is difficult to evaluate the training and learning in small firms without knowing the classification of the life-cycle position and the ownership

structure. As this information is rarely available, it is virtually impossible to obtain comparable data.

Research concerning learning and training in small firms underlines the specific position of small firms and the uniqueness of the underlying conditions of owner-manager learning (Higgins and Aspinall, 2011). This selection of learning and training builds the basis for delving deeper into the topic of owner-manager learning in small firms, which is the central topic of the next section.

### **3.4 Introduction of owner-manager learning in small firms**

This section builds on the previous sections by elaborating on owner-manager learning as a central competitive element in start-ups and family firms. Owner-manager learning is strongly related to the organisational development of small firms along with the management structures and functions in these organisations, the size, internal and external relationships, and the business environment (Swiercz and Lydon, 2002). This section highlights owner-manager learning in small firms with a particular focus on two different management structures of small firms. These are established small firms which emerged from start-ups and are still led by their founders and family firms which are led by the initial successors. The former type is characterised by the entrepreneurship scholars as the creation of new businesses, the pursuit of opportunities through innovation, risk-taking and new venturing (Shane and Venkataraman, 2000; Korunka et al., 2003; Shane, 2008), whereas the scholars of the latter type of family businesses focus on succession topics, early learning, knowledge sharing, and family relationships (Hamilton, 2006; Zahra et al., 2007; Nordqvist and Melin, 2010; Hamilton, 2013). Most present research in the field of owner-manager learning has not distinguished between these management structures in small firms.

The literature review of the field of owner-manager learning is related to the development of the firms. Specifically, the position of the owner-manager as learner and as training facilitator in these two types of small firms is analysed, although there seems to be only a weak link between managers in small firms as learning facilitators and their impact on learning for their employees (Coetzer, 2006a). George (1999) describes coaching, work shadowing, secondment, work-based training and how

knowledge is managed as essential training opportunities which enable owner-managers to learn and at the same time to encourage employees to actively participate in training sessions. Owner-manager learning is embedded in the real world with all its hyper-complex and social interactions (Cope and Watts, 2000; Rae, 2006; Zhang et al., 2006; Matlay, 2008a). The focus on research into start-up firms or established small family firms has developed a rather fragmented picture of learning, particularly of owner-manager learning. The research on the development of start-ups has often used the configuration approach to describe the personality of entrepreneurs, personal resources, environment and organising activities such as management of the start-up process and its links to growth and performance (Miller, 1990; Wiklund et al., 2009). Other studies explore the relationship between opportunity recognition and previous experience (Shane and Venkataraman, 2000; Ucbasaran et al., 2009). All these insights contribute to the understanding of learning in small firms but the specific question of “how and what do owner-managers learn?” has barely been touched.

The literature review of family firms shows a determined but at the same time long-term perspective of knowledge creation. This long-term perspective is of interest as family firms operate in the same innovative, competitive business fields. Zahra, et al. (2007) analysed in their study the linkage between knowledge sharing and growth variables, which supports the innovation of family firms. They analysed the knowledge sharing methods of a sample consisting of more than 200 firms. The identified methods of knowledge sharing within family firms ranged from formal to informal knowledge sharing methods. Whereas formal knowledge sharing was performed in official meetings, workshops, etc., informal knowledge sharing was more on an ad hoc basis. The results of the analysis show a direct impact of the knowledge sharing in the form of an increase in innovativeness. Based on the firms in the sample with an average size of 800 employees, the topic of owner-manager learning was not directly addressed.

In most family firms, several generations will have been involved in running the business over long periods of time. This knowledge sharing between and across generations has proved to be an accelerator in the building of HC. Owner-managers of family firms may apply a “different outlook vis-à-vis their employees, their

customers, the community, and other important stakeholders and this may affect the quality of their product” (Kets de Vries, 1993, p. 313). The interrelationship between the long-term perspective and knowledge sharing in family firms has become a major research topic. Chirico and Laurier (2008) embedded their study of knowledge sharing in the wine business with a small sample of family firms covering the longevity of three and more generations. The importance of the process of early learning and the transfer of product knowledge from one to the next generation are stimulated by the combination of new insights which led to new knowledge and innovations from existing products (Hamilton, 2006; Nordqvist and Melin, 2010; Hamilton, 2013). These studies analyse owner-manager learning over two and more generations as an integral part of the family firm system.

The long-term perspective provides an enhanced understanding of the relationship between owner-manager learning in start-ups and established small family businesses. Back in the late eighties, Kets de Vries (1993) had already raised the question of the positive and negative effects of learning over a longer period in family firms. Sohler and Watts (2012) introduced the term of learning trajectories to describe the *focus and the direction* of owner-manager learning in small firms over a longer period. The concept of learning trajectory was initially used by Eraut (2004a) to describe what a person has learned over a longer time period. In the context of owner-manager learning, the learning trajectories are valuable to analyse a longer period of learning during development of the business. Both types of firms reflect the development of a start-up to a small established firm, which often includes the initial succession phase and the integration of family members into the business (Rubenson and Gupta, 1996). Without the succession process, the average life span of a newly founded and successful firm corresponds to the length of time the founder is associated with it, which on average is 24 years (Kets de Vries, 1993; Kets de Vries and Carlock, 2010). In the light of the development processes of entrepreneurs and firms, the research community has already reacted and has called for more studies to investigate the link between entrepreneurship and family businesses as owner-managers are usually family members (Rogoff and Heck, 2003). Aldrich and Cliff (2003, p. 575) underline the fact that “the emergence of new business opportunities and the emergence of new business entities ... are inextricably linked to transformations in family composition and family.”

This broader view of investigations about the interrelationship between owner-manager development and family business provides a new insight into how the stock of knowledge of the owner-managers is growing and the development of the firm and the associated growth milestones. Cope and Watts (2000) describe this parallel development process of learning for the owner-manager within the developing firm as the continuing learning process.

In the following subsection, the topic of owner-manager learning is presented in the context of training in small firms.

### **3.4.1 Owner-manager learning and training in small firms**

The following review of the literature on learning in small and family firms offers a new approach to the question of why learning in small firms is too often underestimated. Thereby, it contributes a further study to diminish the lack of comparable research between small and family businesses (Fletcher, 2000). One of the key differences between small and large companies is greater external uncertainty to which the former are exposed (Westhead and Storey, 1996; Hill and Steward, 2000). This uncertainty is accompanied by limited capacity in terms of manpower and management time plus a lack of experience. As a result of the small number of employees in small and family firms with less than 50 employees, decisions regarding training and personnel management have to be made less often, which means less experience in HRM activities. Furthermore, strategic management is lacking as a consequence of the high commitment of owner-managers to their daily business challenges (Kelliher and Henderson, 2006).

The contextual dimension of company size is related to other dimensions of organisational characteristics, which is reflected in the different needs of small firms with regard to management, leadership, recruitment, training and other HRM functions. Their smallness also generates direct, informal communication, flexible operation and adaptability (Storey, 1994; Gibb, 1997). Employees in small firms often have to perform a greater variety of tasks than employees in larger firms, and specialists are less likely to be found in smaller firms.

All these factors have a serious impact on the development and configuration of training, and on activities in small firms which influence the learning function for the

owner-manager and the learning practice of employees. Informal learning is highly contextual (Ellinger and Cseh, 2007) and difficult to link to outcomes “but some links can be identified and assessed, for example, the way that beliefs affect choices and their consequences for action taken” (Marsick, 2009, p. 273). In comparison, formal learning for owner-managers of small firms often comprises an apprenticeship supplemented by specific training in different management fields. Research in Europe confirms that less than one third of entrepreneurs have a university degree (Roure, 2000).

The following two subsections address the specific context of owner-manager learning in small firms and their respective positions in the life-cycle. This position may influence the learning and the context of learning.

Moreover, the generation and utilisation of knowledge is essential for both types of firm. Grant (1996) underlines the integration of knowledge as the essence of organisational capability in coping with hyper-competitive markets. Two different owner-manager learning approaches are analysed in the context of continuing learning. One is at the beginning of a firm’s life-cycle in the context of a start-up. The other is related to a takeover of the established firm in the second or third generation. The success of start-ups and small established family firms depends on knowledge integration either at the entry stage or in the phase of succession.

### **3.4.2 Development and transfer of knowledge in small firms**

The development of firms has different patterns and varies not only in pace, but also in content, regularity and their positions in the life-cycle as described in the subsection 3.3.3. Delmar et al. (2003) identified seven patterns that describe how a firm grows. Owner-managers of small firms affect the growth of the firm through the strategic decisions they take (Davidsson et al., 2006).

Entrepreneurship research suggests that embedded exchange relationships with customers are critical for the survival and growth of young firms (Venkataraman and Van de Ven, 1998; Chell and Baines, 2000; Reuber and Fischer, 2005; O'Dwyer et al., 2011). Chowdhury (2011) analysed 134 young firms which had been in business for up to six years and identified that the complexities for young firms are related to the newness and relatively invasive nature of customer relationships.

In contrast to the knowledge transfer between generations in family firms, this process in the context of learning in small entrepreneurial firms is related to how owner-managers transfer experience into knowledge (Minniti and Bygrave, 2001). The literature relating to family firms focuses on the knowledge transfer between individuals, whereas the literature on learning in entrepreneurial firms refers to the owner-manager. The results of the existing research underline the fact that the process of transforming experience into knowledge is twofold. Firstly, the explanation of the existing knowledge transfer processes is linked to the decision-making process. Secondly, the exploitation strategy is applied when the owner-manager replicates closely what is known, whereas the exploration strategy means that the owner-manager explores new possibilities based on experience (March, 1991; Gupta et al., 2006; Politis, 2008).

Both kinds of knowledge transfers are essential to sustain learning. What is remarkable is the difference between the two knowledge transfer processes. In family firms, knowledge is transformed, combined between generations over a longer time period and utilised in new products or processes, enabling the family to build a unique social system with a strong sense of identity (Zahra et al., 2007). In contrast, the owner-manager of a start-up firm may share information with peers and transfers experience into knowledge either by exploitation or exploration for the development of new products or processes. The distinction between these knowledge transfer processes is threefold. Firstly, the exchange of knowledge between family members takes place over a longer time period than between an owner-manager and peers. Secondly, the position of the established family firm in the life-cycle reflects a history and more experience than at the initial start-up or growth phase. Finally, the shortage of liquidity and liability of newness are two drivers which force the owner-manager of a start-up business to adopt faster decision-making processes (Williamson, 2000). The personal experience of owner-managers is transferred into knowledge (Kolb, 1984). But how this process takes place still remains widely unanswered in the literature. The next subsection presents the knowledge transfer in family firms.

### **3.4.3 Generation and transfer of knowledge in family firms**

In the following, the processes of knowledge sharing and utilisation are highlighted with respect to the previous analysis of owner-manager learning.

In comparison with start-ups, family firms, and in particular their owner-managers, have a different outlook to their employees and are long term oriented in relation to their business (Kets de Vries, 1993). Therefore, the processes of knowledge generation and transfer are essential in family firms. In particular, the issue of succession is broadly discussed in the literature (Sharma et al., 2001; Le Breton-Miller et al., 2004; Cabrera-Suarez, 2005; Mitchell et al., 2009; Pardo-del-Val, 2009), but this topic is only indirectly addressed through learning activities on the part of the owner-manager or his/her successor and the question of how and what owner-managers learn in a succession process is not directly addressed.

The topic of business transfer due to the retirement of the owner-manager of the enterprise addresses one major challenge which many small firms will face during the next ten years. Around one third of European entrepreneurs who run a family business will retire from their business (European Commission, 2009). Almost 700,000 SMEs with an average size of four employees will be affected by business transfer operations yearly over the next ten years (European Commission, 2009). Adopting measures to ensure efficient successions and knowledge transfer in family firms is crucial in the struggle against the global competition, mainly from Asian and North American firms. Therefore, governments have created programmes that facilitate successful business and knowledge transfer (Nordqvist and Melin, 2010).

The successful outcome of a succession process is often jeopardised by the founders who stay in the firm although they have resigned from operational responsibility (Sharma et al., 2001). The vast majority of research in the field of family firms addresses the succession process along with the characteristics and factors that influence the success of the post-succession process (Le Breton-Miller et al., 2004; Mitchell et al., 2009). Other main issues of studies are strategy, growth or resource management in family businesses (Rogoff and Heck, 2003).

Learning in family firms is not merely dedicated to the succession process, but is more a case of a socially embedded intergenerational learning (Hamilton, 2006; Chirico and Laurier, 2008; Hamilton, 2013). How this learning in family firms is

structured depends largely on the characteristics of family members and the industry in which the firm operates as well as on the incumbent and the development of potential successors who can assume responsibility for the family business (Cabrera-Suarez et al., 2001). The literature on owner-manager learning in family firms often leads to the learning around and within the processes of succession and growth (Rogoff and Heck, 2003). The literature on family businesses uses a very different language to that used to describe learning in the start-up sector. The language is not directly linked to learning and the focus is more on the topics of knowledge sharing, knowledge generation, early learning and the transfer of knowledge between generations. This specific learning environment is further analysed with regard to the owner-managers' learning in the following section.

#### **3.4.4 Owner-manager learning in family firms**

The specific knowledge transfer and creation have been recognised as key factors of longevity in family firms (Chirico and Laurier, 2008). Although knowledge transfer and creation are intertwined, the literature on family firms seldom refers to how the owner-manager's learning process takes place. The learning factors focus on knowledge sharing and generation, analysis and the utilisation of knowledge in new products. In comparison with a start-up firm, an owner-manager of a family firm has a history with the business and, when confronted with new market conditions, can draw on past experience to develop a competitive edge.

Chirico and Laurier (2008) provide in their model an attempt at describing how owner-managers learn in a family firm. Their model of knowledge related to HC is twofold. It focuses on the opportunities for learning and contains formal learning in academic courses and informal learning through working outside the family business. Furthermore, it uses the employment of external talents. These learning opportunities reflect different CoP during several development stages of an owner-manager as over time "our forms of participation change, our perspectives change, and we experience life in new ways" (Wenger, 1999, p. 89). All these processes of learning are accompanied by two dominant perspectives of knowledge sharing and storing. Formalised knowledge sharing processes deal with collectable and storable information. The other perspective is informal knowledge sharing, which contains tacit, socially constructed knowledge. This perspective is related to the second part of the model, which integrates the social interaction within the family firm, the motivation

and emotional attachments. One feature of a family firm is the high degree of members' commitment, trust, the capacity for mutual learning and dedication (Cabrera-Suarez et al., 2001). In particular, mutual learning requires a high level of openness, respect, acceptance and trust within the family. However, not all family members show an interest in the family business (Le Breton-Miller et al., 2004).

Chirico and Laurier (2008) combine these elements with the organisational culture. This builds the identity of the family business that expresses itself in specific content, decision processes and premises (Frank et al., 2010). "The reason is that individuals who have a work relationship based on those features tend to feel supported, recognized, and more satisfied with the quality of their experience in the business" (Cabrera-Suarez et al., 2001, p. 43).

The continuous learning process of transformation and exchange from the first generation to the next is embedded in a social and a historical context (Hamilton, 2006, 2013). The concept of "familiness" summarizes the "resources and capabilities related to family involvement and interactions" (Christman et al., 2003, p. 468). This definition underlines the fact that the understanding of intergenerational learning is integrated in the dynamics of the daily business and in the social interaction between the family members (Le Breton-Miller et al., 2004).

Knowledge relating to how owner-managers learn in small family firms remains a gap in the research field. The tendency is to investigate the processes of early integration in the business and the formal and informal knowledge processes. These knowledge sharing processes are embedded in social and daily interaction within the family firm. The learning of the successor or owner-manager of the second or third generation of a family firm is influenced by the experiences of early contact with the firm and the interrelationship between learning and experience continues to grow over the years. Owner-manager learning does not stop after the succession process.

So far, the owner-manager learning in small firms has been analysed from different angles. The research field of entrepreneurial learning is situated at the top in the analysis of owner-manager learning in small firms according to Figure 3-1 on page 36. The layer of entrepreneurial learning is related to the topics of owner-managers, firm and workplace and the network in order to capture the holistic learning life-world of the entrepreneurs (Rae, 2006). The literature on entrepreneurial learning indicates

that owner-manager learning in small firms involves a complex relationship between the dynamic fields of learning such as business environment, internal relationships and finance, to name but a few. How this complexity has been captured in the field of owner-manager learning in small firms is the central topic of the next section.

### **3.5 Entrepreneurial learning**

Entrepreneurial learning has been established as an important area of theory and practice. Despite this interest, the processes, factors and interactions that affect entrepreneurial learning in small firms are not well understood (Deakins and Freel, 1998; Cope, 2005). The study of the relevant literature on entrepreneurial learning offers a similar but not unique picture for its definition and framework. Shane and Venkataraman (2000, p. 218) were once confronted with a similar problem when attempting to define the term “entrepreneurship” and state: “Perhaps the largest obstacle in creating a conceptual framework for the entrepreneurship field has been its definition.”<sup>14</sup> Entrepreneurial learning is an “experiential process where enterprising individuals continuously develop their entrepreneurial knowledge through their professional lives” (Politis, 2008, p. 45).

Central to [the entrepreneurial process], however, is the individual entrepreneur who is the driving force behind the process. Without that individual’s commitment, determination, vision, energy, tolerance of risk and ambition, to mention but a few of the key personality and behavioural attributes of an entrepreneur, the process would not happen (Hill and McGowan, 1999, p. 7).

Rae (2006) and Cope (2005) developed two leading conceptual frameworks for the analysis of entrepreneurial learning and its characteristics in the dynamic environment of small firms. Rae (2006, p. 39) underlines that his conceptual framework “can be used to interpret entrepreneurial learning experience.” Both authors independently developed a dynamic but different framework which considers the aspects of learning, personal and social emergence, contextual learning and relationship management.

---

<sup>14</sup> The strength of entrepreneurial learning is perhaps the manifold applications which are therefore more readily adjustable to the unique situation of each small firm.

The findings of Rae and Carswell (2001), Rae (2006) as well as Cope (2005) identify key factors which influence the entrepreneurial learning process of owner-managers within their business context. Politis (2008) in contrast developed a conceptual framework which basically combines the experiences of the entrepreneur with a transformation process towards entrepreneurial learning such as opportunity recognition or coping with the liability of newness. The outcome of the analysis of entrepreneurial learning is summarised with the conceptual framework of owner-manager learning in Figure 3-13.

According to Rae and Carswell (2001), entrepreneurial learning can be divided into two main areas. Firstly, learning occurs in all the processes in which owner-managers recognise and act on opportunities, and secondly, they learn from experience when they manage and organise their firms according to the previous section 3.3 learning and training in small firms as well as section 3.4 owner-manager learning in small firms. Rae and Carswell (2001, p. 150) call for “a greater understanding of how entrepreneurial capabilities are developed through life and work”. Politis (2008) emphasises the importance of developing a better understanding of how entrepreneurs learn from past experience. Research on entrepreneurship learning has shown that for such dynamic processes it is almost impossible to identify a single factor which influences the learning (Mueller and Anderson, 2014). An instrument which supports the analysis of learning in the working environment is action learning. “Action learning combines self-development with action for change” (Pedler and Burgoyne, 2008, p. 319).

In addition to the process of owner-manager learning, Cope and Watts (2000) analysed the parallel processes of personal development and organisational growth. They note that critical incidents and episodes are important events for the development of a business and at the same time these events trigger the transformational learning of the entrepreneurs. The same authors emphasise that it is important when developing a conceptual framework to consider the hyper-complex interactivity between the owner-manager and the dynamic business environment. A useful concept is the learning prior to the start-up (“learning history”) and during the entrepreneurial process (“learning tasks”) (Cope, 2005). This process of entrepreneurial learning in particular is recognised as an important source of

competitiveness not only for small firms (Deakins and Freel, 1998; Wiklund and Shepherd, 2003; Rae, 2006).

In the following section, the uniqueness but also the similarities of the existing entrepreneurial learning concepts which centre on the context and processes of owner-managers learning are analysed and compared according to the analytical framework of Bronfenbrenner (1979). The adapted framework of Bronfenbrenner (1979) illustrates three levels of analysis, namely the micro, meso and macro level. The owner-manager represents the micro level, whereas the meso level is the small firm and its environment. The macro or third level is the ecological system along with all its impacts on the other two levels. The aim is to identify the value of these entrepreneurial learning concepts for small firms.

### **3.5.1 Concepts of entrepreneurial learning**

During the last decade, valuable contributions have been developed towards a conceptual understanding of entrepreneurial learning. Researchers have started to conceptualise the process of entrepreneurial learning with different approaches and from different viewpoints. Against the background of interests, three complementary frameworks and findings of researchers were analysed in order to specify the learning in small firms. Rae and Carswell (2001) developed a concept to analyse the emergence of the entrepreneurial capability. The strengths of this model are the extended view of entrepreneurial learning, which includes the relationships and the future orientation expressed by achieving ambitious goals. Minniti and Bygrave (2001) and Cope (2005) have underlined the dynamic perspective of entrepreneurial learning. From an in-depth analysis of entrepreneurs, Rae (2006) identified three major topics and eleven subtopics which he transformed into a triadic model of entrepreneurial learning.

All these models represent a specific view towards a holistic understanding of entrepreneurial learning. The most important themes and categories are those developed to describe the models as each of these topics has its own perspective on learning. In the following sections, the models of Rae and Carswell (2001) and the later models of Rae (2006) and Cope (2005) are analysed according to the micro, meso and macro level model of Bronfenbrenner (1979). These three levels also

reflect the classification of success factors related to the three groups of the entrepreneurs (micro level), the firm (meso level) and the socio-economic environment (macro level) (Wiklund and Shepherd, 2003; Davidsson and Wiklund, 2006). The richness of entrepreneurship learning is the different combination of these main elements and its interrelation of individual, organisational and environmental factors. This interrelation is highlighted by the position of owner-managers as “issues which affect them in their personal lives often seem to have a potent affect on business activities and ultimately the success of the organisation” (Clarke et al., 2006, p. 449).

### 3.5.1.1 Entrepreneurial capability

Rae and Carswell (2001) conceptualised the importance of the development of entrepreneurial learning through work and life. Their survey was based on thirteen in-depth interviews with entrepreneurs in different business fields. Based on their survey, they identified five central life-stages which are shown in Table 3-7.

**Table 3-7:  
Life-stages**

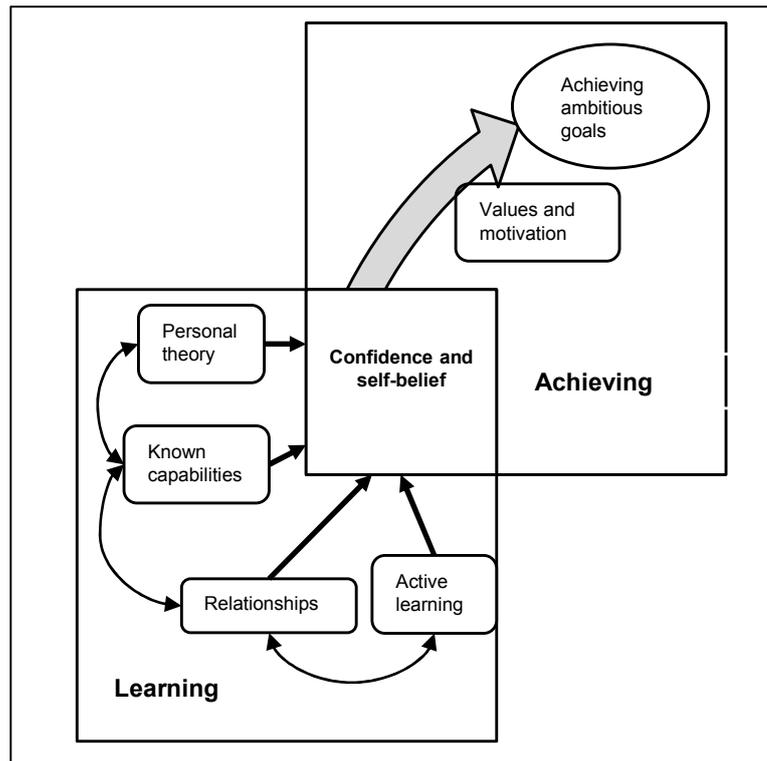
<b>Formative experience</b>	<b>Entrepreneurial process</b>
<b>Early life:</b> <ul style="list-style-type: none"> <li>• family background</li> <li>• education</li> <li>• adolescence</li> </ul>	<b>Engaging and entering a venture:</b> <ul style="list-style-type: none"> <li>• selecting</li> <li>• starting</li> <li>• acquiring</li> <li>• joining</li> </ul>
<b>Early career:</b> <ul style="list-style-type: none"> <li>• first jobs</li> <li>• vocational or professional learning</li> </ul>	<b>Growing a venture:</b> <ul style="list-style-type: none"> <li>• taking control</li> <li>• driving</li> <li>• leading</li> <li>• developing people</li> </ul>
	<b>Moving out and on from a venture:</b> <ul style="list-style-type: none"> <li>• selling</li> <li>• leaving</li> <li>• finding</li> <li>• new opportunities</li> </ul>

Source: Rae and Carswell (2001, p. 154), adapted by the author

Rae and Carswell (2001) succeeded in transferring the identified life-stages to a conceptual framework, although the life-stages only distinguish between formative experience and an entrepreneurial process of a person. The key is the interrelationship as Rae and Carswell (2001, p. 157) argue: “It is the dynamic

interrelationships between them which contribute to our understanding of entrepreneurial behaviour.” The link between the two main parts of the framework, namely achieving and learning, is the confidence and self-belief of the person as shown in Figure 3-10.

**Figure 3-10: Development of entrepreneurial capability**



Source: Rae and Carswell (2001, p. 155)

In the next paragraph, the applied variables within this framework are compared with the three-level model of Bronfenbrenner (1979) to identify the important levels where learning takes place. The micro level, which represents the variable of confidence and self-belief, is central to this framework for development of entrepreneurial capability. Moreover, the variables of personal theory, known capabilities, values and motivation are closely linked to the micro level. The meso level is expressed by the variables of relationship and active learning. The framework emphasises the micro and meso level as the most significant places where learning takes place. In comparison, the macro level is not developed in detail but can be expressed by the variables of relationship and achievement of ambitious goals. The developed framework covers all

three levels, whereas the focus is on the interrelations between the formative experience and the entrepreneurial process. The interdependency between the levels, and in particular with the macro level, is not distinct.

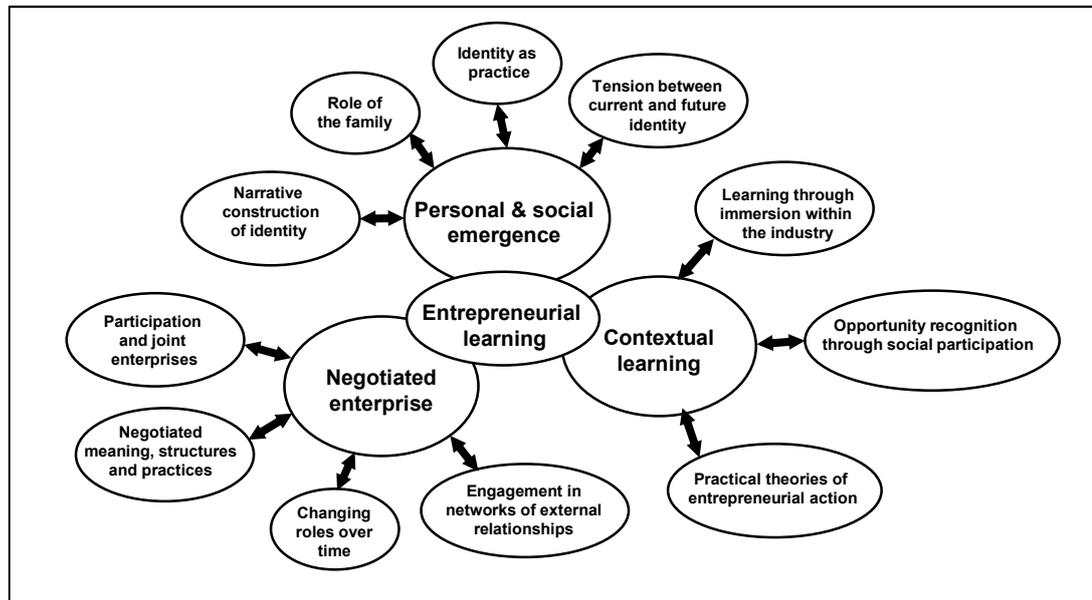
### **3.5.1.2 Entrepreneurial learning in technology-based firms**

Rae (2006) developed the initial framework of life-stages further towards a conceptual framework for technology-based enterprises in order to understand entrepreneurial learning processes. The evolution of this model in Figure 3-11 is mainly based on the precise results of narratives and discourse analysis from ten entrepreneurs. The outcome of this in-depth analysis is a framework of three major topics and eleven subtopics. Rae (2006, p. 43) defines the major topics as “personal and social emergence of the entrepreneur, contextual learning and the negotiated enterprises.” The eleven subtopics of the triadic model show the wide variety of factors which influence the process of entrepreneurial learning. The introduction of the main topic, “negotiated enterprises”, is the greatest benefit of the holistic framework in comparison with the former framework “development of entrepreneurial capability”.

Rae’s (2006) triadic model of entrepreneurial learning incorporates all three levels previously defined by Bronfenbrenner (1979) in his model, discussed in section 1.3. The micro level covers the processes relating to the owner-manager’s personal and social emergence. In particular, this subtopic highlights the tension between current and future identity of the owner-manager. This tension emerges as personal development takes place simultaneously with the growth of the business. The second major topic, “contextual learning”, represents the meso level. Rae (2006, p. 47) describes this process as “learning through immersion within the industry.” The introduction of the topic “negotiated enterprise” is the major development and contribution towards a deeper understanding of the process of entrepreneurial learning. This topic provides a broader view of the complex and interrelated learning processes of an owner-manager of a small firm within the industry.

The model in Figure 3-11 demonstrates the complexity of the process of entrepreneurial learning.

**Figure 3-11: Triadic model of entrepreneurial learning**



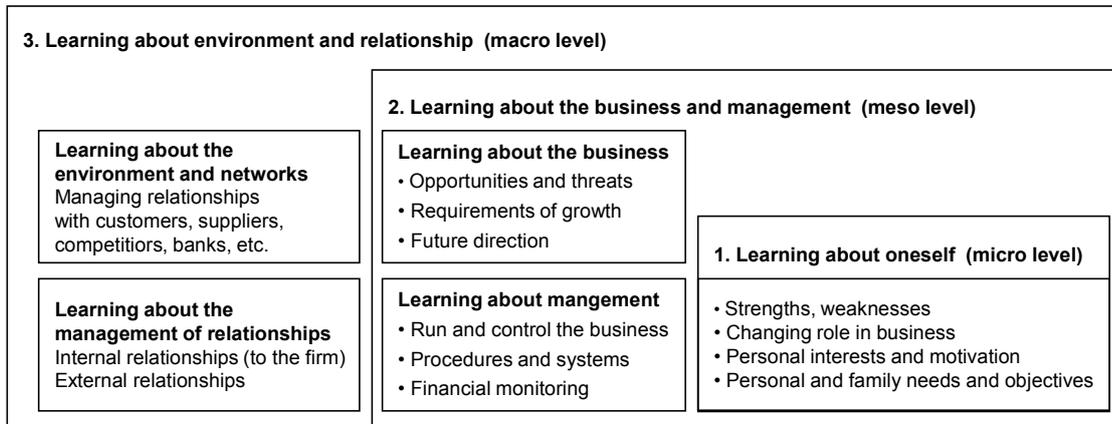
Source: Rae (2006, p. 43)

### 3.5.2 Dynamic learning perspective of entrepreneurship

Cope (2005) analysed the learning environment in an extended review of the approaches of entrepreneurial learning in order to develop a dynamic perspective which goes beyond describing the characteristics of an entrepreneur or the initial processes of a start-up. The fruitful unit of analysis is “where the entrepreneur is continually learning and developing in relation to his or her business and the wider environment” (Cope, 2005, p. 374).

Cope (2005) developed a dynamic but also an incremental framework to analyse the perspectives of entrepreneurial learning. The two main components of this framework are the experience and learning prior to the start-up (“learning history”) and during the entrepreneurial process (“learning tasks”) (Cope, 2005, p. 378). In particular, the learning tasks are transferred to five significant areas of research. In Figure 3-12, these five research fields are assigned to the three-level framework of Bronfenbrenner (1979).

**Figure 3-12: Five significant areas of research**



Source: Cope (2005, p. 380) adapted by the author

These levels and topics are all interrelated and together form a dynamic system. A change or a critical event that emerges in one of the fields affects the system and supports the entrepreneurial learning process as “learning is not spontaneous but must be provoked by situations or events in the environment” (McCarthy Gallagher and Reid, 2002). Entrepreneurial learning from critical or significant experiences is recognised by several theorists (Deakins and Freel, 1998; Minniti and Bygrave, 2001; Rae and Carswell, 2001). Cope and Watts (2000) add that such significant events are emotionally charged during the entrepreneurial process. The analysis by Cope (2005) has shown two further interesting topics which increase the understanding of entrepreneurial learning besides the critical learning events. One topic is concerned with the routinised learning and the other with the relationship between analysis, learning and the actions of the entrepreneurs. Finally, Cope (2005) underlines the importance of the social characteristic of entrepreneurial learning.

### **3.5.3 Synthesis of entrepreneurial learning frameworks**

Each of the three conceptual frameworks of entrepreneurial learning analysed underline the interrelated processes between all three system levels defined by Bronfenbrenner (1979). However, differences are to be found within the characteristics of the frameworks. The variations are shown in Table 3-8.

**Table 3-8:  
Entrepreneurial learning frameworks**

		Frameworks		
Levels	Characteristics	Rae and Carswell (2000)	Rae (2006)	Cope (2005)
Micro	Identity as practice	●	●	●
	Role of family	○	●	●
	Personal development	●	●	●
	Self-analysis	◐	◐	●
Meso	Learning about the business (workplace)	○	●	●
	Analysis of learning	◐	●	◐
	Learning about enterprise networks	○	●	●
	Future direction	◐	◐	●
	Changing role over time	-	●	●
Macro	Management of relationships	○	◐	●
	Engagement in networks	-	●	●

Source: Author

Key to ratings: Very Important = ●; Important = ◐; Considered = ○; Not available = -

The direct comparison of these three networks demonstrates that all three frameworks consider all three levels of analysis. Moreover, it also becomes explicit that the characteristics do not have a strict boundary between the micro, meso and macro levels. On the meso level in particular, it emerges that the conceptual part of learning and analysis in small firms is considered differently by the researchers. Finally, the question of how owner-managers learn is not fully covered. However, the frameworks nonetheless contribute a comprehensive understanding of the dynamic context and the factors that influence entrepreneurial learning.

The results of the comparison and analysis of the different concepts of entrepreneurial learning and the specific learning reference frames are highlighted in a conceptual framework of owner-manager learning in the following concluding chapter on learning in small firms.

### 3.6 Conclusion – learning in small firms

The results of a critical analysis of the learning concepts show a common characteristic. All the learning forms, learning levels, learning places and action learning build on the three levels micro, meso and macro. This makes it possible to establish a link to the entrepreneurial learning process which is also founded on these three levels. In this case, learning about oneself is shown as the micro level, learning about the business as the meso level, and learning about the environment and networks as the macro level. Entrepreneurial learning unites all these connections and interrelationships, making it easier to capture aspects of learning in small firms (Cope and Watts, 2000; Rae and Carswell, 2001; Cope, 2005; Rae, 2006, 2012).

#### 3.6.1 Relationship between learning concepts

The owner-managers of a small firm assume several roles at the same time. In particular, they are “the gatekeeper of all decisions relating to human resources” (Matlay, 1999b, p. 287). A further justification for such interrelationships in small firms is inherent in each of the analysed concepts as each can be assigned to the three levels of micro, meso and macro according to the Bronfenbrenner’s (1979) model. Table 3-9 summarises the relationships between the examined concepts in terms of the three levels.

**Table 3-9:  
Relationships between the concepts**

<b>Concept/assigned level</b>	<b>Micro level</b>	<b>Meso level</b>	<b>Macro level<sup>15</sup></b>
Entrepreneurial learning	Personal & social emergence	Contextual learning	Network learning
Learning forms	Informal	Non-formal	Formal
Learning levels	Single loop	Double loop	Deutro loop
Learning place	Learning on the job	Learning near the job	Learning off the job

Source: Author

---

<sup>15</sup> The third level (macro level) is used in this table to show the external relation or to emphasise the most complex learning approach, e.g. deutro learning, or the most complex system, e.g. the gamma system.

This overview highlights the fact that learning can take place with different levels of complexity at the same time. The learning can be self-directed or group-orientated and can also be a combination of both. Although the Table 3-9 provides a helpful overview, it has to be stressed that there is no rigorous line between the individual concepts. When analysing these concepts and recalling all the underlying learning methods such as quality circle, continuous improvement process, learning by doing, work shadowing, etc., it is remarkable that all these methods are focused on and describe the subject, the process itself. The illuminated concepts do not provide an insight into how the process, e.g. learning by doing, affects the feelings or emotions of the individual or the owner-manager of a small firm. What does the owner-manager actually feel about a given learning event? What are triggers, facts or characteristics that enable an owner-manager to recognise that (s)he has learned? Nonetheless, the concepts are useful for explaining the system of owner-manager learning in small firms as they provide a sound framework which covers the individual, group and environment levels. Amara et al. (2008, p. 453) underline the fact that “the literature on learning is abundant and diversified in terms and forms of learning.”

### **3.6.2 Parallel learning processes**

The analysed concepts of learning do not explicitly address the dynamic of learning between the interfaces of the main three levels. The attempts to identify some processes of owner-manager learning as the firm develops are rare in the learning literature for small firms. Deakins and Freel (1998) as well as Cope and Watts (2000) highlight the interaction between parallel processes of entrepreneurial learning when the firm grows. Other authors analyse the continuous development of the firm and indirectly the owner-manager learning according to the complex interplay of exploration and exploitation (March, 1991; Gupta et al., 2006; Politis, 2008; Lavie et al., 2010). Learning is a process which never ends and is also a process of unlearning. “A human being cannot avoid learning” (Härtel, 2009, p. 23). This statement underlines the importance of collecting data on learning over a period of time. In small firms, the development of owner-managers and the firm is a simultaneous process.

However, any integrating framework would need to recognise the immense diversity of accumulated learning brought to the start-up, the individuality of both the context and the development of every small business and the super-complex interactivity between the “personal” and the “business” (Cope and Watts, 2000, p. 118).

Teece et al. (1997) introduced the notion of “dynamic capabilities” and underline the fact that the competitiveness of a firm in changing business environments can no longer be explained by the classic factors such as quality or costs.

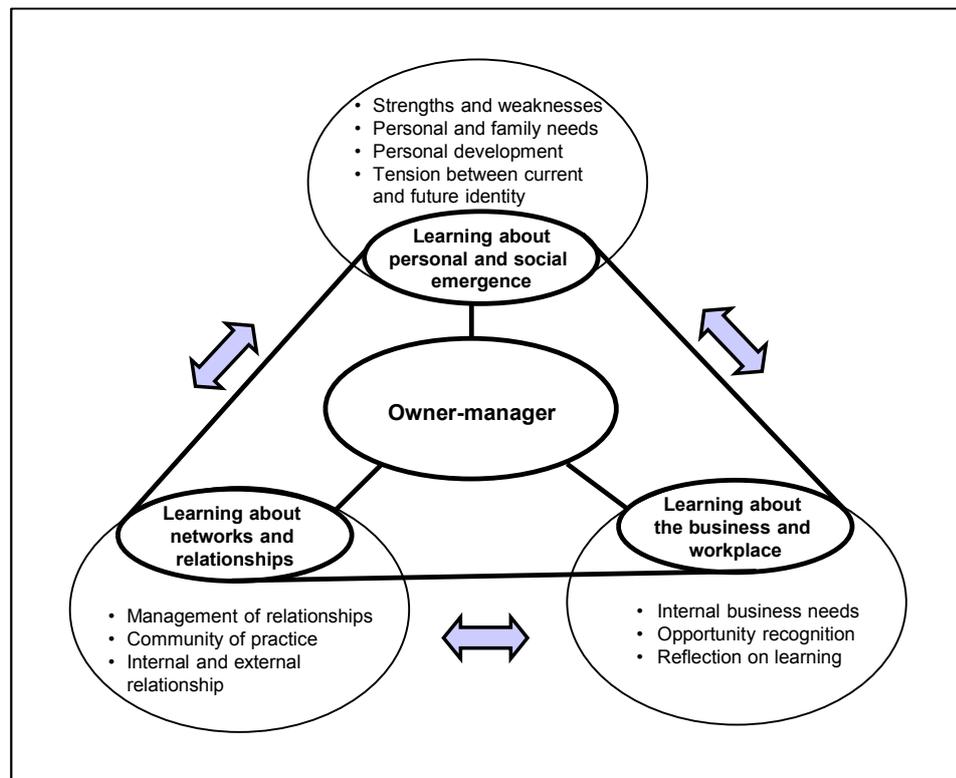
The liabilities of newness and smallness are further factors which reflect the idiosyncratic and dynamic environment of small firms. Hence, the learning process is demanding in such dynamic periods. The learning philosophy in small firms is adjusted to this dynamic and fits well with the constraints under which small firms operate (Coetzer, 2006a).

### **3.6.3 Conceptual framework of owner-manager learning**

The applied conceptual framework of owner-manager learning integrates the experience and results of the above discussed entrepreneurial learning and community of practice frameworks as well as the issue of specific learning reference frames such as learning forms, learning level or learning cycle theory.

The results of the analysis of the central frameworks towards a learning perspective of entrepreneurial learning underpin the importance of integrating all three levels according to Bronfenbrenner’s (1979) model of the micro-meso-macro levels. Moreover, it turns out for a better understanding of owner-manager learning that not only the levels where owner-managers act, but also the dynamic interrelations between these levels and the business environment are crucial (Cope, 2005).

**Figure 3-13: Conceptual framework of owner-manager learning**



Source: (Rae and Carswell, 2001, p. 155; Cope, 2005, p. 380; Rae, 2006, p. 43) adapted by the author

The conceptual framework of owner-manager learning in Figure 3-13 considers the interrelated system approach between all three levels according to the model of Bronfenbrenner (1979).

Furthermore, it symbolises the dynamic which can emerge between all three elements such as learning about personal and social emergence on the micro level, learning about the business and the workplace on the meso level, and learning about the networks and relationships on the macro level.

### **3.7 Summary**

The literature review of the topics analysed in the context of learning in small and family firms was far more demanding than expected. The insights discussed in chapter three, "Owner-manager learning in small firms", showed that learning takes place in various forms and places. This chapter provided an in-depth insight into learning concepts from different theoretical and practical points of view. The learning

concept of communities of practices is highlighted as a more focused approach of entrepreneurial learning. The analysis shows that all learning approaches can be divided into the three learning layers of micro, meso and macro, although these learning approaches are not specifically focused on the owner-manager's learning. The knowledge created on the different learning concepts and their interrelationships with all three learning layers are important for fieldwork and analysis. With reference to the aims of the thesis, the privileged concept of owner-manager learning in small firms is the central focus.

There are two other findings from the literature on learning in small firms. Firstly, the research community has called for more studies on the link between entrepreneurship and family business as owner-managers are usually family members (Rogoff and Heck, 2003). This approach also offers the opportunity to observe the owner-managers in different business environments such as in a start-up and in a family business. Secondly, there is a lack of research about the parallel processes of owner-manager learning as the firm develops.

The conceptual framework of owner-manager learning in small firms in Figure 3-13 is adapted according to the identified demands from the research community. The conceptual framework of owner-manager learning builds on the three-layer structure which has been applied for the development of various learning models during the last two decades.

In chapter four, "Human and intellectual capital", the most important models with relevance to owner-manager learning are described. The connection between HC and learning in the workplace is also identified in the next chapter.

## CHAPTER 4: HUMAN AND INTELLECTUAL CAPITAL

### **4.1 Introduction**

The leverage effect of HC in growing small firms plays a central role in competitiveness. Both of these factors promote the capacity to innovate not only for companies, but also for regions and countries (Audretsch, 2002). Knowledge work has become a growth engine for regions (Güldenbergh and North, 2008). HC has a significant effect on the interaction between knowledge relatedness and the recognition of windows of opportunity (Mitchell and Shepherd, 2010). The HC frameworks are a helpful source for investigating the question: “how do owner-managers learn?” Therefore, the leading HC frameworks are investigated and analysed according to the three levels of the models proposed by Bronfenbrenner (1979) and Fuller and Moran (2001) in this chapter.

For the purposes of the thesis, HC and intellectual capital (IC) are contemplated from the point of view of owner-managers in small and family firms. “Owner-managers are arguably the most important organizational resource since it is primarily their human capital that shapes and exploits opportunities within the firm” (Jones et al., 2007, p. 289).

When it comes to understanding knowledge as a key resource of the firm, it is also important to consider the qualitative aspects of human capital. In contexts where firms possess large quantities of human capital, differences in quantity may matter less than differences in quality. By distinguishing between types of education and experiences, we have the opportunity to better understand which aspects of human capital are associated with higher performance (Dimov and Shepherd, 2005, p. 3).

The leading role of owner-managers in increasing the knowledge and HC of the firm is emphasised by these statements. HC theory analyses the investment in general training, specific training, schooling and other knowledge in relation to its impact on wage increases (Becker, 1993). The second approach adopted in this thesis is to investigate the owner-manager learning in their firms from the perspective of HC theory. HC represents the knowledge and skills that the individual owner-manager

and employee contribute to the firm. “As [human capital] is developed through both education and personal experience, it contributes to both the explicit and tacit knowledge of the firm” (Dimov and Shepherd, 2005, p. 6).

The combined theories of entrepreneurial learning with HC provide greater inter-relationships of concepts for understanding how learning takes place in small and family businesses (Pittaway et al., 2014). van Praag (2006, p. 8) underlines that “family businesses provide an important opportunity for family members to acquire HC related to operating a business”. At the same time, this linkage of the two theories is an attempt to overcome the gap in the recognition of informal learning and to raise awareness of the valuable contribution that training in the workplace makes towards increasing HC in small firms. Rae’s (2006) triadic model of entrepreneurial learning shown in Figure 3-11 on page 81 builds a link between the insights of HC and IC models.

The economist, Alfred Marshall, was concerned with the process of HC back at the beginning of the twentieth century. Marshall (1907, p. 272) underlines the fact that “the most valuable of all capital is that invested in human beings...”. More than a half century elapsed between the findings of Marshall and the renaissance of the HC theory launched by Becker (1993) and Schultz (1961). This renaissance was triggered by the neoclassic work on the theory of economic growth by Solow (1956). Since the initial work of Becker (1993) and Schultz (1961) in the sixties, there has been an increasing interest in identifying how HC, as part of a firm’s IC, contributes to the value of a firm (Johanson, 2005).

However, the contribution of learning in the workplace is one of the most important sources of HC development but is less frequently recognised in this light. The triadic model embraces the three core elements of “personal and social emergence”, “contextual learning” and “learning through immersion within the industry” (Rae, 2006). These three core elements are also reflected in the frameworks of HC and IC highlighted in the following sections.

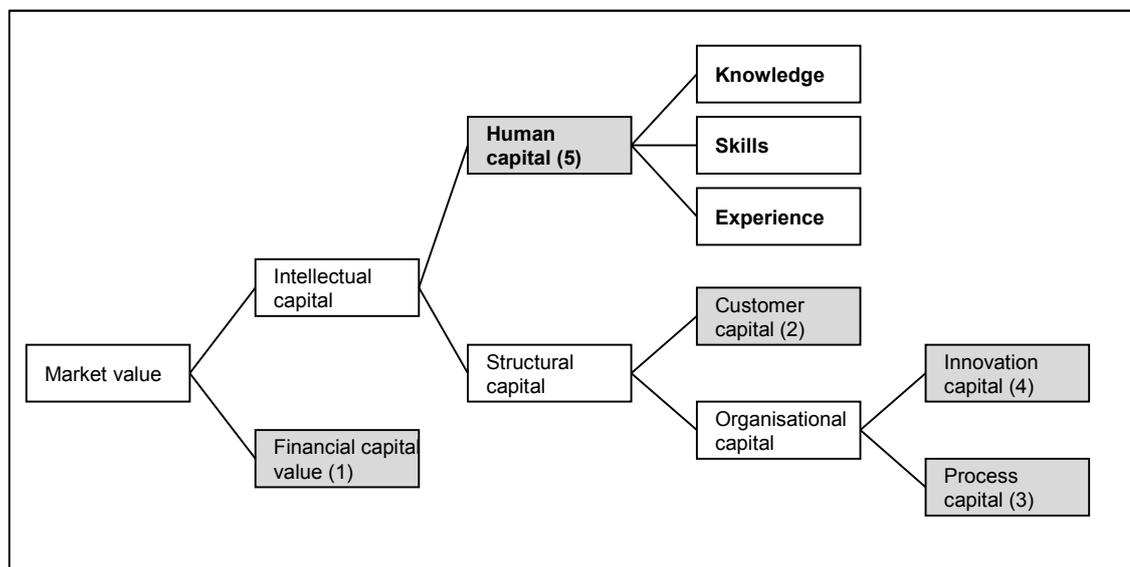
This chapter introduces the definition of IC and presents an overview of the relevant frameworks of HC and IC. As HC is part of the wider, well-developed concepts of IC, it is essential to first take an in-depth look at this topic. More specifically, this chapter

highlights the distinct practice of owner-managers with respect to the development of HC in their small firms. The chapter concludes with the framework for the utilisation of HC in small firms.

## 4.2 Interface between human capital and intellectual capital

HC is part of the wider concepts and models of IC. Therefore, the idea of IC is examined first. The 1970s saw a significant development of models to measure IC. The work of Edvinsson and Malone (1997) Edvinsson (2000) and Sveiby (1997) in particular accelerated the findings in this research field. The framework of Edvinsson and Malone (1997) presented in Figure 4-1 is used to visualise the interrelationship between HC and IC. With its subcategories of HC and structural capital, this framework provides a link to the main categories of the entrepreneurial learning models of Rae (2006) and Cope (2005) in the previous section 3.5 of entrepreneurial learning. The combination of these frameworks enables a connection to be made between the introduced owner-manager learning and HC frameworks.

**Figure 4-1: Scorecard and human capital**



Source: Edvinsson and Malone (1997, p. 52)

Research in the area of HC began back in the early of the nineteen sixties. Schultz (1961) was the pioneer of the modern HC theory and was accompanied in this field of research by Becker (1993), Rosen (1972) and Mincer (1958).

There is no unique definition of HC. An important distinction between human and financial or physical capital was made by Becker (1993, p. 16): "... you cannot separate a person from his or her knowledge, skills, health, or values the way it is possible to move financial and physical assets while the owner stays put." The most important investment in HC is education as it builds the basis of HC (Becker, 1993; Bontis, 2004). In the context of small firms, the social interactions, observations and knowledge exchange between owner-managers, employees, customers and competitors are relevant for increasing the HC (Coetzer, 2006b; Castrogiovanni, 2011).

HC has become the focal point in various fields and at levels of analysis such as the individual investment in HC, the impact of HC on firm level as well as policy level (Lepak and Snell, 1999). Furthermore, the disciplines of politics, economics, sociology and psychology are related to the implications of HC (Westphalen, 1999). Table 4-1 provides an overview of the levels and dimensions of HC within different disciplines. The levels of individuals, enterprises and governments are reflected in the initial dimensions of analysis of this thesis according to the three-level concept of micro, meso and macro system.

**Table 4-1:  
Level and dimensions of human capital**

Dimension Level	Politics	Economy	Sociology	Psychology
Individual	Increase skills level	Increase earnings	Increase equality	Increase self-esteem
Enterprise	Comply with surroundings	Increase competitiveness	Improve the enterprise image	Improve work environment
Government	Complement labour market and employment policies	Share the costs related to education and training	Implement the lifelong learning concept	The notion of a dynamic government/society

Source: Westphalen (1999, p. 5)

Becker (1993) emphasises that on-the-job training is often underrated although it illustrates an impact on HC, employment and the economy. "Management development is a mixture of experience, training and education which is usually initiated by the organization with the necessary co-operation of the individual" (Silver,

1991, p. 66). By the generation of HC, “leaders need to focus and amass talent where it is needed, whether by hiring or by teaching” (Stewart, 1997, p. 88). The development process of learning can be exploitative by applying existing knowledge, or explorative to gather new knowledge and capabilities (March, 1991).

In a wider context, small firms are at the same time confronted with challenges such as the attraction and retention of employees, or the legitimacy of smallness and newness (Williamson, 2000; Taylor, 2006). Attracting the right employees in particular implies a setting for the success and the contribution of the HC (Dürndorfer et al., 2005). These influencing variables exert pressure on the development of the HC and IC in small firms. The following section begins with an introduction to IC and an overview of the relevant frameworks with a special focus on HC as part of IC.

### **4.3 Classification of intellectual capital**

“Intellectual capital is intellectual material – knowledge, information, intellectual property, experience – that can be put to use to create wealth” (Stewart, 1997, p. xx).

This definition of IC by Stewart emphasises the contribution of IC as part of the whole value of a firm, providing that it is correctly utilised. The literature distinguishes between two primary forms of intangibles. These are the legal intangibles such as patents, goodwill, copyrights, and the competitive intangibles like knowledge, skills and abilities of the employees as well as collaboration and net activities. A major part of the knowledge of an organisation is embodied in its IC (Edvinsson and Malone, 1997). Sveiby (1997) underlines the fact that the HC is the real successful driver for organisations, whereas Bontis (2001) summarises a list of popular terms in relation to the increased importance of knowledge assets in organisations. This list contains terms such as IC, knowledge capital, intangible assets, hidden value and HC. Swart (2006, p. 137) argues that “the difference in the various definitions presented lies in the level of analysis applied, its temporal dimension and the qualitative nature of IC.” According to these different viewpoints, the debate on the definition and the conceptualisation of different aspects of IC as well as its common use is ongoing (Hayton, 2005; Roos et al., 2005; Subramaniam and Youndt, 2005). Although different definitions of IC exist, the impact of this capital is undoubtedly to increase the competitive advantage of organisations and to trigger innovation (Becker, 1993;

Edvinsson and Malone, 1997; Stewart, 1997; Bontis, 2001; Hayton, 2005; Johanson, 2005). In the context of the research aim, the focus lies on the Skandia IC Navigator model (Edvinsson and Malone, 1997) as presented in Figure 4-1, and the HC concepts of Stewart (1997) and Bontis (1998).

The variety and the similarities become visible when the concepts of IC and their variables are compared. In order to build an understanding of the basic differences and similarities between the available concepts of IC, the following Table 4-2<sup>16</sup> summarises the insights of Edvinsson and Malone (1997), Sveiby (1997), Swart (2006), Stewart (1997), Roos et al. (2005) Brooking (1996), Bontis (1998), Andriessen (2001) and (Kaplan and Norton, 1992) with an emphasis on HC.

### **4.3.1 Overview of intellectual and human capital frameworks**

This subsection begins with an overview to narrow down the wide field of research topics in the context of IC. Against the background of interests, the most relevant theoretical and empirical approaches are examined in respect of their suitability to describe the conceptualisation of HC in small firms. A systematic review of the IC concepts was undertaken in order to underline the impact and potential of learning for owner-managers in small firms. This analysis sets the context for the overall emphasis of the thesis, which investigates the learning processes of owner-managers of small and family businesses.

In order to build a deeper understanding of the categories of IC concepts, Table 4-2 summarises the most representative frameworks for measuring the intangible assets in the context of this thesis. The concepts of Edvinsson and Malone (1997), Stewart (1997) and Bontis (1998) are described in greater detail in the next subsection to establish a connection between HC and the owner-manager learning in small firms.

---

<sup>16</sup> Table 4-2 shows an overview of the "Intellectual and human capital" models along with the definitions and dimensions for describing each model.

**Table 4-2:**  
**Conceptual models of intellectual and human capital**

Author / Year	Definitions	Dimensions
Edvinsson and Malone (1997)	Intellectual capital is human capital and structural capital. <b>Human capital</b> is defined as the knowledge, skills and experience of individual employees.	Intellectual capital = <b>human capital</b> + structural capital
Sveiby (1997)	Intellectual capital = intangible assets This is based on three pillars: the <b>external</b> structure such as brands and image, the <b>internal</b> structure such as the organisational culture or investment in processes, the <b>competencies of people</b> such as qualifications, training experience, skills and ability.	Intellectual capital = external structure + internal structure + <b>competencies</b>
Swart (2006)	Intellectual capital = tangible output (products and services) and the embedded valuable knowledge and skills within these products and services.  Each capital is expressed according to three <b>forms of knowing</b> (Swart, 2006). These forms are: knowing what, knowing how and knowing why.	Intellectual capital = <b>human capital</b> + social capital + structure capital + organisational capital + client capital + network capital
Stewart (1997)	Intellectual capital = intellectual material – knowledge, information, intellectual property, experience – that can be put to use to create wealth. <b>Human capital</b> is related to the added value according to a four-way typology.	Intellectual capital = <b>human capital</b> + structural capital + customer capital
Roos et al. (2005)	Intellectual capital = the relationships that an organisation has with customers, suppliers plus the organisational resources like brands, processes and intellectual property. Human capital embeds skills, ability, tacit knowledge, experience of each employee	Intellectual capital = <b>human capital</b> + organisational capital + relational capital
Brooking (1996)	Intellectual capital provides competitive advantage; without intellectual capital a firm can no longer function. <b>Human assets</b> include employee education, work-related knowledge, corporate learning and management.	Intellectual capital = <b>human assets</b> + market assets + intellectual property assets + infrastructure assets
Bontis (1998)	Intellectual capital is human capital and structural capital without intellectual property such as copyrights or patents.	Intellectual capital = <b>human capital</b> + structural capital + customer capital - intellectual property
Andriessen (2001)	Unique bundle of intangible assets. It is the synergy between intangibles that creates the uniqueness and wealth of a firm and not the individual categories of intangibles.	Intangible assets <sup>17</sup> = <b>skills and tacit knowledge</b> + collective values and norms + technology and explicit knowledge + management processes + endowments
Kaplan and Norton (1992); Kaplan and Norton (2004)	Intangible assets are classified into three categories and are always linked to the strategy of the firm. Each of these three categories is aligned to the four central perspectives of culture, leadership, alignment and teamwork.	Intangible assets = <b>human capital</b> + information capital + organisational capital

Source: Hayton (2005, p. 139) adapted by the author

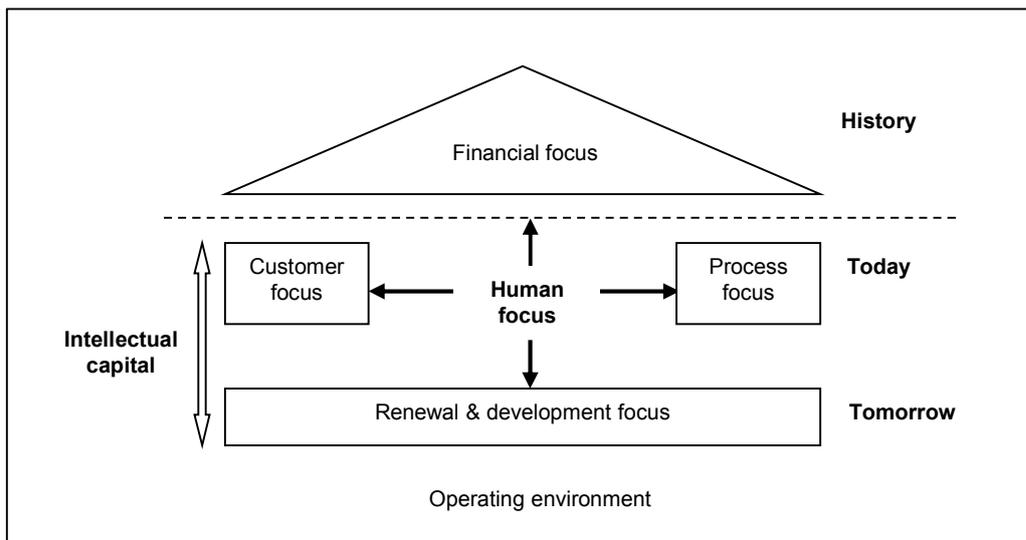
<sup>17</sup> The intangible assets are categorised according to Andriessen and Tissen (2000)

### 4.3.2 Edvinsson and Malone “Skandia IC Navigator”

IC is often associated with Leif Edvinsson and Skandia. Skandia was one of the first major companies to make a coherent effort to measure IC (Bontis, 1996). In 1994 the term “intellectual capital” was used instead of the accounting term “intangible assets” in a supplement to Skandia’s annual report (Edvinsson and Malone, 1997).

The developed approach at Skandia combines the intellectually as well as traditionally based metrics and represents a “new holistic and dynamic reporting model, which Skandia called the Navigator” (Edvinsson and Malone, 1997, p. 17). The Skandia IC Navigator depicted in Figure 4-2 is built on five areas of focus: financial, customer, process, renewal and development, and HC.

**Figure 4-2: Skandia IC navigator**



Source: Edvinsson and Malone (1997, p. 68)

The five elements of the Skandia IC Navigator are divided into three time phases which capture the history, present and future as important perspectives for owner-manager learning. According to the metaphor used by Edvinsson and Malone (1997), each of these phases symbolises part of a house. The roof reflects the history. It is built by the financial focus and is based on the traditional balance sheet and financial statement. The present is represented by the walls which are carried by the customer and process foci. The foundation of the house for the future refers to the renewal and

development foci. Finally, and most importantly, there is the human focus, which is centrally located and consists of the employees who carry the house.

In the Figure 4-1, these five core elements are shown within the structure of Skandia's value scheme. Edvinsson and Malone (1997) divide IC into HC and structural capital. HC is defined as the knowledge, skills, abilities and experiences of the individual. These factors of HC are aligned to the values of the company and its culture and philosophy. The company cannot own HC. In contrast, structural capital is the hardware such as databases, patents, organisational structure and software. Structural capital is divided into customer capital, which includes the relationships developed with key suppliers and partners, and organisational capital. The latter is determined by process capital and innovation capital. Structural capital is "everything that gets left behind at the office when employees go home" (Bontis, 2001, p. 45). The market value of a firm contains both financial and non-financial contributions, whereas the non-financial contributions, i.e. the IC, are the sum of the human and structural capital.

### **Skandia's IC navigator in the context of small firms**

With their approach of the Skandia IC Navigator, Edvinsson and Malone (1997) developed valuable insights into the characteristics of IC and HC and its measurement in contrast to financial capital. The number of 112 metrics over all five focus areas is not simple to handle and harbours the risk of mismatches. In particular, the overlaps between the areas of renewal and development focus with the human focus indicators are confusing. Both areas contain the metrics of employee training and expenses. However, while the overlaps may be criticised, they do not diminish the valuable contribution of Edvinsson and Malone (1997).

Therefore, it is not surprising that Skandia, which constitutes a large company, was the first mover in this field (Bontis, 1996). One and a half decades have elapsed since the initial accompanying report on intangible capital was published in 1994. The word "human" occurs only once in the annual report of 2008 and occupies a weaker position. The passage in question reads as follows: "With a good human resources policy, culture and values, as well as firmly established leadership and employeeship

processes, Skandia Liv will continue to be an employer of choice” (Skandia, 2009, p. 21).

In contrast to large companies, the position of small firms makes them unable to fulfil the five core elements of the Skandia IC Navigator. The organisational capital, which comprises the innovation capital and process capital, is minor in the early stages of small or start-up firms. At the time, the dynamics in small firms is barely addressed by the Skandia IC Navigator, which means that a firm applying this approach will need to have achieved a certain degree of the maturity (Roos and Roos, 1997). The three subcomponents of the categories of HC, customer capital and innovation capital are more important than the process capital. These forms of capital are the assets of a firm and make it difficult for competitors to copy the product or service. Hanks, et al. (1993) stress that in the early stages of firms, the formalisation standard is very informal, personal and flexible with few policies.

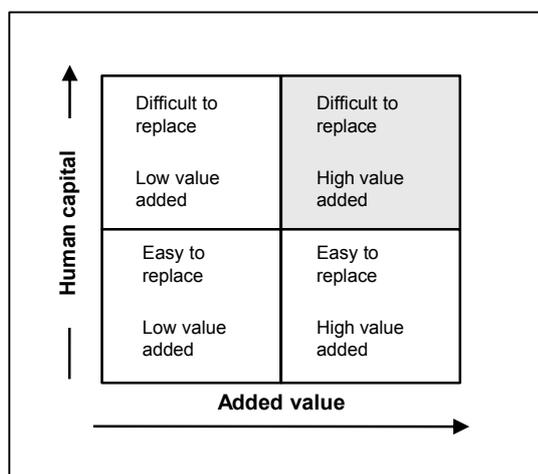
#### **4.3.3 Stewart**

Stewart (1997) presents a concept of IC which in terms of the individual components lies somewhere between the Skandia value scheme of Edvinsson and Malone (1997) and the extended framework of IC of Swart (2006). The model of IC consists of HC, structural capital and customer capital. Customer capital is also labelled as “client capital” in the model of Swart (2006).

In comparison with the development of indicators to capture and measure human, structural and social capital, Stewart’s approach identifies the components which generate wealth. For this approach, Stewart (1997) divides the skills to perform tasks, processes or any other businesses into three categories. These are the commodity skills which are not specific to a particular set of tasks and are equally useful for handling other tasks. These skills are related to generic HC (Swart, 2006) and the employee group of support staff (Sveiby, 1997). Secondly, these are the classified leverage skills which “tend to be industry-specific, but not company-specific” (Stewart, 1997, p. 89). Finally, proprietary skills are company-specific. Company-specific skills are the assets of each firm and retention efforts should be targeted at these employees (Taylor, 2002).

In order to distinguish these skills, Stewart (1997) developed a four-way typology shown in Figure 4-3. The figure presents the classification of skills according to the added value for a firm and according to the contribution to a firm's HC.

**Figure 4-3: Human capital in relation to added value**



Source: Stewart (1997, p. 90) adapted by the author

With reference to HC, the four-way typology provides an interesting valuation of skills in relation to added value. The lower left quadrant addresses unskilled and semi-skilled employees. Needless to say, firms need such labour but the success of the firm does not depend on this group of employees as individuals (Stewart, 1997). In contrast, the upper left quadrant involves skilled employees with experience such as accountants or quality managers. Although this group is difficult to replace, their work is focused internally. Sveiby (1997) classifies this kind of labour as support staff. Employees classified in the lower right quadrant perform valuable tasks for customers, which are appreciated, but as individuals employees are replaceable. In the upper right quadrant is the HC of a firm, embodied in their employees who are usually spoken of highly, the common statement being “people are our most important asset” (Stewart, 1997, p. 93).

#### **4.3.4 Bontis: “The flow and stock of knowledge approach”**

A firm’s traded tangible assets are expressed in its market and book value and allow the firm’s capital flows during a defined time period to be deduced. Neither the items of IC stock nor the flow of knowledge are captured (Bontis, 1998). The spiral of organisational knowledge creation developed by Nonaka (1994, 2005) describes the flow and dynamic processes of knowledge in a firm. The major contribution of Bontis (1998) is that he amalgamates both concepts of organisational learning and its flow of knowledge in a firm with the idea of IC as “the stock of knowledge in a firm” (Dierickx and Cool, 1989 cited by Bontis, 1998, p. 65). The deduced concept considers the “intellectual capital as the stock unit of organizational learning flows” (Bontis, 1998, p. 65).

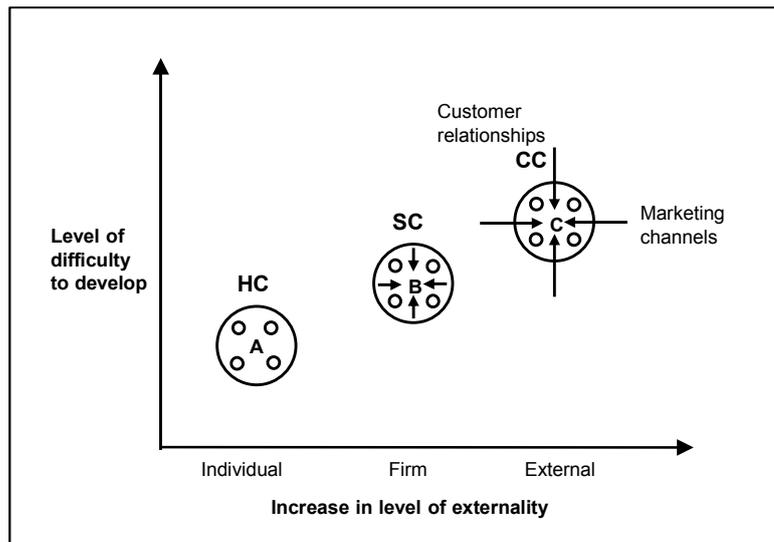
The core elements of the model proposed by Bontis (1998) are HC, structural capital and customer capital. Another major contribution of Bontis (1998) is that he assigns each of the three elements to a level of externality from the organisation. Each level represents a level of the micro, meso, and macro analytical framework of Bronfenbrenner (1979). According to the Bontis (1998) concept, HC represents the micro level of an organisation and is shown by the individuals in “point A” in Figure 4-4. HC is embodied in each individual employee of the organisation who performs a task. The accumulation of individual knowledge, mostly tacit knowledge, takes place when the employees align themselves into groups to share their experience and knowledge as represented in “point A” by the multiply nodes.

Structural capital represents the second level of the Bontis (1998) concept and consists of organisational processes and infrastructure. It is the medium of the firm “that can help support employees in their quest for optimum intellectual performance and therefore overall business performance” (Bontis, 1998, p. 66). The meso level in “point B” of Figure 4-4 illustrates the links between the individual HC and the structural capital required to transform HC into a higher level.

Finally, the third level is characterised by customer capital and corresponds to the macro level of Bronfenbrenner’s (1979) analytical framework. This level is the interface between the firm and the external environment. Customer capital includes the knowledge embedded in customers, suppliers, related associations and

government (Bontis, 1998). As the value of the customer capital is embedded in the relationship external to the firm, it is crucial to bring this knowledge into the firm. Bontis (1998) symbolises the knowledge flow from customer relationships and marketing channels with arrows from outside in “point C” of Figure 4-4. The Bontis concept visualises all three levels: individual (human capital), firm (structural capital) and external (customer capital).

**Figure 4-4: Discriminating IC subdomains**



Source: Bontis (1998, p. 66) adapted by the author

In the context of small firms, the owner-manager often represents a person who acts on all three levels in each point of the discussed three points A, B and C with regard to the model of Bronfenbrenner (1979). The combination of all tangibles is important and makes an organisation successful and unique.

#### **4.3.5 Summary of the analysed IC models**

The analysed intellectual frameworks in Table 4-2 present a wide diversity in order to define and measure IC. The similarity lies in the main components, whereas the components are differently defined and labelled within the frameworks. Therefore, a standard definition and classification is suggested (Bontis, 2001). The comprehension and realisation of a smooth interplay between single components are again a common feature. Without this interplay, the leverage of the IC is not possible. Although the models display different approaches, they share a common philosophy of increasing the available HC and transferring it in an optimal way into unique products and services.

It is remarkable to note that none of the frameworks indicate that the composition and the number of indicators per category may differ between large and small firms. Serenko et al. (2007) point out that the present knowledge management and IC literature does not consider the size effects of organisations and is therefore too general. This is of course a weakness as in small and family firms the relationship between employees and owner-managers is more distinct than in large firms. Although IC develops with the growth of the firm, owner-managers of small firms and start-ups are more concerned with financial issues and the survival of the firm – “cash is king” (Barber and Manger, 1997, p. 460). Therefore, Roos and Roos (1997, p. 417) propose that a firm “must be mature enough to have gone beyond the stage of discussing business performance solely in financial terms.”

Independently of this criticism, the developed variables of HC describing the intangibles are useful in terms of capturing owner-manager learning in small firms. Some variables like career paths, recruitment and selection process are important but not so significant in small firms, particularly during the initial life-cycle stages. Staff turnover can have a positive side effect on innovation (Barber, 2006). However, the diversity and the regular exchange of knowledge on the job are of greater importance. Overall, the relationship between IC and HC frameworks and owner-manager learning frameworks like entrepreneurial learning becomes visible when the concepts and the subcategories of the frameworks are investigated and compared. The next section highlights the theory of HC in the context of small firms.

## **4.4 HC in relation to owner-manager learning in small firms**

The aim of this section is to provide an overview of the concept of human capital in the context of small firms, with a particular focus on development processes and owner-manager learning in small firms.

It is important to recall the main differences between small and large companies before entering into a discussion of HC in the context of small firms. The central characteristic which differs between small firms and large companies is external uncertainty (Westhead and Storey, 1996; Hill and Steward, 2000). This uncertainty is accompanied by a limited capacity in manpower, liabilities and management time (Williamson, 2000). As a result of the small number of employees in small firms, decisions regarding personnel management or training have to be made less often, which means less experience in HRM activities (Klaas et al., 2000). Furthermore, strategic management is lacking as a consequence of the high commitment of owner-managers to their daily business challenges.

The contextual dimension of company size is related to other dimensions of organisational characteristics, which is reflected in different needs of small firms in management, leadership, recruitment and other HRM functions. Their smallness also generates direct, informal communication, flexible operation and adaptability (Storey, 1994; Gibb, 1997). The control of capital embodied in HR in small firms is more challenging as in large firms (Barber and Manger, 1997).

### **4.4.1 Critiques of the concept of human capital**

The idea of HC has lived through many ups and downs since its second uptake as research topic in the sixties. Particularly in the nineties, numerous theoretical and practical models for capturing intangible assets arose from the initial work on HC by Becker (1993) and Schultz (1961). The goal of these models, like the Skandia model in Figure 4-1, has been to capture and measure the available intangible capital independently of company size. Edvinsson and Malone (1997) as well as Taylor (2006) point up in their concepts that HC is the combination of knowledge, skills and experience. Stewart (1997) introduced a similar, but more simplistic classification concept for IC. The model divides IC into HC, structural capital and customer capital. Most of these models of IC classifications emerged just before the hype of new

technologies was reached at the turn of the millennium. Research in the field of IC has evolved mainly from the desires of practitioners (Bontis, 1998). During that pioneering time, the basic idea of capturing the IC of a firm was somehow left and an endeavour emerged not only to measure the IC but also to transfer it into scalable cash value.

This development animates a number of critics of the HC approach. Consequently, the positive basic idea of measuring the available skills, abilities and knowledge turned into a negative discussion as the combination of human being and HC was considered too mechanistic. In Germany the word “Humankapital” was announced as the “unacceptable word of the year” in 2004. In the jury’s opinion, the term degrades human beings to a mere economic variable (Schlosser, 2005).

Becker (1993, p. 16) states early on that the term HC has the potential to trigger a wave of critical remarks: “I hesitated a while before deciding to call my book *Human Capital*—and even hedged the risk by using a long subtitle.” On the whole, the controversial discussions about HC have strengthened rather than harmed the basic idea. The term “human capital” has been repositioned in the knowledge worker era of the 21<sup>st</sup> century (Drucker, 1999). Today’s knowledge-intensive economy values the knowledge, skills and experience of individuals as a competitive asset.

#### **4.4.2 Human capital and workplace learning**

The basic idea that Becker (1993) underlines in his standard reference work is that an economy’s investment in education can be expressed as higher expected wage levels. In his analysis, Becker (1993) addresses education, technical schooling as well as the approach of learning at the workplace. In all firms, learning at the workplace counts as a central measure to increase the knowledge and skills of employees and therefore the firm’s HC. Small firms in particular favour the approach of learning at the workplace (Marsick and Watkins, 1990; European Commission, 2003b; Oberholzer and Dorr, 2008; Simons and Ruijters, 2008; Ahlgren and Engel, 2011). In contrast, formal continuous training at universities or colleges is the exception rather than the rule for Austrian and other European firms (Oberholzer and Dorr, 2008). Employers are unwilling to take on the costs of a formal continuous training course. In the context of training, Becker (1993) distinguishes between

general and specific training. Specific training is more often applied in small firms and holds significant advantages for both parties during their continuing collaboration after the completion of the training. Loyalty to the employer in small firms is strengthened as the specialist know-how acquired through the training offers less added value for other employers on the labour market.

In contrast, large firms support more frequently general continuous training (European Commission, 2003b), which provides only a limited contribution to the development of HC for the employer and employee. However, while such training can contain valuable side effects for motivation, employees are usually paid less than the industry average while engaged in continuous training (Becker, 1993; Matlay, 2002).

General continuous training harbours the risk of the employee leaving after completing the training. The reasons are the below-average wage and the asset of general training for another employer. Although this general continuous training will not necessarily be of high value for the new employer, he has the certainty that the employee is not about to start the next continuous training. Becker (1993) uses these arguments to describe the risk of a job change. Each job change is a loss for an employer as the intangible assets, tacit knowledge or, generally expressed, the IC is embodied in people. The extent of the loss of a trained employee to a competitor can only be assumed, but cannot be expressed in a cash value. Stewart (1997) identifies a valuation of skills in relation to added value in his detailed analysis concerning the classification of HC. The four-way typology shown in Figure 4-3 on page 99 includes skills which are easy to replace and contribute a low added value for the organisation and the customers. It also depicts skills which are difficult to replace and therefore constitute high added value.

#### **4.4.3 Investment in human capital**

Stewart (1997) emphasises that a company's density of HC is in the upper right quadrant of his concept in Figure 4-3. According to the results of Stewart's (1997) study, a competitive firm will invest as much as possible in the work that customers value and employees whose skills are difficult to replace. In the context of the HC theory, these findings presented in the four-way matrix have extensive consequences for the investment in informal continuous training at the workplace. Becker (1993)

describes how the investment for the introduction of new employees varies between half an hour for repetitive tasks and several years for complex tasks and functions in the automotive branch.

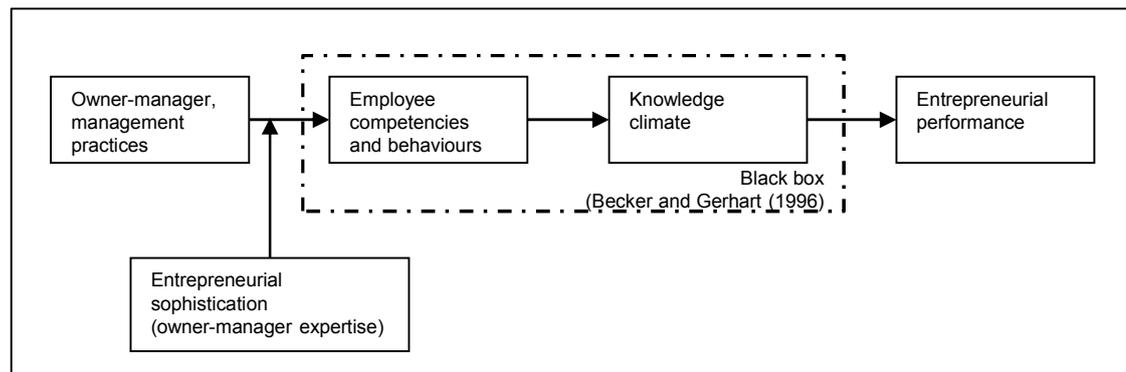
For owner-managers in small firms, the attraction, introduction and retention of new employees are critical processes (Williamson, 2000; Mazzarol, 2003). The decision is directly related to the investment in HC. Alternatively, people in the labour market are interested in getting a job with the perspective of functional and personal development (Kristof, 1996). Owner-managers of small firms are faced with a disadvantage as the labour market is based on the “ideal HRM” in medium and large organisations, and small firms are expected to mimic the practice of larger ones (Barber, 2006). Owner-managers identify HRM as the most problematic of all organisational tasks required to lead a firm (Taylor, 2006). Although small firms struggle to remain in the market, they temporarily act in economically bad times as a pool for employees who have been made redundant by larger companies and then act as “ad hoc recruitment agencies in better times” (Taylor, 2006, p. 482). Small firms can also take advantage of such times to take on board highly qualified employees to increase their HC. If owner-managers of small firms are able to attract and retain highly qualified employees in the labour market, both sides benefit.

Besides the investment required to build up HC, it is important for owner-managers of small firms to utilise this capital for competitive and development reasons. This topic is dealt with in the next paragraph.

#### **4.4.4 Utilisation of human capital in small firms**

So far, the frameworks of intellectual and HC theory as such and the investment in continuous training have been discussed as well as the classification of the HC in relation to the added value of customer and the firm. The degree to which the owner-manager and employees in small firms can apply their HC in the job is rarely described in the literature and even more complex to measure. Goswami et al. (2006) developed a framework to analyse the relationship in entrepreneurial firms between the underlying HRM and the firm’s performance. The aim of the concept in Figure 4-5 is to explore the existing black box between the performance indicators and the applied HR practices (Goswami et al., 2006).

**Figure 4-5: Understanding strategic human resource management**



Source: Goswami et al. (2006, p. 31) adapted by the author

The conducted empirical analysis has mainly supported an understanding of the interdependency between the applied HR practices and the firm's performance (Wright and Boswell, 2002). The concept in Figure 4-5 aims to explore the employee competencies and knowledge climate in the "black box" between the input and output indicators (Becker and Gerhart, 1996).

Besides this relationship between the input and outcome indicators, the concept in Figure 4-5 offers an interesting starting point within the context of HC theory and the concept of the utilisation of the available HC in small firms. A high proportion of the literature on the use of knowledge in small firms refers to the resource-based view of the firm developed by Barney (1991). In small firms in particular, the application of HC is linked with owner-manager learning at the workplace and social embedded experience to shape new opportunities by exploration and exploitation (March, 1991; Thorpe et al., 2005). Stewart (1997) provides an appropriate example about the wastage of HC at a tyre-making company in contrast to this useful application of HC. The employees spend eight hours a day in routine work. In the evening or at the weekend, the same people rebuild cars or run volunteer organisations. "The company got eight hours' work from those people, but no benefit from their mind" (Stewart, 1997, p. 87). This example underlines the fact that the skills, abilities and experience of owner-managers and employees are important, but this HC embodied in each person does not increase if there is a weak knowledge climate in the firm or even in the tasks.

## **4.5 Summary of human capital frameworks**

This chapter highlights the fact that HC frameworks have a well-developed connection with the theory of learning and with the theory of entrepreneurial learning and workplace learning in particular. The comparison of the different theoretical models of HC and workplace as well as entrepreneurial learning in chapter 3 shows that both main concepts build on the individual, the internal firm and external level.

The analysis of both theoretical frameworks of entrepreneurial learning and workplace learning linked with the IC and HC theory provides the source for investigating the research question: “How do the learning priorities of owner-managers change during development of a small firm?”

The IC and HC frameworks analysed provide a number of insights into HCD in small firms. The frameworks developed by Edvinsson and Malone (1997), Stewart (1997) and Bontis (1998) were selected as the most fruitful for establishing a link with owner-manager learning frameworks in small firms such as Rae’s (2006) triadic model of entrepreneurial learning or Cope’s (2005) dynamic learning perspective of entrepreneurship.

## CHAPTER 5: RESEARCH METHODOLOGY

### 5.1 Introduction

This chapter starts with a review of paradigms to underline the different research positions, research methods and research strategy. The chapter seeks to justify and describe in detail the methodological process by which qualitative data were collected in order to fulfil the research aims. Sarantakos (1998, p. 15) argues: “The driving force behind any type of social research is its philosophical framework.” This framework indicates that the research philosophy as well as the strategy and design builds a broad understanding of the complex interrelation and lived experience of learning of the owner-managers in small and family firms and their embedded social networks. Crucial elements to address are the different factors within the context and techniques available to the researcher that may influence the interpretation in such a research approach (Sarantakos, 1998; Marsick and Watkins, 2001).

Hill and McGowan (1999, p. 10) underline: “To research entrepreneurial small firms and to research the lead entrepreneurs in such enterprises suggest an epistemological approach which dictates a minimisation of distance between the researcher and the entrepreneur.” This recognises both the experience of the researcher and the unique experience of each owner-manager who has established a start-up or has developed its family business to a competitive small firm. Each firm represents a learning place where the owner-manager and the employees create their own systems, social networks and methods of learning. This combination inherits a high complexity as the experience is created individually. The only thing the researcher can know with certainty in this situation is “how people interpret the world around them” (May, 2011, p. 13).

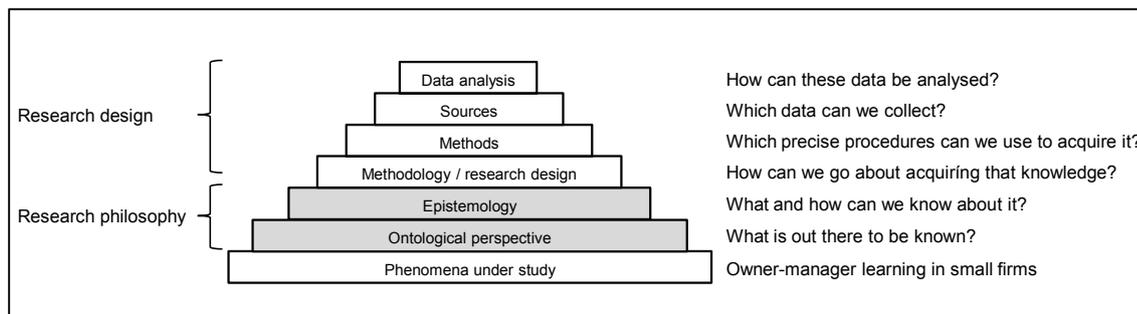
The aim of the chapter is to provide a coherent research design about the “phenomena [ontology], the nature of knowledge about those phenomena [epistemology], and the nature of ways of studying those phenomena [methodology]” (Gioia and Pitre, 1990, p. 585). The methodology provides the model of how research should be done by considering the theoretical and philosophical principles and related techniques (Sarantakos, 1998; Saunders et al., 2009). The chapter indicates how the

philosophical view of social constructionism forms the ontological and epistemological standpoints which directly influence the method to explore the owner-manager learning in small firms.

The chapter is structured according to an integrated flow from the phenomena under study to the research philosophy and through to the data analysis. This flow is visualised by the adapted model of Grix (2002). The original design displayed in Figure 5-1 was expanded by two key components of the phenomena under study at the bottom of the model and the data analysis<sup>18</sup> at the top. Both elements are essential to understand and interpret the analysed phenomena. Each step of Figure 5-1 is a necessary part of the holistic research process to generate descriptions, insights and explanations of the events (Gioia and Pitre, 1990). The adapted model within the research process is applied to illustrate the progress from the research philosophy to the data collection and analysis.

The design of the applied holistic research process is shown in Figure 5-1.

**Figure 5-1: Interrelationships within the research process**



Source: (Grix, 2002, p. 180) adapted by the author

<sup>18</sup> Data analysis is often an integral part of the methods. To express the importance of data analysis for the holistic research process, this component is given its own position within Figure 5-1.

With respect to the investigation of the phenomena under study, a phenomenological perspective has been applied as the researcher is concerned with the lived experiences of the owner-managers within the “life-world” (Husserl, 1970). The more recently developed approach for data analysis is Interpretative Phenomenological Analysis (IPA) which “is concerned with exploring experience in its own terms” (Smith et al., 2009, p. 1).

## **5.2 Phenomena under study**

The literature review of entrepreneurial learning, learning at the workplace or continuing vocational training in small firms has indicated a diverse, fragmented and rather limited amount of knowledge available on how owner-managers learn.

In relation to the phenomena under study and the research aim stated in chapter one, namely to investigate ‘How owner-managers explore their experiences and learning processes that contribute to HCD in small firms’, it is essential to understand the context where learning takes place and how the context of the firm and the social network influences the owner-manager’s learning. The research questions capture both causal and contextual influences of the owner-manager learning for founders and successors in small firms.

Based on the results of pilot research, the development processes of both founding owner-managers and first successor owner-managers in small family firms were investigated. The investigation of both types of firms enriches the research context in three ways. Firstly, it can help to fill a current gap in the understanding of entrepreneurial and family firm processes (Aldrich and Cliff, 2003). Secondly, a start-up business can be a family business at the same time. This was the case in Firm A when two brothers had jointly founded and managed a business. Thirdly, this approach of investigating both types of firm facilitates an understanding of the initial succession which is mostly embedded in the social network of the family (Rubenson and Gupta, 1996). In the light of the social embeddedness perspective, integrating both types of firms provides an added value as this links the business life-cycle of a start-up with the different development phases. Each of these rationales enabled a different perspective on owner-manager learning and a corresponding contribution to knowledge.

Another major area of interest is analysis and surveys such as the 3<sup>rd</sup> Continuing Vocational Training Survey (CVTS) (Eurostat, 2006a). This example adopts a common approach which indicates where learning takes place and which methods are applied to increase the stock of knowledge and efficiency in small firms, but rarely covers how owner-managers learn in small firms. The positivism perspective and methodology of large-scale surveys do not capture the social interactions of owner-managers and networks to transfer entrepreneurial ideas into products or to deal with problems. The use of qualitative methods and approaches in entrepreneurship research helps to address many of the important questions in entrepreneurship (Gartner and Birley, 2002).

In contrast, the research into entrepreneurial learning explores the influences of the context (family, business sector, networks) according to the owner-manager's learning. So far, only a few studies in this field have provided open frameworks and have taken into account the factors which might influence the social action and enable a deeper insight as well as an understanding of the learning of owner-managers (Cope and Watts, 2000; Rae and Carswell, 2001; Rae, 2006; Politis, 2008). "Learning is an extremely complex, dynamic phenomenon" (Cope and Watts, 2000, p. 107). How owner-managers transform their tacit knowledge into explicit knowledge is a complex process which is not easily observed. It is like the iceberg model where only the peak (explicit knowledge) is visible and around 90 per cent (tacit knowledge) is invisible. This makes the phenomena of the owner-manager learning so complex. The phenomenon under study is comparable with the three levels of organisational culture<sup>19</sup>, where the term level means the "degree to which the cultural phenomenon is visible to the observer" (Schein, 2004, p. 25). The awareness of the complexity of the phenomena under study is reflected by the applied research philosophy which is described in the next section.

---

<sup>19</sup> Schein provided an important contribution to understanding organisational culture. According to his model, organisational culture is divided into three levels (Schein, 2004):

**1. Artefacts:** These artefacts are at the surface; visible organisational structures and processes.

**2. Espoused Values:** These artefacts are the conscious strategies, goals and philosophies.

**3. Underlying Assumptions:** The essence of culture is represented by the underlying assumptions and values. These underlying assumptions are formed around deeper dimensions of human existence like taken-for-granted beliefs, perceptions, thoughts and feelings.

## **5.3 Research philosophy**

The adopted research philosophy contains central assumptions about how the researcher views the world (Saunders et al., 2009). Social researchers build a network of assumptions derived from their beliefs about the nature of reality, how knowledge is formulated, and the process by which they gather observations of social phenomena (Johnson and Duberley, 2000). The researcher's beliefs about 'reality' have an impact on how one comes 'to know' and the methods one employs to observe that reality and express knowledge claims (Burrell and Morgan, 1979). Ontology and epistemology are the central ways of thinking about the research philosophy (Saunders et al., 2009).

### **5.3.1 Ontology**

Ontology concerns beliefs about the nature of things and their existence (Grix, 2002; May, 2011). Having clarified the phenomena that are the focus of research, the researcher must then examine his or her beliefs about their nature, before attempting to build knowledge about them. In other words, they must adopt an ontological position ranging from objectivism (realist) to subjectivism (relativist). These two perspectives represent two opposing positions or ontological beliefs (Smith et al., 2009). The perspective of objectivism asserts that the real phenomenon exists independently of social actors. In contrast, the perspective of subjectivism asserts that the social phenomenon is constructed through the interaction of social actors (Creswell, 2007; Smith et al., 2009). The phenomenon itself emerges through interpretation by the actors. "This means it is necessary to study the details of a situation in order to understand what is happening or even the reality occurring behind what is happening" (Saunders et al., 2012, p. 132).

From an ontological standpoint, the collected data in this research are the views of owner-managers in the Rhine Valley according to factors which influenced the owner-manager learning while the firm developed. The unique business life history of each owner-manager is shaped by experience, relationships and socio-cultural influences (Phelps et al., 2007; May, 2011). This study on owner-manager learning is focused on perceptions and feelings during the parallel development of the owner-manager and the firm. These are hyper-complex and unique processes between the three different interrelated layers of micro, meso and macro level which are influenced by the attitudes, experience, commitment and willingness of the owner-manager, to name

but a few. This complexity is socially constructed and confirms the experience of the author. Therefore, a relativist ontological position is adopted to investigate the phenomenon.

### **5.3.2 Epistemology**

Epistemology is the theory of knowledge and justification (Audi, 2003) and “... is the study of the criteria by which we can know what does and does not constitute warranted or scientific knowledge” (Johnson and Duberley, 2000, p. 3). Epistemology contains the basic assumptions about what we can know about reality, and about the relationship between knowledge and reality.

The research question “How do the learning priorities of owner-managers change during development of a small firm” influences the ontological and epistemological positions. This leads to the research paradigm which is the overarching perspective that determines the appropriate research practice, based on ontological and epistemological assumptions. Gioia and Pitre (1990) suggested that the boundaries between paradigms tend to be blurred as the dimensions of the two-by-two matrix of Burrell and Morgan (1979) are actually continua. Gioia and Pitre (1990, p. 592) argue that “the boundaries between paradigms are therefore more usefully conceived as transition zones.”

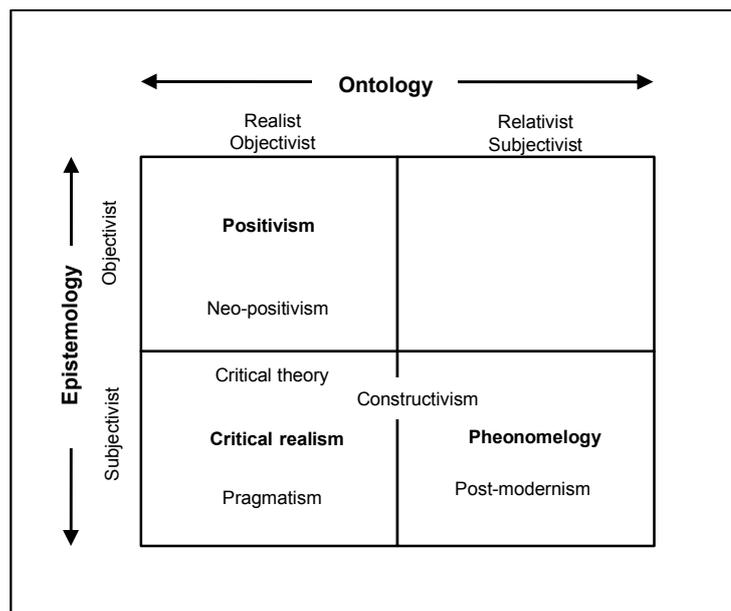
Researchers make a number of ontological and epistemological assumptions which are central to their research field (Saunders et al., 2009). As each researcher has her/his individual cultural experience and preferences, a large variety of knowledge acquisition paradigms emerges. The ontological and epistemological positions of the researcher “can lead to different perspectives of the same social phenomena” (Grix, 2001, p. 28). As Bhaskar (2009, p. 102) argues: “Three main positions characterise the history of philosophical reflection upon sciences.” It is like the solar system where the planets circle around the sun. The date and the position of the observer on the earth determine the season. There are three extreme positions, two on the poles and one on the Equator. Depending on the position in the northern or southern hemisphere, the perceived and identified season is different. This metaphor is like the extreme positions of a realist and a relativist. Both are right from their own standpoint.

Therefore, the critique of each other's position is misleading but has been necessary to become aware of the strengths and weaknesses of the different world view.

The following section illustrates the arguments in order to justify the phenomenological perspective according to positivism and critical realism within this research project. Johnson and Duberley (2000) worked out the relationship between ontology and epistemology which is shown in Figure 5-2. This figure is based on the two-by-two matrix initially developed by Burrell and Morgan (1979).

In Figure 5-2, the knowledge acquisition paradigms of positivism, critical realism and phenomenology are highlighted in bold. Each of them is discussed in the next paragraphs. The following research paradigm of positivism, critical realism and phenomenology is described.

**Figure 5-2: Research philosophy and paradigms**



Source: Johnson and Duberley (2000, p. 180) adapted by the author

### 5.3.3 Positivism

The positivist perspective uses the assumption that quantitative methods can be applied to identify facts and universal truths. It is an understanding of the physical world as a stable entity. Their position is that reality exists autonomously of the

observer and an investigation reproduces the same findings independently of the observer (Yolles, 2004). The research is constructed in a value-free way (Saunders et al., 2009).

Quantitative methods occupy a strong position in research and remain a dominant approach in management research. Research with a positivist approach usually involves quantitative methods. Bygrave (2007) identified that around 95% of published entrepreneurship articles in 'A' journals are based on quantitative methods. Gioia and Pitre (1990, p. 587) also underline the dominance of "traditional positivist theory building and deductive approaches."

Positivism holds that the tested theory can be generalised and the results must be replicable. As well as having its strengths in natural sciences, positivism also finds its limitation in social sciences, as Yolles (2004, p. 735) states: "Positivism purports that statements that emerge from a theory should be positive and testable, but this can be problematic in a complex world." The social world is dynamic, and a replication of a certain situation is only possible to some extent. According to the research questions within a complex, interpretative social world, the positivist perspective is not suitable for capturing the complexity of individual owner-manager learning processes in firms and is therefore dispensed with.

#### **5.3.4 Critical realism**

The critical realist world view is based on the assumption that reality exists, but there is a fallibility caused by the effects of the social world. It belongs, like critical theory, to postpositivism.

Critical realism acknowledges that social phenomena are intrinsically meaningful, and hence that meaning is not only externally descriptive of them but constitutive of them (though of course there are usually material constitutes too). Meaning has to be understood, it cannot be measured or counted, and hence there is always an interpretative or hermeneutic element in social science (Sayer, 2000, p. 17).

Although critical realism covers the social world, it has only been applied to a limited extent in management research. Critical realism shifts the emphasis from a narrow analytical perspective to the development of "a rich perspective" of human affairs

(Yolles, 2004). A critical realist combines both paradigms of positivism and constructivism. This is where the causal intersection of natural and social order defines the practical order (Bhaskar, 2009). Nevertheless, it is a paradigm in itself and not the sum of the two extreme paradigms. Blundel (2007, p. 50) notes: “The underlying position is that social scientists are engaged in a similar project to their counterparts in the natural sciences, but that researching social phenomena requires a distinctive set of methodological tools.” The ontological perspective of the critical realist assumes the phenomenon exists independently of the individual. Although it is interpreted through social conditions, it is not the most suitable approach to discover the deeper underlying structures of the owner-manager learning process in small firms.

### **5.3.5 Phenomenology**

“Phenomenology has had an impact on 20th-century thinking not only because of its rigorous descriptive approach but also because it offers a method for accessing the difficult phenomena of human experience” (Giorgi, 1997, p. 238). A phenomenological perspective in social science deals with the feelings and emotions of people as well as their perceptions, meanings, attitudes and beliefs (Bryman, 2008). Phenomenology is concerned with the study of human experience to discover and understand the phenomena being investigated. The daily practical activities in the life-world – for the purposes of this thesis, those of owner-managers – are of interest to illuminate fundamental aspects of underlying structures, e.g. critical learning episodes. This life-world exists prior to any reflections on it (Husserl, 1970). Researchers who conduct their studies in the life-world recognise that each individual constructs their own reality as they interpret and perceive their world (Hill and McGowan, 1999). At the same time, this means that the researchers reconstruct the world as seen by others (Hill and McGowan, 1999; Smith et al., 2009).

A comparative overview of the three research paradigms is provided in Table 5-1.

**Table 5-1:  
Research paradigms**

<b>Issue</b>	<b>Positivism</b>	<b>Critical realism</b>	<b>Phenomenology (Interpretivism)</b>
<b>Ontology:</b> the researcher's view of the nature of reality	External, objective and independent of social actors	Is objective. Exists independently of human thoughts and beliefs, but is interpreted through social conditions.	Socially constructed, subjective, multiple
<b>Epistemology:</b> the researcher's view regarding what constitutes acceptable knowledge	Only observable phenomena can provide credible data. Findings are true or false.	Only observable phenomena provide credible data. Findings have tendencies anchored in context.	Subjective meanings and social phenomena. Findings are associated with meanings.
<b>Methodology:</b> data collection technology most often used	Highly structured, large samples, mainly quantitative methods.	Methods chosen must fit the subject matter, qualitative or quantitative	Small samples, in-depth investigations, qualitative

Source: Saunders et al. (2009); 2012, p. 140) adapted by the author

### 5.3.6 Justification of the research paradigm

The research paradigm is justified by the research question of how the learning priorities of owner-managers change during development of a small firm and determined by the researcher's view. Constructivists believe they can construct their own reality, whereas critical realists are constrained in this by a positivist reality (Yolles, 2004).

A relativist's interests are "focused upon people's understanding and interpretations of their social environments" (May, 2011, p. 13). Moreover, "the social constructionist framework provides a way of looking at the small business and the development of managers ... " (Devins and Gold, 2002, p. 115).

Thus, qualitative research uses text as empirical material (instead of numbers), starts from the notion of the social construction of realities under study, is interested in the perspectives of participants, in everyday practices and everyday knowledge referring to the issue under study (Flick, 2007b, p. 2).

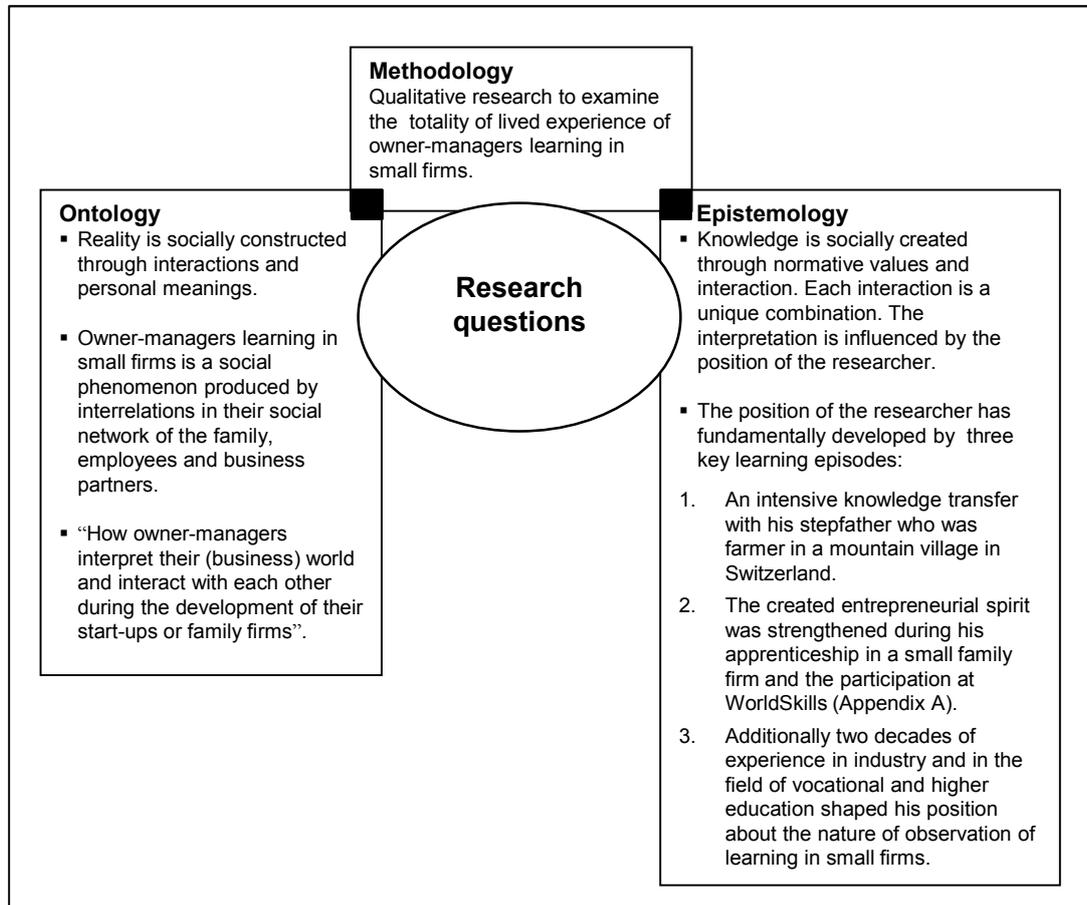
An attribute of qualitative research is less formalised in comparison with quantitative research. Therefore, the phenomenological research paradigm is adopted. This provides the researcher with the opportunity to examine the phenomenon of owner-manager learning comprehensively. To be able to understand and interpret the individual owner-manager views and experience it is relevant to become familiar with their established and socially constructed business world (Smith et al., 2009). It is interpersonal communication and the role of language which create the meanings and reality of learning in a small firm context (Devins and Gold, 2002).

The ontological position of a relativist is the most suitable to investigate and understand owner-managers' expectations as well as their beliefs, meanings, fears and thoughts on how to deal with the dynamic business world in which their firms operate. This perspective is appropriate as it is continuously shaped and reconstructed through the development and growth processes, or as Lindgren and Packendorff (2009, p. 29) state within their social constructivism perspective, "the field will operate under the same conditions as any real life entrepreneur." The applied phenomenological research paradigm for this research is an interpretivist ontology coupled with a social constructionist epistemology.

The developed research philosophy framework in Figure 5-3 shows the direct connections and interrelations between the ontology, epistemology and methodology as well as with the research question. The corresponding methodology is dealt with in detail in the following sections.

Figure 5-3 summarises the applied research framework from the researcher’s view.

**Figure 5-3: Research philosophy framework**



Source: Author

## 5.4 Inductive or deductive research approach

It has been previously emphasised that a phenomenological perspective would be the most appropriate basis for the exploration of the phenomena that are embedded within the research question: “How do owner-managers learn in small firms”. The research question captures causal and contextual influences of owner-manager learning, and the choice of research approach depends on the research question (Robson, 2002; Yin, 2002; Cope, 2003b; Saunders et al., 2009, 2012).

The examination of an aspect of social life requires the development of a theory derived from the research data. "Research comes before theory and we seek to generate theoretical propositions on social life from our data" (May, 2011, p. 30). This research approach is known as induction. It is concerned with the context in which the events are happening and focuses on understanding why something is happening, especially in research subjects relating to social phenomena (Bryman, 2008).

In contrast, the deductive positivist approach involves the development of theory and hypothesis, whereby the research strategy is designed to test the hypothesis. The disadvantage of this approach is that the understanding of social processes is weak. The central difference is that the deduction approach requires the development of a conceptual and theoretical framework with a set of rules and methods before empirical observation is conducted (Gill and Johnson, 2002; Saunders et al., 2009; May, 2011). The deductive approach supports the positivist perspective which is aimed at describing what is observed in an independent and value-free manner.

The literature review in chapters three and four reveals a lack of research evidence to explain how owner-managers (founders and successors) in small firms learn. Saunders et al. (2009) highlight the fact that for a research topic with little existing literature, an inductive approach is more appropriate. This advice is followed here, in the light of the justification made above of the research paradigm and of the research aims of exploring the learning of owner-managers from their viewpoints.

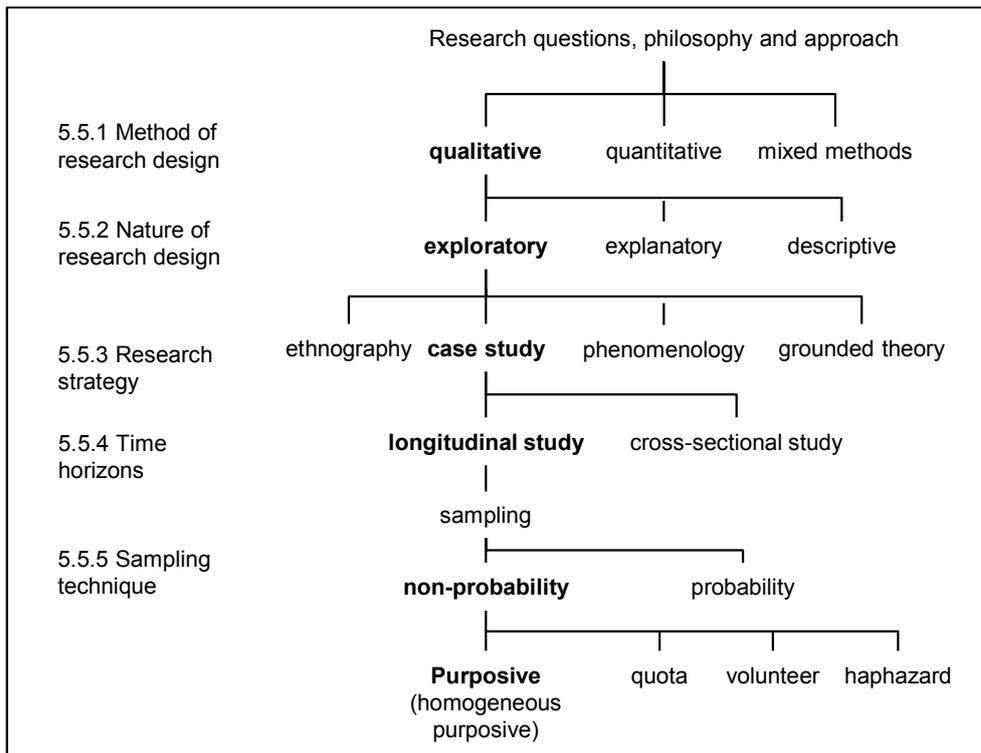
## **5.5 Research strategy**

The research strategy is a plan which links ontological and epistemological principles of the research with the fieldwork to answer the research questions (Sarantakos, 1998; Saunders et al., 2009, 2012). Defining the appropriate research strategy is a major step in examining the nature of the research problem (Yin, 2002). The research strategy is a plan for the researcher to organise the research activities "in ways that are most likely to achieve the research aims" (Easterby-Smith et al., 2002, p. 43). Therefore, every investigation has a distinct research strategy which varies from study to study (Silverman, 2011).

The research strategy is congruent to the research philosophy, aligned with the research questions and is influenced by factors such as the involvement of the

researcher, the size of the sample, the fieldwork method, the approach of theory testing or generating, the time horizon, ethical issues and the application of knowledge (Easterby-Smith et al., 2002; Saunders et al., 2009). These decisions are related to the underlying research paradigm and are discussed in the following subsections. Figure 5-4 visualises the development process for the applied research strategy. Key decisions are highlighted in bold print.

**Figure 5-4: Research strategy process**



Source: Author

### 5.5.1 Qualitative research design

The choice of the research method is linked with the research question, philosophy and approach. The research method can broadly be divided into the three categories of qualitative, quantitative and mixed methods (Creswell, 2009; Saunders et al., 2009). In particular, the qualitative and quantitative research methods are explored and compared in depth with regard to their applied measurements, the researchers' view of participants, and the distance and involvement of the researchers (Bryman and Bell, 2007). Creswell (2009, p. 3) emphasises that: "A more complete way to view

the gradations of differences between [the qualitative and quantitative research methods] is in the basic philosophical assumptions researchers bring to the study ... .”

### **Qualitative research design**

The qualitative research design is justified with regard to the research questions, philosophy and inductive research approach highlighted in the previous sections. Bryman and Bell (2007) also emphasise the relationship between research and theory of the inductive research approach and underpin the epistemological position as interpretivist and the ontological position as constructionist. Furthermore, qualitative research underlines the study of the social world by involving the researcher. Qualitative research emphasises experience, i.e. understanding the meaning which is embedded in participants’ experiences (Smith et al., 2009), whereas in a deductive process the researcher is the primary instrument of data collection and analysis (Merriam, 2009).

### **Quantitative research design**

In contrast to qualitative research design, quantitative research is generally associated with postpositivist claims for knowledge development, and data collection is based on predetermined instruments with a focus on statistics (Creswell, 2003; Bryman, 2008; Saunders et al., 2009). Researchers who use a quantitative design apply a deductive research approach from theory to data. Quantitative research investigates the relationships of variables, tests hypothesis and the data are analysed by applying a wide range of statistical techniques. For the purposes of statistical analysis in the case of a quantitative design, a larger sample size is required than in the case of qualitative research. The larger sample size covers wider ranges of cases and has a higher degree of generalisability of the findings. The influence of personal experience and views of the researcher in quantitative research is reduced as much as possible (Sarantakos, 1998). In comparison to qualitative and quantitative research design, the mixed methods can be seen on a continuum between these designs (Creswell, 2009; Saunders et al., 2009).

## Mixed method research design

“A mixed methods approach is one in which the researcher tends to base knowledge claims on pragmatic grounds” (Creswell, 2003, p. 18). The absolute distinction between qualitative and quantitative research is questioned as many business studies combine elements of both forms (Bryman and Bell, 2007; Creswell, 2009; Saunders et al., 2009). Mixed methods research design adopts pragmatic assumptions and sequentially collects both qualitative and quantitative data. All three methods of research design are compared in Table 5-2.

**Table 5-2:  
Methods of research design**

<b>Tend to or typically</b>	<b>Qualitative</b>	<b>Quantitative</b>	<b>Mixed methods</b>
Use these phenomenological assumptions Employ these strategies	Constructivist Participatory knowledge claims Phenomenology, case study, grounded theory	Postpositivist knowledge claims Surveys and experiments	Pragmatic knowledge claims Sequential, concurrent and transformative
Employ these methods	Open-ended questions Emerging approaches Text or image data	Closed-ended questions Predetermined approaches Numeric data	Open- and closed-ended questions, emerging and predetermined approaches Qualitative and quantitative data and analysis
Use these practices of research, as the researcher	Positions him- or herself Collects participants' meanings Focuses on a single phenomenon Makes interpretations of data Collaborates with the participants	Tests or verifies theories Identifies variables to study Relates variables in questions or hypotheses Uses unbiased approaches Employs statistical procedures	Collects both quantitative and qualitative data Integrates the data at different stages of inquiry Employs the practice of both qualitative and quantitative research

Creswell (2003, p. 19) adapted by the author

The comparison is useful to justify the qualitative research design for the research question “how do the learning priorities of owner-managers change during development of a small firm” in the context of their social world during the development of the firm in the region of the Rhine Valley.

### **5.5.2 Nature of research strategy**

The aim of the research is to explore owner-manager learning in small firms when the firm develops according to the owner-managers' challenges, experience and attitudes. An exploratory study is applied when the questions use words such as "how" or "what" and exploratory verbs such as "explore" or "describe" (Creswell, 2003, p. 116). Explanatory studies are used when the phenomenon is assessed in a new light and the intention is to find out what is happening (Sarantakos, 1998; Robson, 2002). This nature of exploratory research strategy fits best with the research question and a qualitative research design (Creswell, 2003).

In comparison, descriptive studies portray events, situations and persons, and are useful as a forerunner of an exploratory study to obtain a holistic picture of the phenomenon (Saunders et al., 2009). In a next step, the causal relationships between variables and situations can be established by means of explanatory studies, which mainly apply a quantitative research approach (Robson, 2002; Saunders et al., 2009).

### **5.5.3 Qualitative research strategy**

The research strategy is narrowed down according to the applied ontological and epistemological position of the researcher, the associated inductive approach and the qualitative research design with an exploratory emphasis. However, there are still decisions to be made regarding the research strategy used with qualitative research. Case study, ethnography, phenomenology, grounded theory and narratives are principal strategies with qualitative research (Creswell, 2003, 2007; Saunders et al., 2009). These research strategies share the basic characteristics of qualitative study, but each provides an added dimension as well as showing its advantages and disadvantages depending on the research question, the researcher's control over events and the focus on the phenomena (Yin, 2002; Merriam, 2009).

#### **Grounded theory**

Grounded theory is a research strategy where the data collection starts without the formation of an initial theoretical framework and the researcher derives a general, abstract theory of a process, action, or interaction grounded in the views of participants (Creswell, 2003; Saunders et al., 2009). The process of data collection

involves several iteration phases to test and refine the prediction, and contains a larger number of 20 to 30 interviews (Creswell, 2007). “This kind of oscillation between testing emerging theories and collecting data is a particularly prominent feature of grounded theory” (Bryman and Bell, 2007, p. 408). The grounded theory is designed to identify the relevant elements of a phenomenon under study by providing a general framework.

### **Ethnography**

Ethnography is a research strategy to interpret the social world by interacting in the context of people’s cultural setting over an extended time period and is therefore a labour- and time-intensive approach (Creswell, 2007; Saunders et al., 2009). However, before the research can start, one of the “most difficult steps in ethnography is gaining access to a social setting that is relevant to the research problem ... ” (Bryman and Bell, 2007, p. 444). As soon as entry is gained and trust is established, the field research can begin. A flexible research process is called for as the researcher will continuously observe and develop new patterns of thoughts within an entire cultural group. This flexibility is transferred to the research questions which are continually refined and become more focused.

### **Phenomenology**

Phenomenology is a study of the life-world of people and their conscious experience (Merriam, 2009). A common feature of qualitative research strategies is that they are focused on experience and the interpretation of experience. In particular, phenomenology seeks to understand the phenomenon. In particular, the assumption behind phenomenology is that there is an essence to shared experiences which can be expressed by an event, programme, relationship or emotion. The research strategy of phenomenology involves studying a small number of individuals who underwent the phenomenon. For a comprehensive description of how the participant views the phenomenon, the experiences of the researcher have to be bracketed out (Creswell, 2007), which is challenging in the case of an interpretative approach.

## **Narrative**

Narratives are one of the oldest forms of sense making. Stories have become an important source of data in qualitative research for understanding the meaning of human experience (Merriam, 2009). By applying a narrative research strategy, the researcher examines the lives of one or more individuals by using the stories they provided and reproduces the story in chronological order (Creswell, 2003). Narrative research requires the active collaboration between the participant and researcher when reviewing the story (Creswell, 2007).

## **Case study**

The case study research strategy has been applied in different areas of social sciences to explore a phenomenon in a bounded system. It is a suitable approach which supports an in-depth understanding of the phenomenon under study when the researcher can identify bounded cases (Creswell, 2007). "A case study is an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident" (Yin, 2002, p. 13).

The case study type distinguishes between single- and multiple-case study (Yin, 2002; Eisenhardt and Graebner, 2007). The decision on the case design is made before any data is collected. In addition, the case design decision will depend on the available resources as a multiple-case study can require extensive time and resources (Yin, 2002; Eisenhardt and Graebner, 2007).

The research objectives in this particular study involve neither a hypothesis for testing nor a survey which depends on the collection of standardised information of a specific population. Instead, the aim of the research is to explore in depth the little understood phenomenon of "how owner-managers learn in small firms". A case study research strategy is appropriate for exploratory work (Robson, 2002; Eisenhardt and Graebner, 2007), particularly when the question "how" or "why" is being asked about a contemporary phenomenon within some real-life context and the researcher has little control over events (Yin, 2002; Eisenhardt and Graebner, 2007). "Often the inquirer purposefully selects multiple cases to show different perspectives on the issue" (Creswell, 2007, p. 74).

#### **5.5.4 Case-based research in SME learning**

The SME-specific literature about learning in SMEs shows a preference for a case study strategy to obtain an enhanced understanding of the learning processes in SMEs. The research conducted by Deakins and Freel (1998), Hill et al. (2002), Zhang and Hamilton (2009), and Carr and Gannon-Leary (2007) exemplifies a strong commitment to this qualitative research strategy.

Deakins and Freel (1998) analysed learning within four small firms and emphasised the qualitative differences between learning processes in large and small firms. The same authors state that there are too few longitudinal studies on small firm growth. Zhang and Hamilton (2009) conducted six case studies with a total of 68 owner-managers as participants in a Leading Enterprise and Development (LEAD) programme. They emphasise (2009, p. 609) that: "It is vital to stress that this research seeks to gain a clear understanding of owner-managers' learning from an individual perspective. With a view to addressing the lack of understanding of how SME learners learn, Carr and Gannon-Leary (2007) analysed a two-year SME management development programme with 10 key learners based on a case-study design. Hill et al. (2002) focused in their case studies on marketing learning in small firms using a sample of four small firms in the UK and Ireland, and four in the USA.

The use of cases studies is therefore well-proven as a strategy for investigating owner-manager learning in small firms. The author decided to work within this tradition while pursuing differentiated research aims. The framework for the case study approach in this research focuses on the investigation of the critical learning events which have influenced owner-manager learning in small firms (Cope and Watts, 2000; Cope, 2003a; Zhang et al., 2006; Phelps et al., 2007). The unit of analysis is related to the owner-manager learning from critical events during the firm development. The firms and the Rhine Valley provide the context within which the units of analysis will be examined. Both components, the unit of analysis and the developing firm, are interrelated in a dynamic and complex social system. The life-cycle theory of firm development is applied to show the inevitable milestones of change and the underlying dynamics caused by critical events. Similarly, the learning and development of the owner-managers are influenced by these dynamics. Therefore, the chosen methods of data collection must enable the parallel

development of the owner-manager and the firm to be considered. This parallel collection of data provides a valuable insight into the life-cycles in order to link the topics of knowledge and learning according to the heterogeneity of small firm development paths (Phelps et al., 2007).

As the study contains six selected cases, the research design corresponds to a holistic multiple-case study according to Yin's two-by-two matrix (Yin, 2002). Furthermore, "theory building from multiple cases typically yields more robust, generalizable, and testable theory than single-case research" (Eisenhardt and Graebner, 2007, p. 27). To conclude, an inductive research approach is accompanied by a multiple-case study strategy combined with a predominately exploratory but also descriptive purpose since the research focuses on the owner-manager learning in small firms in its pursuit of new insights into the investigated phenomena.

### **5.5.5 Time horizon of the research**

"Case study research frequently includes a longitudinal element" (Bryman and Bell, 2007, p. 65). The longitudinal element of a case study is supported by retrospective interviews and additionally by analysing archival documents. Longitudinal research design is typically used to map change in management research and when qualitative interviews are conducted on more than one occasion (Yin, 2002; Bryman and Bell, 2007). As the learning of owner-managers "is a continuing process, there is a need to follow people over a period of time rather than relying solely on retrospect" (Rae, 2000, p. 150). Due to the lack of longitudinal studies of small entrepreneurial firms (Deakins and Freel, 1998; Down, 1999; Matlay, 1999a; Jack et al., 2006), the time horizon for the field research and real-time longitudinal data collection is planned for approximately two years (Eisenhardt and Graebner, 2007). During this time frame, two interview blocks are envisaged. According to the inductive approach, the case study design and the phenomenon under study, it is important for the researcher to obtain an in-depth understanding and become familiar with the complex environment of all six cases in order to be able to properly interpret the unit of analysis, which is supplemented by a longitudinal element of the field research.

### **5.5.6 Research sample design**

There are basically two types of sampling. The first, which is probability sampling, follows strict selection rules. Probability sampling is mainly associated with survey-based research and requires a large sample size, is widely scattered and therefore offers a high degree of representativeness (Sarantakos, 1998; Saunders et al., 2009). In contrast, non-probability sampling applies less strict rules. The selection of the sample is generally up to the researcher as the sample represents a cohort which is not claimed to be representative (May, 2001). Furthermore, the replication logic is essential for a multiple-case analysis when theory building is intended (Eisenhardt, 1989; Yin, 2002; Eisenhardt and Graebner, 2007).

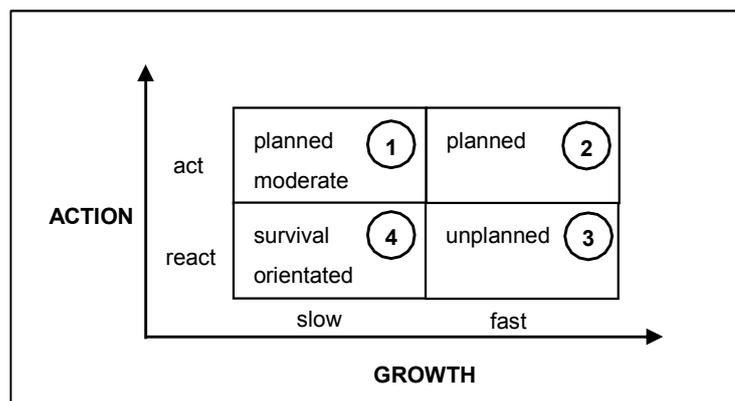
The selection of the case population is based on non-probability sampling, which is more frequently used for case study research (Sarantakos, 1998; Saunders et al., 2009). Within non-probability sampling, the technique of purposive sampling is applied as the owner-managers of the six small firms within a multiple-case study are carefully selected to predict similar or contrasting results (Yin, 2002; Eisenhardt and Graebner, 2007). The selected owner-manager sample consists of six small businesses which are homogeneous according to the time frame of leading the firm, but are heterogeneous in terms of management type. There is no ideal number of cases; a sample of between four and ten cases has been recommended as appropriate (Eisenhardt, 1989; Yin, 2002; Eisenhardt and Graebner, 2007). All firms are located in the Rhine Valley region. This German-speaking valley and the region of Lake Constance are leading areas for high-tech development in Europe (CONTOR, 2004; Scherer and Gutjahr, 2012).

The applied sampling strategy of maximum variation increases the robustness of the findings and is one of the most frequently used strategies in entrepreneurship research (Neergaard and Uihøi, 2007).

The age of the initial start-up firms and the time span since the succession took place was initially defined as being between five to ten years. Within a time span of five years, new firms are expected to have entered the phase of growth and expansion (Bantel, 1998). A survey in Canada, the Netherlands and the USA proves that the dropout rate during the initial year of a start-up lies between 20% and 27% (Shane,

2008). The figures reflect the fact that one out of four new businesses closes in the first year; within the ICT business the dropout rate is one in three (Lasch et al., 2007). Whereas owner-managers of surviving firms “tended to be older, better educated, had industry experience” (Cooper, 2005, p. 281). The failure rate decreases during the subsequent years and after five years in business around 50 per cent of the firms are still operating (Storey and Cressy, 1996). These figures relating to the survival rate are confirmed by a report by the Viennese Chamber of Commerce for start-ups in Austria (Frank et al., 2007). Furthermore, Kets de Vries (1993) asserts that 70% of family businesses fail to survive through the second generation, while 90% fail in the third generation. Based on this broad definition, the sample is selected according to the typologies in Figure 5-5:

**Figure 5-5: Owner-managers’ learning and growth aspirations**



Source: Author

The four-way typology shown in Figure 5-5 was developed from preliminary interviews conducted with three small business owner-managers during February and July 2007. The evolved framework is helpful in terms of conceptualising the growth aspirations of the owner-managers and the interrelated learning and HC processes within their lived experiences. The growth aspirations of owner-managers vary and influence their performance (Brush et al., 2009).

Based on the variables age of the firm, technology, related branches of industry and number of employees >5 and <50, the Chamber of Commerce of Vorarlberg performed a pre-selection for categories one and three.

The pre-selection identified for **Category One** consisted of more than 9,000 companies which were founded or renamed during the years 1998 to 2006 according to Figure 5-5. In **Category Two**, participants in the business plan competition at the SME Centre of the University of Liechtenstein were selected (KMU-Zentrum, 2008). According to the requirements of the business plan, a growth strategy and the related ambition can be expected. **Category Three** applies the same variables as category one. Additionally, the owner-managers may have taken over a business as part of a planned succession during the years 1998 to 2003 instead of founding a company. This set of criteria considers the different mindsets of owner-managers in relation to their growth aspirations and the implied learning and development processes (Rae, 2015). **Category Four** can be defined as lifestyle businesses which are not considered in this research as the growth aspiration of this group is low (Deakins and Freel, 2009). “Fewer than one in five new business founders has any aspiration of building a business that is larger than one employee” (Shane, 2008, p. 66).

Based on an iterative selection process, the selection criteria were adapted and the time period divided into two periods. In total, 145 companies were identified for the time period between 1998 and 2003. As control group, 116 firms were identified in the time period between 2004 and 2006. The data of the first run were used for the initial screening and for selecting the firms from the region of Vorarlberg. Consequently, this sample population excludes the first critical years. In a second step, the companies were screened regarding the suitability of the research topic. In particular, lifestyle firms and firms which had undergone rebranding were excluded. This screening was performed by means of a time-consuming “Google search” for each firm.

Finally, the sample of six firms was divided into two groups of three firms each. Group one covers owner-managers who started the company from scratch. The start-up group is divided into an individual founder, and two founder teams, one consisting of two and the other of three people. This diversity is used to investigate the differences between a single-person and team start-up in terms of owner-manager learning. A management team may improve management performance where an individual owner-manager “may be a central bottleneck factor” (Pasanen and Laukkanen, 2006, p. 685).

Group two consists of owner-managers who were the initial successors of founded firms. In Liechtenstein, succession within the family accounts for the largest share of succession in firms at around 54%, followed by an external succession (Baldegger and Pock, 2009). Their survey considered nearly 200 firms which were fairly close to the process of succession or had finalised the process within the last five years.

A key objective of the thesis is to analyse the learning of the owner-managers. A brief introduction to the case companies provides an overview of their business field, organisation structure as family business or own firm based on a start-up and the number of employees as well as some insights into their learning attitude. The learning experience of the six owner-managers is examined from the company founding and succession processes which have turned the enterprises into prospering businesses.

An overview of all six selected companies is given in Table 5-3. The individual profiles of each company provide a sound outline from the founding process to the applied learning practices. These profiles are shown below and details can be found in Appendix B. The firms are all in technology-based sectors, whereas the services offered range from the production of high-end prototypes and small production runs, to counselling custom development of new product solutions to training for sales persons. The common ground of all these case study firms is the close link to technology in the high-tech sector in small firms of the Rhine Valley.

**Table 5-3:  
Case study companies<sup>20</sup>**

Case	Trade	Structure	Core business	Learning and HCD
<b>Owner-managers of start-up firms</b>				
A (Mike) <sup>21</sup>	Prototyping	Two brothers	Design and R&D of high-end prototypes for all kinds of products and customers, e.g. Porsche, Nespresso and other world-famous companies	R&D as a passion, be first mover, foster internal learning, engage the service of external trainers (25 / 38) <sup>22</sup>
B (James)	Mechanical engineering services	Single-person start-up	Production, R&D and service packages for complex milling, turning parts for the domestic market in the Rhine Valley and international customers.	Communication is the key, fosters knowledge transfer and internal training (7 / 7)
C (Alice)	Exhibition stand design, consulting, marketing	Merged from three single start-ups	Exhibition stand design and construction; consulting services from the presentation of the customer's products to support on the stands at international shows, mainly in Europe.	Structures are behind the growth rate, assumed different roles (49 / 49)
<b>Owner-managers as successors of family businesses</b>				
D (Nigel)	Plastics research and development	Successors two brothers	The core businesses are injection moulding and tool making mainly for customers in AT, DE, LI, CH.	Internal junior staff programme, core competencies are solutions for complex problems (25 / 25)
E (Thomas)	Metal construction	Single-person succession	The business fields are constructional steelwork, metal construction, metalworking, stainless steel processing and sheet metal forming.	Learning at the workplace with particular focus on controlling (28 / 28)
F (Peter)	Deep-drawing and mould making	Two brothers	The company offers a wide-ranging service portfolio from deep-drawing and mould making to CNC machining. The product portfolio includes e.g. tubs, storage tanks, splash boards, bicycle helmet, skis and precision mechanical parts for European, Canadian and Japanese customers.	Acquisitions and recruitment of experts from different business fields, and apprenticeship programmes (25 / 28)

Source: Author

<sup>20</sup> Further details of the case study companies are described in Appendix B.

<sup>21</sup> Furthermore, the University's Research Ethics Principles (2008) were taken into account for the interviews and use of the outcomes. For reasons of confidentiality, each company is assigned a case letter (A to F) and the interviewees are given a nickname.

<sup>22</sup> The first number in brackets refers to the number of employees at the time of the first interview and the second number refers to the number at the time of the second interview period.

## **5.6 Data collection**

### **5.6.1 Introduction**

Having discussed the research strategy including the sample profiles for this research, the following subsection addresses the subject of data collection. In particular, the applied interview type of semi-structured interviews and the applied process of data collection from the pilot interviews up to the two interview rounds conducted with the owner-managers are discussed.

### **5.6.2 Interview types**

Interviews are a fundamental source for obtaining rich insights into people's experiences, values or feelings on a specific topic (May, 2001). Interviews are often employed as a method of data collection in order to gather valid and reliable data in respect of a specific research question (Sarantakos, 1998; Saunders et al., 2009). Both the type of interviews and the form of interaction between researcher and interviewee vary (Smith et al., 2009; May, 2011). Interviews can be structured, semi-structured or unstructured and can be held on a one-to-one or group basis (Sarantakos, 1998; May, 2001; Robson, 2002; Bryman and Bell, 2007; Saunders et al., 2009). For each data collection process it is critically important that the applied type of interview is appropriate for the research question, aim and strategy (Saunders et al., 2009).

#### **Structured interviews**

Structured interviews use strict procedures based on a predetermined interview guide. "A structured interview is in reality a questionnaire read by the interviewer as prescribed by the researcher" (Sarantakos, 1998, p. 247). Each social interaction between interviewee and respondent takes place in a neutral manner in order to achieve high uniformity and a low interview bias (May, 2011; Saunders et al., 2012). This type of interview is used in quantitative research.

#### **Unstructured interviews**

Unstructured interviews explore a research topic in depth without a predetermined list of questions and the interviewer has a general area of interests (Robson, 2002). The

structure of the interviews is flexible and this provides the opportunity for the interviewee to talk freely about events and beliefs within the research area (Saunders et al., 2009).

### **Semi-structured interviews**

Semi-structured interviews follow an interview guide that is used as checklist for the interviewer. The order of the questions and the wording are not fixed and are adjusted during the flow of the conversation (Sarantakos, 1998; Robson, 2002; Saunders et al., 2009). This provides the chance to ask unplanned questions to illuminate new aspects of the phenomenon under study. According to the previously justified research aim and strategy and in line with an exploratory study, semi-structured interviews are appropriate to “find out what is happening in little-understood situations [and] to seek new insights” (Robson, 2002, p. 59). The semi-structured interview allows access to different levels of reality in an everyday situation.

### **5.6.3 Critical Incident Technique**

The Critical Incident Technique (CIT) was developed by Flanagan (1954) to collect behavioural data on observable human activity through the identification of critical incidents that are systematically analysed to identify precise relationship(s) among variables. Through the application of this approach, respondents are able to convey their own unique interpretations of the events under study.

Owner-manager learning is embedded in an interactive relationship and network with the social environment of the firm, the business environment and the family (Taylor and Thorpe, 2004; Cope, 2005; Rae, 2006). The emerging critical incidents during the development of a firm are related to emotions and feelings. The application of a social “learning lens” is useful (Cope, 2005) within the entrepreneurial context. The emotions articulated in combination with owner-manager learning within this social learning lens have rarely been addressed despite the fact that emotions have played an increasingly central role in leadership and organisational learning research over the last two decades (Vince, 2002; Gooty et al., 2010). In terms of the characteristics of entrepreneurs, the literature focuses on their core attributes as leaders to meet the entrepreneurial challenge (Gupta et al., 2004). These attributes encompass

exceptional commitment, compelling vision with convincing goal setting and intellectual stimulation driven by constant changes in the environment (Gupta et al., 2004).

To understand the particular situation of owner-manager learning, it is useful to recall the complex setting of the holistic social and business environment (Cope and Watts, 2000; Matlay, 2008a). Therefore, the CIT is used to identify critical learning events for the owner-managers during their firm's development process. Critical learning events have been defined as situations which have had an impact on the personal attitudes and mindset, cooperation with employees and other stakeholders of the firm and firm-specific decisions (Vince, 2002). Critical learning events can be internally or externally influenced. One main criterion has been that a critical learning event challenged and consequently changed the previous way of thinking, behaving and doing business of the owner-managers. Another major criterion is that the event contributes sufficient descriptive detail to illuminate how individuals live this experience (Thomson et al., 1989).

#### **5.6.4 Interview process and time frame**

The interview process is built on a longitudinal historical perspective which includes a phase of pilot interviews and two series of semi-structured interviews with the owner-managers. The time frame of 24 months is appropriate to observe developments of the owner-managers and the firms (Jones et al., 2014). The collected data had an added value in view of the world economic crisis which occurred between the first series of interviews in autumn 2008 and the second in spring 2010. The second data collection round was initially planned between April and May 2009, which is usually a busy time. The final data collection was planned at the stressful time of the annual closing of accounts in December 2009.

The first interview was conducted just before the world economic crisis had started. In view of the economic turbulence during the year 2009, the second interview round was postponed until spring 2010. The reasons for this were that the data collected in the first round of interviews contained more information than expected, the analysis was more time-consuming and finally all investigated owner-managers were hit by the crisis. Interviews under these specific circumstances might have biased the outcome

of learning. All interviewees were informed about the progress of the research and the new time for the second interview in spring 2010 instead of June 2009. The redesign of the data collection shows both interview phases with the owner-managers, while one of the most critical economic crises was embedded between the two interview phases. Figure 5-6 shows the redesigned framework of the data analysis with the economic crisis as the major learning event between the two interview phases.

**Figure 5-6: Time frame for the interview process**

<p><b>Phase I</b>  <b>Winter 2007</b>  Pilot interviews  Identify obstacles and issues of the topic "learning to grow".</p>	<p><b>Phase II</b>  <b>June to October 2008</b>  First round of interviews  Owner-manager learning  Context and firm environment  Learning events  Forecast of activities for six months</p>	<p><b>Economic crisis</b>  <b>October 2008 to April 2010</b>  Learning to survive, second lesson   The second round is postponed to April 2010</p>	<p><b>Phase III</b>  <b>April to June 2010</b>  Second round of interviews  Learning events during the crisis  Activities during the crisis  Changes of the owner-manager position</p>
---	--	--	--

Source: Author

This new exogenous parameter of the economic crisis strengthened further procedures for data collection. The development of the firms was observed via different sources, which included newsletter, newspaper and internet (Yin, 2002). The three interview phases highlighted in Figure 5-6 are comprehensively described in the following subsection.

### 5.6.5 Main sources of the case studies

The case studies are based on at least three main sources. Yin (2002) and Eisenhardt and Graebner (2007) emphasise that the primary data sources for case studies are in-depth interviews. These interviews with the owner-managers lasted between one hour and an hour and a quarter for the first and second rounds. The interviews were semi-structured to identify problems and challenges which influenced the owner-manager learning and the interrelated development of the firms. The questionnaires for each interview phase are provided in Appendix C. Moreover, the case study firms were observed via the website and press releases during the two-year phase between the interviews. The observation was not performed on a scheduled, but on a regular basis to become familiar with the firms.

## **Phase I: Pilot interviews**

The pilot interviews were conducted with an owner-manager who started his business in 2007 in the field of maintenance service for the technology sector and with another firm which was founded by two engineers in 1997 in the areas of software development. The results of the interviews with these owner-managers provided an initial picture of the related learning forms during the establishment and development of the respective firms.

The set of questions for the first semi-structured interview was formulated as a result of the pilot interviews with owner-managers. During the pilot interviews it was recognised that the direct link to learning events irritated the owner-managers, as most owner-manager learning is informal and not perceived as learning by them. The interviewees instead tried to link the learning effects with the formal learning system. A similar experience was recorded by Stefan Böhm and Lorraine Warren when they interviewed owner-managers about their individual learning strategies or used the term learning. The interviewees started to refer to formal learning providers in the past, e.g. the primary school or the university (Warren, 2004; Böhm, 2009). During the first interviews, care was therefore taken not to use the word “learning” too often.

The questions were instead focused on the descriptions and the insights where the critical episodes were embedded. The owner-managers recalled critical episodes in emotionally resonant stories (Downing, 2005). This supported a deeper understanding of the firm as well as providing an insight into the social environment and its relationship with the event.

## **Phase II: First interview phase**

In the first interview phase, no particular order was envisaged for interviewing the first and secondary group of owner-managers who founded a firm or who were initial successors. The order was determined by the time frame proposed by the owner-managers. This resulted in the order that the initial interview in the first round was conducted with the youngest owner-manager of the start-up firm. This was followed by interviews in the order of start-up, all three family businesses which were started by the oldest owner-manager, and finally the third start-up business which was founded as a team start-up.

The focus in the first data collection was on the development process of the firm with all its critical episodes and interrelated learning events from the owner-managers' perspective. The first interview phase focused on a wider time span in a retrospective manner back to initial days of the firm's foundation or of the succession. This includes a time frame of approximately one decade. Additionally, the first interview was used to build a relationship and become familiar with the firm and the network of suppliers and customers as well as with the products. Simultaneously, it was essential for the researcher to become familiar with the development processes and the associated critical episodes over the life-cycle of the firms and owner-managers (Creswell, 2007; Phelps et al., 2007; May, 2011).

The redefined questions for the semi-structured interviews were based on the funnel approach to questioning and cover three main areas (Saunders et al., 2009). The first section focuses on history, establishment of the firm and problems that occurred during the development of the firm. In this introduction section, the interview questions were combined with a contemporary life-story approach of critical learning events for the owner-managers during the firm's development. This combination helped and encouraged the owner-managers to tell their life-story about such critical learning events in order to learn to manage growth within the second section. Finally, the third section deals with the question of HCD in their firms.

The acceptance of the interviewer as a professional and researcher was built up during the introduction phase of the interview where the owner-managers recognised that the interviewer had a similar professional background in the field of technology. In particular, the interviewer's apprenticeship as mechanic and his mechanical engineering qualifications were access enablers. These provided a sense of community and common language, not only from the technical point of view, and fostered the building of trust. During the first interview, a large number of critical learning events were identified and described by the owner-managers. The analysis of the first interview signalled a high degree of emotions during such learning events in small firms (Vince, 2002). The described events are always embedded in the wider context of the firms.

The initial interviews were concluded with a business forecast for the next six to eight months. The aim of this forecast was twofold. Firstly, the forecast revealed some

challenges which the owner-managers had to deal with and secondly it established a commitment with the owner-managers for the next interview phase.

### **Phase III: Second interview phase**

The second interview phase was focused on deeper insights into the more recent critical events that had emerged over the last 18 months of business between the different interview phases. By chance, this time period covered the economic crisis. The shorter time period made it easier for the owner-managers to recall the critical events. Due to the economic crisis, the research design was adapted in order to identify critical events during the crisis with the applied IPA of the learning outcomes.

The second interview phase began this time with the owner-manager of the sample of family firms. Here again, it was not possible to conduct the interviews in a specific order, i.e. first the family firms and then the start-ups. The staging of the second interview phase was dictated to an even greater extent by the time constraints of the owner-managers due to the business recovery phase in spring 2010 (Keeley and Love, 2010). Therefore, one of the second six interviews took the form of a telephone interview as the owner-manager refused a face-to-face interview due to a lack of time, claiming that his fast-growing firm in the prototyping business was receiving countless enquiries in spite of the economic crisis. This telephone interview lasted 25 minutes and covered all the central topics of the second interview phase.

The second interview phase had two significant characteristics in relation to the first interview phase. The researcher presented the identified learning events, which had been identified from the in-depth data analysis, to the owner-manager at the beginning of the second interview. The identified critical learning episodes of the owner-manager are visualised in form of a life-cycle diagram in line with the firm's development. Due to the fact that it was not possible to reconstruct the exact holistic learning progress of the owner-manager, the diagram acted as useful tool for coming close to it. The respondents' confirmation nonetheless confirms the validity of the findings (Silverman, 2011). By this stage, all the owner-managers felt more confident with the interview situation as they could directly recall the feelings and emotions associated with the critical learning events highlighted in the life-cycle diagram. Afterwards, each owner-manager was invited to select the most important three

critical learning episodes of the developed life-cycle diagram. The owner-manager was questioned about why these events were the most critical or most valuable in the context of learning and how the learning took place during and after these events.

Subsequently, the owner-managers were asked to complete the established life-cycle diagram for their firms with at least three critical learning episodes during the period of the economic crisis from August 2008 to April 2010. The second interview questionnaire focused on the triggered measures to cope with the economic crisis and illuminate the embedded learning events by the owner-managers. The economic crisis created an environment which strongly influenced all the owner-managers simultaneously and triggered several critical learning events. The economic crisis was an external influence which impacted on all the owner-managers in a similar way. Therefore, the reactions of the individual owner-managers in their personal, firm-based and wider social environment provided an enriched data set. These data are analysed in order to identify the shifts within and between the critical learning events before and after the economic crisis.

#### **5.6.6 Data quality and replication logic**

In order to increase the replication logic, the case studies were conducted according to the principles of the case study protocol (Eisenhardt, 1989). Additionally, the observation notes during the site visit to the firms were presented. As a minimum, these included the appearance of the entrance, the welcome and the showroom to form a holistic picture of the firm and the lived culture. One example was the fact that the business cards of the owner-manager and key employees were on display at the entrance desk. These data were supplemented with the sources of evidence defined by Yin (2002).

The interviews were tape-recorded with the agreement of the owner-managers (Saunders et al., 2012). The tape recording gave the interviewer more time to capture contextual points derived from social interactions during the interview (Saunders et al., 2009). In parallel, the interviewer took notes, which increased the credibility and enriched the set of primary data. All interviews were conducted by the same interviewer with the primary owner-manager of the small firms investigated. Each of the interviews lasted between one and one and a quarter hours, which is appropriate

for “in-depth interviews” (Smith et al., 2009, p. 62). The interviews were held in German, the mother tongue of the owner-managers and the researcher. This approach had the advantage for the interviewees that they could concentrate on the content rather than having to search for the right words in a foreign language. The interviews were transcribed and coded in German and the core statements were translated into English. The content of the interviews was summarised by the interviewer at the end of the conversation, and the interviewees were invited to comment or add any subject which in their view had been overlooked or misinterpreted (Creswell, 2007; Smith et al., 2009).

Each owner-manager was interviewed twice during the longitudinal study. The time frame between the interviews lies between 18 and 24 months, which was considered sufficient to capture the organisational development (Jones et al., 2014). The qualitative methods support the necessary depth of analysis for the phenomena under study, particularly as limited time frames are often criticised for narrowing the meaningfulness of the data (Fillis, 2006). The lack of longitudinal studies of small entrepreneurial firms is also stressed by Deakins and Freel (1998), Matlay (1999a) and Jack et al. (2006).

### **5.6.7 Research boundaries**

Despite the applied sampling strategy of maximum variation to increase the robustness of the findings, a set of research boundaries was used. At the same time, these exclude some perspectives. For example, the research is limited to the owner-manager learning in successful small firms. A middle management has not been established by all of the small firms investigated. Consequently, the interviews were focused on the owner-managers. The selected firms are from the technology sector in the region of the Rhine Valley. A retrospective approach was applied to analysing the subject of owner-manager learning in small firms. The presence of the owner-managers or of the founder team ensured a complete retrospective overview of the owner-manager learning with substantial interrelated critical learning events during the development of each small firm analysed. The advantage of this approach is that changes relating to owner-manager learning can be captured. The disadvantage is that there is a risk of bias as not all events are reproduced as they happened in the past.

### 5.6.8 Gaining access

The problem of access to a business is twofold. Firstly, there is the formal or physical access to a firm and secondly, there is the informal process of obtaining access to employees (Easterby-Smith et al., 2002). However, the process for gaining “traditional access” to a firm can be time-consuming and difficult (Saunders et al., 2009).

The reasons for denying physical access are manifold. There can be a lack of time, reasons of confidentiality, an unwillingness to get involved in additional tasks alongside the busy daily work routine or to receive too many requests from researchers (Saunders et al., 2009). Moreover, political issues within the firm and communication strategy can lead to access to a firm being denied. Therefore, it is important for a researcher to address the firm “with some kind of personal contacts” (Easterby-Smith et al., 2002, p. 71). Saunders et al. (2009) underline two further processes of access, which are continuing and cognitive access.

The present research into the question of “how do owner-managers learn in small firms” required all three levels of physical, continuing and cognitive access. The preparation of physical access started with intense internet research into the pre-selected firms to obtain an overall picture of the firm, the organisation and the products. This pre-information was required to prepare for the initial phone call with the owner-managers and create the opportunity for physical access (Saunders et al., 2012). Afterwards, an introductory letter outlining the research work and research aim was sent to each owner-manager. It also included proposed dates for the appointment. Finally, the date for the first interview was fixed in another phone call a few days later.

Although physical access was successfully obtained, cognitive access proved to be a sensitive mission. The owner-managers were initially sceptical about the added value, they were angry about the data protection, and took the view that a doctoral student was unlikely to identify more than they already knew. Cognitive access built the basis for sharing the data with the participants in order to address the research questions (Saunders et al., 2009). Acceptance of the researcher was built during the introduction phase of the interview. In particular, his similar professional background in the field of mechanical engineering was the door opener. The trust established during the first interview provided the basis for continuing access.

### **5.6.9 Research ethics**

In the context of the thesis, a lot of effort was paid to “conduct qualitative research in an ethical way” (Hennink et al., 2011, p. 62). This included phoning the interviewees to give them preliminary information on the time required, the thesis and the confidentiality of the data provided. For reasons of confidentiality, each company is assigned a case letter (A to F) and the anonymity of the owner-managers was ensured by giving the interviewees a nickname.

A personal letter and a guideline for the semi-structured interview were sent to the interviewees (Saunders et al., 2012). The interviews were arranged in order to meet the schedule of the owner-managers. Each interview transcription was sent to the interviewees, providing the opportunity to correct any misunderstandings on the part of the interviewer (Saunders et al., 2012). Furthermore, the University’s Research Ethics Principles (University of Gloucestershire, 2008) were taken into account for the interviews and use of the outcomes.

The researcher carefully applied professional, methodological standards throughout the whole period of research in order to accomplish accurate data collection, analysis, interpretation and presentation of the outcomes (Sarantakos, 1998; Robson, 2002; Saunders et al., 2009; Smith et al., 2009; Saunders et al., 2012).

### **5.6.10 Role of the researcher**

In qualitative research, the researcher is an integral part as the reality is built through interpretation and interaction (Sarantakos, 1998; Creswell, 2003; Smith et al., 2009). “The involvement of the researcher has been developed for researching human action more at an individual level rather than at collective or organizational levels” (Easterby-Smith et al., 2002, p. 44).

(Creswell, 2003) emphasises that the experience and training of a researcher influence the choice of research approach. The experience and the personal biography in a field can be an advantage but, equally, may turn out to be a disadvantage as “the extent to which a person can bracket his or her biases and assumptions is open to debate” (Merriam, 2009, p. 26). Therefore, possible biases should be addressed by the researcher (Maxwell, 2004). “This introspection and

acknowledgement of biases, values, and interests (or reflexivity) typifies qualitative research today” (Creswell, 2003, p. 182).

As the author grew up in the Rhine Valley and has lived in all three countries, he is well rooted in the region. Due to his professional career, which started with an apprenticeship in a small family business, and his experience in the fields of VET and HE in his current position, there is a relationship with the topics. However, the research is based on owner-manager learning in small firms, which is a completely different field of study. The author has considered the issue of bias during the whole research cycle of the thesis in order to reduce it to a minimum.

After an in-depth discussion regarding the data collection for the purposes of this research, the following section highlights the data analysis and interpretation of these raw data into meaningful statements (Sarantakos, 1998).

## **5.7 Data analysis**

### **5.7.1 Introduction**

The analysis of qualitative data is a demanding process which does not follow a standardised approach for dealing with the gathered data (Sarantakos, 1998; Robson, 2002.; Saunders et al., 2009). Although there are different approaches available, common to all of them is the fact that the process of qualitative data analysis is an interrelated process of data collection and analysis (Yin, 2002; Saunders et al., 2009).

The primary path of the qualitative data analysis follows the interactive framework developed by Miles and Huberman (1994). Miles and Huberman (1994, p. 10) define data analysis “as consisting of three concurrent flows of activity: (1) Data reduction, (2) Data display, and (3) Conclusion drawing/verification.” The collection of data and these three flows of activities build an iterative process. The coding is a systematic process to identify topics that are in the collected data (Ezzy, 2002). The analytic strategy for the development of a descriptive framework is best suited to an inductive research approach and exploratory purpose. Miles and Huberman (1994, p. 18) describe a framework as follows: “A conceptual framework explains, either graphically

or in narrative form, the main things to be studied – the key factors, constructs or variables – and the presumed relationship among them.”

According to the sample of case studies presented in Table 5-3, the case description and coded data are the basis for the two-step case analysis suggested by Eisenhardt (1989). The first step is an extended analysis within intra-case data to enable familiarisation with each case. The second step is focused on the identification of cross-case patterns. The cross-case analysis is valuable for increasing the internal validity of the findings. The devised framework describes the six case study firms in respect of the key factors of owner-manager learning in small firms.

### **5.7.2 Process of data analysis**

The qualitative data analysis consists of three main interrelated activities: data reduction, data display and drawing a conclusion (Miles and Huberman, 1994). Data analysis in qualitative research is a demanding task as the amount of data is huge. Therefore, “it is difficult to retrieve the most meaningful material, to assemble chunks of words that go together, and to condense the bulk into readily analyzable units.” (Miles and Huberman, 1994, p. 56). There is common agreement that the reduction of qualitative field data is the initial step in order to transfer them into significant categories (Miles and Huberman, 1994; Sarantakos, 1998; Yin, 2002; Saunders et al., 2009; Smith et al., 2009). According to these models, the overall process of data analysis encompasses between three and twelve interrelated steps. The data analysis is carried out in nine main stages in relation to the overall concepts of Miles and Huberman (1994) and Smith et al. (2009). Table 5-4 shows the iterative steps of the process of data analysing according to the adapted concepts of Miles and Huberman (1994) and the IPA (Smith et al., 2009). Both concepts are vital and complement the process of qualitative analysis.

The phase of data collection and analysis is multi-directional and integrates several systematic approaches to code, analyse and compare these six case study firms in order to identify the learning approaches of the owner-managers. Each of these steps requires additionally tools for analysis.

**Table 5-4:  
Steps in data analysis**

<b>Process of data analysis Miles and Huberman (1994)</b>	<b>Interpretative Phenomenological Analysis (Smith et al., 2009)</b>
i. Transcriptions and field notes	Step i: reading and rereading
ii. Coding, attaching key words to segments	Step ii: initial noting
iii. Locating relevant segments of text	Step iii: developing topics that emerge
iv. Data linking and connecting relevant data segments	Step iv: searching for connections across topics that emerge
v. Memoing: writing reflective commentaries on same aspects of the data as basis for deeper analysis	
vi. Content analysis: counting frequencies, sequences or locations of words and phrases	Step v: moving to the next case
vii. Data display, placing selected data in a condensed organised format such as matrix or network	Step vi: looking for patterns across cases
viii. Conclusion drawing: aiding the researcher to interpret displayed data and developing systematic, conceptually coherent explanations of findings for theory building.	
ix. Graphic mapping of the findings of owner-manager learning	

Source: Miles and Huberman (1994) and Smith et al. (2009) adapted by the author

The data analysis process with its nine stages and interrelated six steps of the IPA are explained in detail with the framework developed for the case analysis in Figure 5-7.

### **5.7.3 Interpretative Phenomenological Analysis**

The IPA acknowledges that the experience of individuals in their life-world cannot be directly addressed and supports the approach of qualitative research to describe relations between events (Smith et al., 2009). The phenomenological perspective of the IPA helps the researcher to record and describe critical events with the aid of interpretation.

Smith et al. (2009, p. 42) argue: “Qualitative research is time-consuming, labour-intensive, and both imaginatively and emotionally demanding.” The IPA method consists of six interrelated steps. The initial step is reading and rereading and proceeds with initial noting, developing emerged themes, searching for connections across topics that emerge, moving to the next case and finally looking for patterns across cases (Smith et al., 2009).

### **5.7.4 Framework of the case analysis**

The development of the framework of the case analysis is based on complex interrelated processes. These encompass three analysis cycles which focus on the field material (I.), the theory (II.) and the inner circle (III.), which is based on the six single case analyses. The field material cycle is shown on the left side of the framework in Figure 5-7. The theory-based cycle is positioned on the right side of the framework. The heart of the framework is where all three cycles join. This heart forms the hexagonal framework, which is described in detail in Figure 5-10 in the following subsection. The process of coordinating the analysis is based on nine main stages of the process of data analysis according to Miles and Huberman (1994). All nine stages are numbered in Figure 5-7. The transcribed interviews of all six case studies were analysed using the framework developed in Figure 5-7. Each critical episode was described and recorded in accordance with the IPA approach (Smith et al., 2009). Each case study analysis enhanced the insight into the question: “How do owner-managers learn in small firms?” The iterative process of data analysis results in new insights which call for the continuous adaptation of key words and identified themes.

As justified at the beginning of this chapter, the phenomenological perspective was implemented for the data analysis as described in detail in section 5.7. The interviews and the research questions focus on the topic of how the learning priorities of owner-

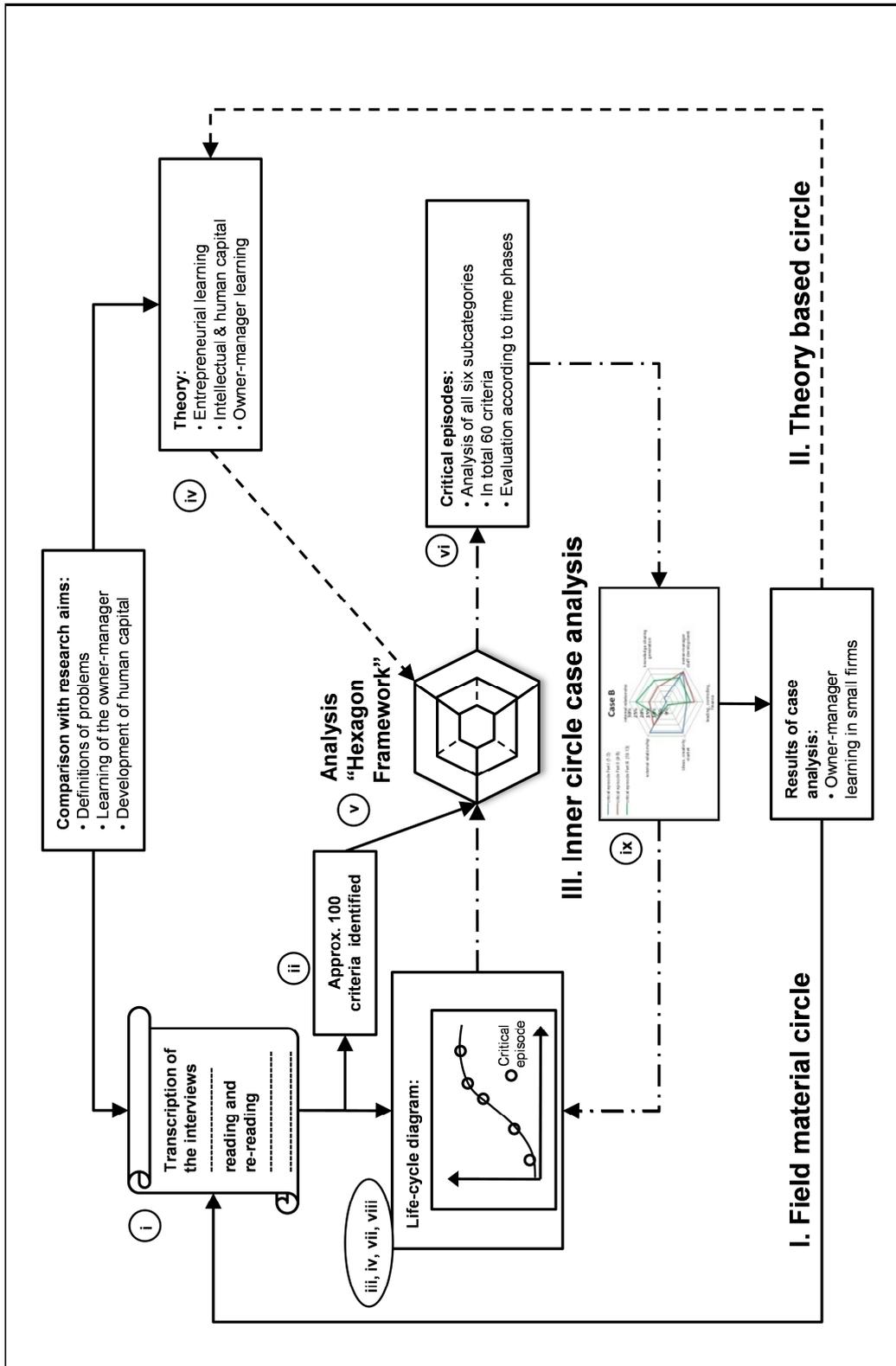
managers change during development of a small firm and how this owner-manager learning is embedded in the firm's development. The analysis of the interviews underlines the fact that the owner-managers neither describe how they learn nor express their feelings, but do provide meaningful insights into learning events associated with the firm's development and what they are doing to cope with challenges (Cope, 2003b). This is exactly what Smith et al. (2009, p. 9) define: "When people are engaged with 'an experience' of something major in their lives, they begin to reflect on the significance of what is happening and IPA research aims to engage with these reflections." From the researcher's point of view, it is interesting to look into the detail of how these critical events contribute to the learning of owner-managers. The criteria derived from the transcription of the interviews were coded according to the main three research aims of conceptualisation of problems, learning events of the owner-managers and the transfer of insights to the employees in order to increase the stock of HC in each firm during the growth phases.

The iterative and multi-phased analysis process of the case studies is displayed in the following Figure 5-7. The steps of the data analysis are numbered from i to ix in the case analysis framework and described afterwards.

#### **i. Transcriptions and field notes & reading and rereading**

The initial stage involved the transcription of the interviews and in-depth study of the empirical data by reading and rereading the transcripts to identify units for coding. The analysis was completed manually using Word and Excel tables. The practice of word tables prepares for content categories and the study of cross-case analysis (Yin, 2002).

Figure 5-7: Case analysis framework



Source: Author

## ii. Coding, attaching key words to segments & initial noting

Based on the iterative reading and transcription process, the data were coded according to the central categories of information about the phenomenon under study (Creswell, 2007). In the context of this research, the first round of interviews generated a high number of critical learning events between 20 and almost 40 categories per main research topic such as problems of growth, learning process and development of HC. In addition to these main research topics, two further questions were posed regarding the setting up of an additional location and the business forecast for the next six months. Together, all these topics generated 100 criteria. Table 5-5 presents an overview of the results from the first coding phase. It should be noted that the identified categories from the initial coding phase confirmed previous findings of other researchers in the field of entrepreneurial learning (Cope, 2005; Rae, 2006).

**Table 5-5:**  
**Number of categories in relation to owner-manager learning**

<b>Research topics during the interview</b>	<b>Identified categories</b>	<b>Total categories</b>
Problems of growth	30	<b>30</b>
Learning process	38	<b>68</b>
Development of HC	21	<b>89</b>
Subsidiary	5	<b>94</b>
Forecast for next 6 months	6	<b>100</b>

Source: Author

## iii. Locating relevant segments of text & developing emerged themes

The collected data are rich in critical learning episodes with complex and interrelated insights into owner-manager learning. The data describe the challenges, problems and the transition of the firms in a retrospective manner. Hence, it is inevitable that the collected data are influenced by a certain degree of bias as the perspective of the owner-manager has changed since the critical episode occurred and the time span when the interview was conducted. Although the same event is involved, the

experience and insights have developed since the event happened. Despite this fuzziness of retrospective data, the critical learning episodes recalled and described are the richest and most powerful sources of data for exploring the owner-manager learning embedded in the complex and inter-related development of the firm and the owner-manager. For the subsequent analysis of connections between themes, Smith et al. (2009, p. 96) recommend: "Type all themes in chronological order into a list. Eyeball the list and move themes around to form clusters of related themes." On the basis of the many critical learning episodes which were developed in detail from transcripts of the interviews, a life-cycle diagram (Appendix D) was drawn up for each case study firm to provide a more detailed overview of all these events in a chronological order. An example of the life-cycle diagram is shown in Figure 5-8 for the start-up firm A. The chronological order shows the frequency and patterns of the critical episodes and provides additional scope for interpretation of the data.

#### **iv. Data linking and connecting relevant data segments**

The development of the life-cycle diagram for each case study firm preceded an intensive phase of reflection on the events, accompanied by an in-depth analysis and a combined textualisation. The interview data for each case were chronologically transferred into a life-cycle diagram to visualise the identified ten to 21 milestones. Each critical episode is highlighted and numbered in the life-cycle diagrams. These are shown in Figure 5-8 and Appendix D. Additionally, some critical episodes of learning were directly addressed by the owner-managers during the interview. The critical episodes which emerged indirectly are numbered and displayed in a circle. Events which had recalled direct links to learning on the part of the owner-managers are numbered in a square and accompanied by the letter d.



#### **v. Memoing: writing reflective commentaries on same aspects**

During the drawing of the life-cycle diagrams for the case studies, two important findings emerged which initially had not been considered for the analysis. Firstly, the critical learning episodes are emotionally bounded, and secondly, the events are embedded within a social network and relationship between different stakeholders. The processes of reading and rereading the primary data accompanied by diagrams hold the key to sorting the categories, and “we begin to discover how the categories come together around a core category” (Strauss and Corbin, 1998, p. 238).

Based on these ideas of clustering the categories, an analysis framework in the form of a hexagon has been developed. This hexagon framework is based on the emerged themes complemented by the main six categories deduced from the critical learning episodes, which are described in the following tables and are shown in Figure 5-10. The outer layer of the hexagon framework consists of three main categories which are: I. Relationship and network; II. Human capital; and III. Business and management. Furthermore, the six subcategories of the inner layer are: 1. External relationship and network; 2. Internal relationship and network; 3. Knowledge sharing and generation; 4. Owner-manager/staff development; 5. Leadership, financial management and structures; and 6. Ideas, creativity and market. All these main and subcategories and the coding system that emerged were linked with the literature review.

#### **I. Relationship and network**

This category encompasses the subcategories: internal relationship and network; employees and top management team; external relationships and network with customers, suppliers and competitors. The relationship and network with employees is predominantly friendly and built on trust. In comparison, external relationships and networks can be friendly, but relationships with external parties such as suppliers or competitors are frequently mere partnerships of convenience. The identified networks and relationships are summarised in Table 5-6:

**Table 5-6:**  
**Categories of relationship and network**

<b>1. External relationship and network</b>	<b>2. Internal relationship and network</b>
<ul style="list-style-type: none"> <li>1. Past employers</li> <li>2. Developing a network with small firms</li> <li>3. Developing a network with large firms, customers</li> <li>4. Exchange with peers (colleagues)</li> <li>5. Exchange with customers, suppliers, competitors, researcher, research centres, training organisations, etc.</li> <li>6. Exchange with consultant, tax adviser</li> <li>7. "Key customer / key supplier"</li> <li>8. Visits and stand at exhibitions</li> <li>9. Discussions with bankers</li> <li>10. Business partners and community of practice (CoP)</li> <li>11. Development of a network of competitors</li> </ul>	<ul style="list-style-type: none"> <li>12. Joining a network</li> <li>13. Discussions with brothers</li> <li>14. Team formation, team approval</li> <li>15. Internal networks and community of practice</li> <li>16. Family of owner-managers</li> <li>17. Cooperation with employees</li> <li>18. Introduction of a new business philosophy</li> <li>19. Unwillingness to relinquish control of the firm</li> </ul>

Source: Author

## II. Human Capital

The category of HC consists of the two subcategories of structured knowledge sharing with employees, and the HRD of the owner-manager and staff summarised in Table 5-7. Moreover, it contains the selection and hiring of employees for the optimal supplementation of existing know-how to cope with new challenges.

**Table 5-7:**  
**Categories of human capital**

<b>3. Knowledge-sharing and generation</b>	<b>4. Owner-manager/staff development</b>
<ul style="list-style-type: none"> <li>20. Discussions with brothers</li> <li>21. Discussions with past employers</li> <li>22. Selection and hiring of employees</li> <li>23. Attempts at acquiring know-how</li> <li>24. External training of the employees (non-formal and formal learning)</li> <li>25. Exchange of meanings and internal knowledge</li> <li>26. Internal knowledge transfer (to other products, processes or markets)</li> <li>27. Development of own machines /chemistry</li> <li>28. Apprenticeship</li> <li>29. Services of consultant, tax adviser</li> <li>30. Own training courses</li> </ul>	<ul style="list-style-type: none"> <li>31. Project leader</li> <li>32. New tasks, functions, e.g. marketing, financial management, staff issues</li> <li>33. CEO, leader</li> <li>34. R&amp;D functions</li> <li>35. Developing a network of small firms</li> <li>36. Reading and reflecting on new business concepts, models</li> <li>37. Services of consultant</li> <li>38. Reflection on the new situation</li> </ul>

Source: Author

### III. Business and management

The category of business and management can be divided into two subcategories. The subcategory of business relates to the development of new product ideas and market changes. It fosters the creativity and engagement of everyone in the firm. This subcategory also covers tasks outside the daily business routine like observation of the market and competitors, and a trial-and-error approach to the further development of products and services. The feeling of growth is promoted in this creative area, making a sense of “flow” palpable for owner-manager and employees. In comparison, the subcategory of management deals with issues such as growth, leadership of employees and teams, financial management, process and project optimisations and continuous improvement of the organisation structure. The overview of the subcategories is shown in Table 5-8.

**Table 5-8:  
Categories of business and management**

<b>5. Leadership, financial management and structures</b>	<b>6. Ideas, creativity and market</b>
39. Development of routines 40. Delegation of tasks 41. Project controlling 42. Firm structure development 43. Strategy issues 44. Investment of private money 45. Credit conditions 46. Cash flow & turnover issues 47. In the end too small a market 48. Financial management 49. Leading, staff issues	50. Identifying gaps 51. Knowledge of the market 52. Introduction of new products 53. Prototype market 54. Too early on the market 55. First on market for the product, service 56. Creativity of the market to leapfrog the obstacles 57. Greater independence from supplier 58. Product portfolio 59. Positioning in the market 60. Introduction of new business model

Source: Author

#### vi. Content analysis: counting frequencies

At the same time; a table has been created for each case study firm over the whole life-cycle diagram. Each critical episode is highlighted and its trigger, the learning contribution and context as well as the key player(s) in the social network involved in this particular episode are evaluated against the 60 main categories relating to all subcategories. All six cases have been analysed according to these categories. Finally, the events and findings of each case are analysed according to familiarities, repetitions, evolution of the course of time and contradictions.

## **vii. Data display in a condensed organised format**

The life-cycle diagrams in Appendix D demonstrate the time on the x-axis, which has the same scale for all diagrams. This provides an additional comparison of the dynamic and applied growth strategy between the cases, and reflects the chronological order (Smith et al., 2009). The y-axis is related to the growth and development of the firm. This interim stage of the data analysis offered a valuable experience for the analysis of the large amount of data. By contrast, the uniqueness of the critical episodes and the interrelationships between critical episodes took on a meaning and the distribution, frequency and patterns of the critical episodes shown on the life-cycle diagram provided even more scope for interpretation of the data.

## **viii. Conclusion:**

The critical episodes are chronologically arranged in the life-cycle diagram. It is then possible to cluster a few critical episodes into time phases. Each time phase, for example the start-up or succession phase, has its own distribution. This arrangement enables the learning focus for the owner-managers for each period to be analysed and the shift in focus from one period to the next to be identified. This in turn helps the researcher to interpret the presented data in a systematic way. Preparing the data in this way facilitates cross-case analysis to determine similarities and patterns as well as the conceptual and coherent explanations of findings necessary for theory building (Eisenhardt, 1989; Yin, 2002; Smith et al., 2009). "Overall, the idea behind these cross-case searching tactics is to force investigators to go beyond initial impressions, especially through the use of structured and diverse lenses on the data" (Eisenhardt, 1989, p. 541). Yin (2002) specifies five different techniques for analysing case studies. Two of these techniques, specifically the cross-case analysis and the pattern matching, are applied to compare the coded data of the six case studies with more than 150 pages of interview transcriptions.

The cross-case analysis is initially based on the single intra-case analysis. Each single case analysis includes a number of different types of sub-analyses according to the categories in the developed hexagon framework. The results of the intra-case analysis are compared in a second step with the other cases of the same group in order to identify possible similarities and differences. The analysis is done for each

subgroup in order to identify similarities or differences in terms of the owner-manager learning. Finally, the results of the two subgroups are compared. The cross-case analysis is divided into several interrelated steps shown in Figure 5-9.

**Figure 5-9: Concept of cross-case analysis**

<b>Level 3</b>	<b>Small firms</b>					
<b>Level 2</b>	<b>Start-up firms</b> Similarities and differences of the start-up firms			<b>Family firms</b> Similarities and differences of the family firms		
<b>Level 1</b>	<b>Case A</b>	<b>Case B</b>	<b>Case C</b>	<b>Case D</b>	<b>Case E</b>	<b>Case F</b>

Source: Author

The basis for the comparison is the developed framework for the analysis in the form of a hexagon in Figure 5-10 below with its six categories. As an overview, the trends are analysed according to the deduced critical learning episodes per time period within the life-cycle diagram. Three to six critical learning episodes are clustered along the life-cycle diagram for each case study firm into four phases of the analysed time frame. The first phase is called the pre-phase, which includes the prior knowledge or the learning and acclimatisation phase of a start-up or in the family firm. The second phase is the time frame during the start-up or the succession process. The third phase is the growth phase, which is followed by the mature phase. Furthermore, the individual critical learning episodes of the owner-managers are investigated in order to identify similarities and differences. The focus on these critical learning episodes over the life-cycle of the firms enables the shifts between the identified categories during the start-up or succession and the developing phases of the firms to be made visible. In addition to the interview transcriptions, which are the most important source of case study information, further sources such as field notes, websites, articles, firm and product brochures were used according to the six sources of evidence in case studies (Yin, 2002).

## **ix. Graphic mapping of the findings of owner-manager learning**

Due to the complexity of the data, an additional step is introduced to increase the transparency and in particular the visualisation of the results of the qualitative analysis in a methodical way (Miles and Huberman, 1994). Based on the developed life-cycle diagram per case, an interim stage was introduced to increase the visualisation of the process of owner-manager learning. This interim stage identifies up to 11 criteria for each of the six main categories of the hexagon framework. The criteria are described in Tables 5-6, 5-7 and 5-8 in combination with the description of the hexagon framework in Figure 5-10. Each critical learning episode is embedded in the context of social interactions and are viewed as a major learning opportunity (Gibb, 1997; Down, 1999). The interpretation of the context of the event made it possible to determine the number of subcategories encompassed by each learning event. The calculation of the value of each critical episode generated a ranking list over the life-cycle from the researcher's point of view. This data preparation allows two main statements. Firstly, each critical episode is assigned a value in respect of the interrelated social network activities in which owner-manager learning takes place across all six categories of the hexagon framework. The results can be compared against each of the other critical learning episodes. A higher number denotes a more complex critical event in terms of owner-manager learning. Secondly, each of the six main categories is assigned a value over all critical learning episodes. This calculation enables the most important category over all critical episodes per time period and case study firm to be identified. Moreover, the change in the contribution of these six categories visualises the trend in the owner-manager's main learning areas in relation to the firm's development. The contribution across the six identified categories varies per critical episode. The accumulation of critical events over the life-cycle leads to a change in the distribution between the six categories. This process of change in the distribution reflects the complex shift in the learning areas.

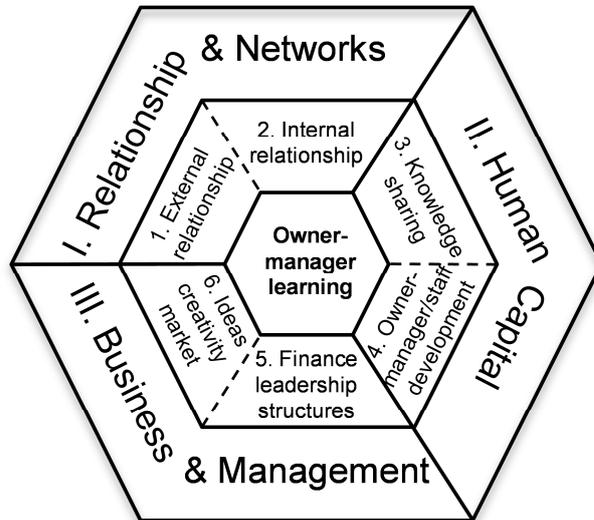
In the following, the interrelated development process of the hexagon framework is described. Although the hexagon framework has been used in the process of data analysis in Figure 5-7, it is worthwhile explaining this development in a separate subsection.

### **5.7.5 Hexagon framework of the individual case analysis**

The framework in Figure 5-10 symbolised in the form of a hexagon contains the unit of analysis, the learning of the owner-manager within the developing firm, in the centre. All six categories of variables arranged around the unit of analysis depict an element of the parallel learning of the owner-manager during the development of the products, services and, ultimately, the growth of the firm. This means the owner-manager learning is encapsulated by the hexagon framework with its six main categories. These categories are derived from the initial intra-case analysis in which 100 variables were identified. The six categories represent the essence which was obtained from analysing the content of the transcribed interviews. The analysis was focused on the critical learning episodes experienced by each of the owner-managers. In order to achieve the research aims, an analytical framework was developed. This can be used to provide a comprehensive overview of the owner-managers' learning processes. It is also useful to relate them to existing frameworks and concepts, in particular the frameworks of Rae (2006), Cope (2005) and Politis (2008) from the entrepreneurial learning perspective, as well as the concepts of Swart (2006) and Stewart (1997) from the HC and IC perspective. Additionally, the framework takes into account the developed ontological layers relating to entrepreneurship by Fuller and Moran (2001). The complex environment of learning for an owner-manager is expressed by the six categories themselves and furthermore by the two polarities of the categories on the opposite side in Figure 5-10.

For example, the category of knowledge sharing is directly linked to the category of the development of ideas, creativity. The categories of financial management, leading and the establishment of structures are influenced by the internal collaboration with the employees. Each of these six categories has an influence on the other and simultaneously triggers the learning of the owner-manager as well as the representatives of the individual categories. Additionally, the hexagon framework is built on three layers according to the model of Bronfenbrenner (1979). Whereas the inner layer represents the micro level, the two other layers are related to the meso and macro level. The distinction between the meso and macro level is fuzzy as both levels inherit an overlap of the boundaries to the other level. The outer layer represents the main categories which have been deduced during the drawing of the life-cycle of the case studies and the literature review.

**Figure 5-10: Hexagon as framework of analysis**



Source: Author

### **Outer layer of categories**

The outer layer of the hexagon framework consists of three main categories regarding the learning fields of the owner-managers. In the following, each of these categories is highlighted with the appertaining six subcategories in the inner layer. The six categories represent the essence which was obtained from analysing the content of the transcribed interviews.

Furthermore, the categories were cross-checked with existing categories and models within the field of entrepreneurial and workplace learning as well as the subject of HC. Each subcategory was developed with respect to the whole analysis system. The hexagon framework consists additionally of six subcategories (inner layer). All subcategories of the inner layer are further divided into ten criteria on average. These criteria are explained in the next section.

### **Inner layer of subcategories**

The inner layer has two main functions. Firstly, it refines the analysis, and secondly, it provides the analytical basis for the visualisation of the results. All six subcategories with their criteria are described in the previously presented Tables 5-6, 5-7 and 5-8. All identified critical learning episodes are not just compared with the six main categories, but also analysed in depth along with all subcategories. The comprehensive analysis of all identified critical learning episodes provides the basis for the visualisation. This methodical approach to presenting the results of the investigation is an added value (Miles and Huberman, 1994).

### **5.7.6 Robustness of the findings**

The success of any research is directly dependent on the quality of qualitative research. In spite of the efforts to achieve a high quality in qualitative research, it is difficult to apply standardised strategies to examine the validity in qualitative research (Creswell, 2003; Smith et al., 2009). Consequently, data triangulation and investigator triangulation were applied to strengthen the quality and increase the robustness of the research findings.

With regard to the case study reports, it is important to focus on reliability and replication logic (Eisenhardt, 1989). A case study protocol is an effective way of increasing the reliability of a case study and is indispensable if a multiple-case study is applied (Yin, 2002). The internal validity is the extent to which a causal relationship can be established. Yin (2002) suggests using multiple sources of evidence during the data collection process to increase the construct validity and strengthening the internal validity by applying a pattern-matching approach during the process of data analysis. The strategies for examining the validity of qualitative research results are limited, but they can be enhanced by applying the analysis technique of pattern matching (Eisenhardt, 1989; Creswell, 2003; Eisenhardt and Graebner, 2007).

One approach to increasing respondent validity is to contact the participants a second time to verify the findings (Bryman and Bell, 2007; Creswell, 2007; Silverman, 2011). For this reason, the correctness and completeness of the life-cycle diagram for each case study firm was discussed with the owner-manager at the beginning of the second interview phase. The most important learning effects identified were

discussed in-depth with the owner-managers and then marked on the life-cycle diagram. The matching process of the most critical events selected by the owner-manager and the calculated ranking list provide further scope for critical reflection on the findings. This process was helpful in enabling the owner-managers to recall their own development as well as the development of the firm during recent months.

External validity deals with the problem of knowing whether the findings can be generalised beyond the immediate case study (Yin, 2002). The use of replication logic in multiple-case studies strengthens the external validity. Furthermore, the findings are more robust and testable than those of single-case research (Eisenhardt and Graebner, 2007).

For the purpose of triangulating the findings, these were analysed by another researcher, who used the NVivo 8 software. The research assistant at the University of Liechtenstein's Institute of Entrepreneurship used the interview transcripts of all six owner-managers. The transcriptions did not contain any comments or remarks about the categories or initial findings. Additionally, the research questions and research aim were explained to the research assistant so that he could familiarise himself with the research theme. The themes and subthemes identified by means of the NVivo 8 analysis completed by the research assistant at the University of Liechtenstein largely confirm the categories which were deduced from a manual analysis of the gathered field data.

Furthermore, the data collection and analysis integrate several systematic approaches to analysis and compare these six case study firms and the learning approaches of the owner-managers for "producing high-qualitative data that are credible, trustworthy, authentic, balanced about the phenomenon under study, and fair to the people studied" (Patton, 2002, p. 247). For example, the owner-managers were invited to complete a one-page questionnaire about learning styles at the end of the interview. This questionnaire is a complementary tool for the triangulations of the findings according to learning styles and is based on the theory of Kolb (1984).

Each of these applied approaches was carefully undertaken to increase the quality and the credibility of the findings (Bryman and Bell, 2007).

## 5.8 Summary

In relation to the phenomena under study and the research aim of exploring the learning content and priorities of small firm owner-managers it is essential to understand the context in which learning takes place and how the context of the firm and the social network influences the owner-manager's learning. To obtain a deeper insight into the complex interrelations between owner-manager learning in small firms and their operational and social environment, an interpretivist ontology coupled with a social constructionist epistemology is applied for this research.

The SME-specific literature about learning in SMEs shows a preference for a case study as a vehicle for enhancing understanding of the learning processes in SMEs. The research conducted by Deakins and Freel (1998), Hill et al. (2002), Zhang and Hamilton (2009), and Carr and Gannon-Leary (2007) exemplify a strong commitment to this qualitative research strategy. The author decided to work within this tradition while pursuing differentiated research aims.

The data collection process took the form of a longitudinal study which included a phase of pilot interviews followed by two series of semi-structured interviews with the owner-managers. The time frame between the interviews ranges from 18 and 24 months, which was deemed sufficient to capture aspects of organisational change and development (Jones et al., 2014), as well as additional owner-manager learning episodes. The data analysis employed a sequence of three developed frameworks. The schematic overview of the case analysis shown in Figure 5-7 includes two additional frameworks. On the basis of the many critical learning episodes which were analysed in detail from transcripts of the interviews, a life-cycle diagram for each case study firm was developed. Figure 5-8 shows an example of this for Case A. The additional frameworks are shown in Appendix D. The third framework is the hexagon model which is in the centre of Figure 5-7 and is described in detail in Figure 5-10 and the accompanying text.

In the following chapter, the findings concerning owner-manager learning in all six case study firms are discussed in detail and illustrated with quotations from the research data. The findings concerning the learning trajectory of each owner-manager are then portrayed graphically, using the hexagon framework shown in Figure 5-10.

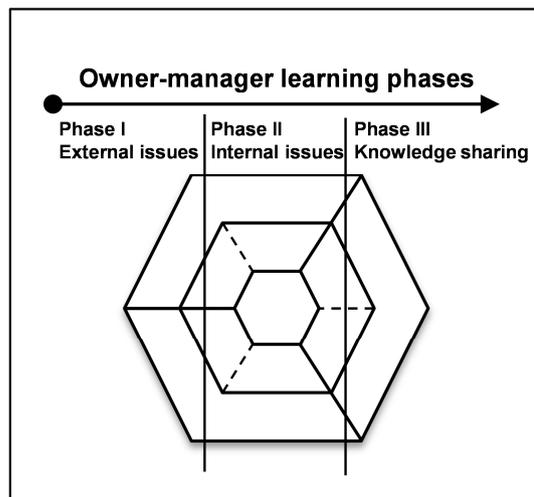
## CHAPTER 6:

### FINDINGS: OWNER-MANAGER LEARNING IN SMALL FIRMS

#### 6.1 Introduction

The hexagon framework developed for the analysis shows six dimensions of the owner-manager learning. The in-depth analysis of each critical episode along the compiled life-cycle diagrams of the case firms underlined the connection between the dimensions of the hexagon and the development of the firm related to critical phases of owner-manager learning. The key finding is the different learning trajectories of owner-managers who started a firm or who took over the firm as successors. This key finding of the investigation strengthens the continuous process of owner-manager learning, which can be divided into three phases. The continuous development of firms undergoes a complex interplay of exploration and exploitation (March, 1991; Gupta et al., 2006; Lavie et al., 2010). While taking this interplay and the dimension of the HC development of a firm during its growth stages into account, the simplified hexagon framework combines all three thematic phases from the left to the right side displayed in Figure 6-1.

**Figure 6-1: Three central owner-manager learning phases**



Source: Author

On the left side of the hexagon framework are the external categories encapsulated into the dimensions of external relationship and market orientation with its

subcategories of ideas and creativity, product portfolio. The middle part of the hexagon framework focuses on the internal and operational categories in a firm. These are the processes around the internal relationship with employees, the strategic and operational topics such as leading, financial management and internal structures. The external and internal dimensions are completed with the topics of knowledge sharing and generation as well as the owner-manager development on the right-hand of the hexagon framework.

These three thematic priorities of external issues, internal issues and knowledge sharing support the analysis of the critical learning events in order to identify the learning dimensions. With respect to the research questions, the identified problems and challenges of the owner-managers are described by investigating the three thematic priorities of external issues, internal issues and knowledge sharing. Each single critical learning event was analysed according to all six categories of the hexagon framework. Sections 6.3, "Owner-manager learning in start-up firms", and 6.4, "Owner-manager learning in family firms", devoted to highlight the statements and critical learning events of all six owner-managers in relation to the hexagon framework. Before the analysis of the start-up firms starts, the critical learning events that were revealed for each of the sample firms are briefly described.

## **6.2 Critical learning events related to the hexagon framework**

The critical events for owner-managers of small firms in Table 6-1 underpin that while these events are smaller than those depicted in Greiner's (1972) model, they nonetheless still pose a challenge for small firms (Churchill and Lewis, 1983). In contrast, the crises described in his model show the development over several years of a firm through to the mature phase. The identified crises in Greiner's (1972) model are useful in identifying key challenges, whereas the time span during these crises is not defined and depends on the growth rate, the characteristics and the growth aspiration of the owner-managers and the industry.

The conducted research has investigated the development of owner-managers and their firms over the initial five to 15 years in business. The focus has been on the critical events that emerged with a particular focus on the contextual learning for owner-managers during the development of the firms. The most important critical episodes and related owner-manager learning are discussed in the following paragraphs.

**Table 6-1:  
Identified critical learning events related to the six key categories**

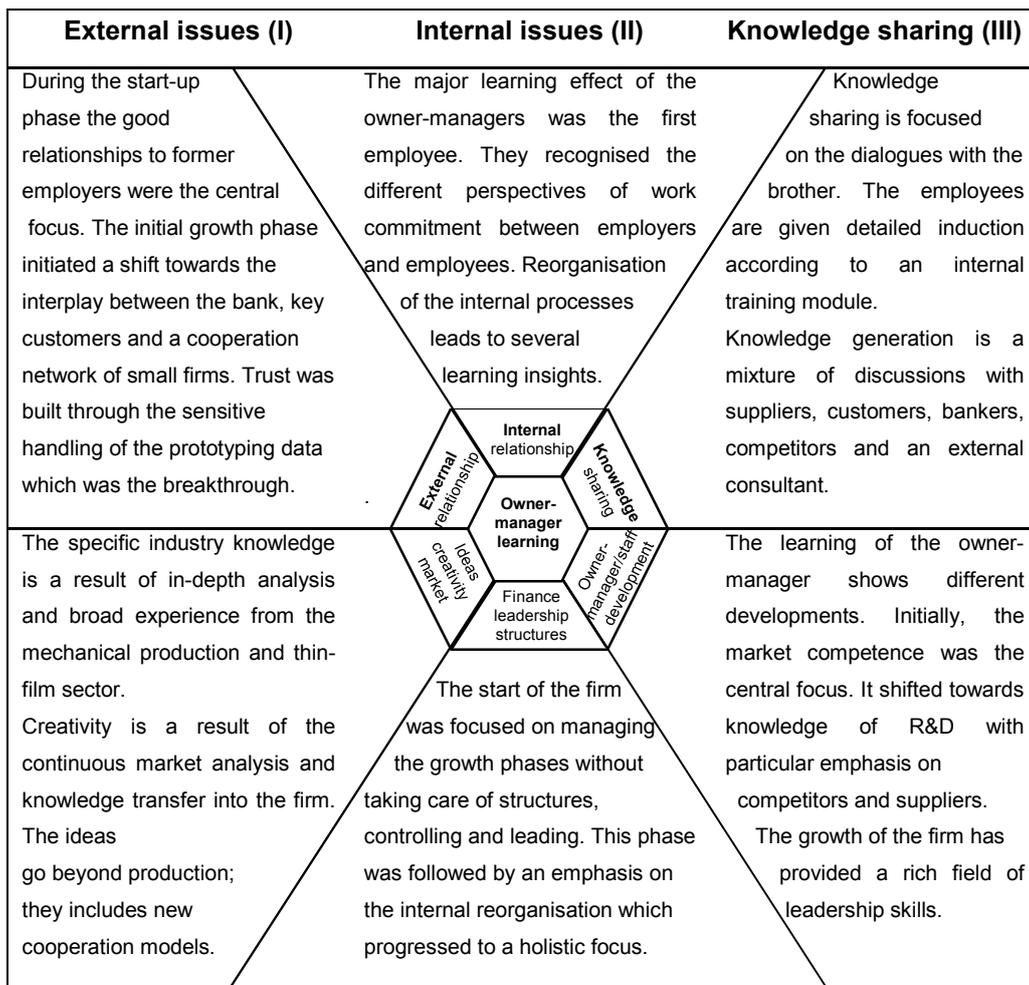
External issues (phase I)		Internal issues (phase II)		Knowledge sharing (phase III)	
External relationship	Ideas, creativity, market	Internal relationship	Finance leadership structures	Knowledge sharing & generation	Owner-manager staff development
Past employers	Identifying gaps	Joining a network	Development of routines	Discussions with brothers	Project leader
Developing a network with small firms	Knowledge of the market	Discussions with brother	Delegation of tasks daily business work load	Discussions with past employers	New tasks, functions, e.g. marketing, financial management, staff issues
Developing a network with large firms, customers	Introduction of new products	Team formation, team release	Project controlling	Selection and hiring of employees	CEO, leader
Exchange with peers (colleagues)	Too early on the market	Internal networks and CoP	Firm structure development	Attempts at acquiring know-how	R&D functions
Exchange with customers, suppliers, competitors, researcher, research centres, training organisations, etc.	First on market for the product, service	Family of owner-managers	Strategy issues, long term planning	External training of the employees (non-formal and formal learning)	Developing a network of small firms
Exchange with consultant	Creativity of the market to leapfrog the obstacles	Cooperation with employees	Investment of private money	Exchange of views and internal knowledge	Reading and reflecting on new business concepts, models
Key customer	Acquiring greater independence from supplier	Introduction of a new business philosophy	Credit conditions debt capital	Internal knowledge transfer (knowledge transformation to other products, processes or markets)	Services of consultant
Visits and stand at exhibitions	Product portfolio	Founder's inability to relinquish control of the firm	Cash flow & turnover issues	Development of own machines /chemistry	Reflection on new situations
Discussions with bankers	Positioning in the market	Network & behaviour	In the end too small a market	Apprenticeship	
Business partners (CoP)	Introduction of new business model		Financial management	Services of consultant	
Development of a network of competitors	Network & behaviour		Leading, staff issues	Own training courses	

Source: Author

### 6.3 Owner-manager learning in start-up firms A, B and C

The developed hexagon framework in Figure 5-10 shows six learning dimensions of the owner-managers. In this section, the learning phases of the owner-managers are analysed according to the three phases of external issues (I), internal issues (II) and knowledge sharing (III) in Figure 6-1. Initially, the owner-manager learning in all start-up firms is analysed and compared. The comparison is completed by the complementary learning events during the economic crisis in the years 2008 to 2010. Afterwards, the owner-managers' learning in the succession firms is analysed in the same structure. Figure 6-2 shows the key findings of Firm A in relation to the defined categories in the developed hexagon framework. The additional figures for the other companies are provided in Appendix E.

**Figure 6-2: Insights from the key findings of Firm A**



Source: Author

### 6.3.1 External orientation of start-ups

Mike, the owner-manager of Firm A, emphasised the importance of market knowledge and in particular his experience in different professions and firms. This combination provided Mike and his brother with a unique chance to combine their creativity with market and business knowledge to develop new products. Mike summed up the situation as follows: *“We had been looking for cutting-edge technologies and on several occasions had to face the painful reality that we had gone onto the market with this technology too soon for our customers in small firms in the Rhine Valley.”*<sup>23</sup> The series of new products benefited from the experience of previous developments and from reflection on the fact of being too soon on the market. It is interesting to note that all new product developments were in the technology sector but with a strong external orientation as the target customers changed after each step of product development.

After establishing the start-up, Mike and his brother maintained a close relationship with their previous employers where they were able to test the developed new products. Their external network was increased by regular customer visits and exhibitions (Bontis, 1998). In the early life of the business, they suffered from liquidity problems and a lack of capital. Mike recalled: *“We had the know-how, but not the money. We drew up a business plan and had discussions with the banks which ended in the rejection of any credit due to the lack of turnover.”* When Mike and his brother succeeded in developing a new stereo-lithography machine, the route to loan capital was finally opened. Another distinct approach adopted by Mike is the collaboration with competitors in the field of model building and prototyping. Today, the majority of these former competitors outsource their prototyping process to his firm.

James, the owner-manager of Firm B, also emphasised the criticality of the market. His learning during the pre-start-up phase is a key element in his firm’s development. From his analysis and benchmarking in the plastics industry, he developed a different positioning strategy for his firm. James explained: *“The competitors are traditionally focused on their production processes and do not have any interest in strategy and*

---

<sup>23</sup> Translations of the German language interview citations are written in *italic*.

*business administration.*” His new, market-orientated approach helped to develop a holistic production service and that opened the way to key customers who appreciated this kind of full service. James added: “*I spend approximately 20% of my working time with customers and suppliers.*” For a small firm in the manufacturing sector, this figure is quite high. He underlines his willingness to break through traditional boundaries to achieve ambitious goals.

Alice (Firm C), whose business was created by a merger between three firms, makes a similar point: “*We analysed the critical feedback from our customers and combined their requirements with our knowledge and market strengths.*” This external feedback was used to develop a strategy at start-up, when the management team integrated their knowledge and customer bases, developed a business strategy and marketing concept and set a target to become market leader in Vorarlberg (a state in western Austria). Alice and her colleagues were quickly faced with different internal challenges in comparison with the previous single firms. The positioning of their services in the high-quality sector underlines the close relationship to key market players in the region.

Although the three start-up firms had different origins – a single founder, joint founders and three owner-managers who merged their individual firms into a single business – they had one thing in common: the target of a unique market position. All of the owner-managers had a strong external orientation during the start-up period, with intensive focus on relationships with former employers, customers, suppliers and competitor benchmarking. It is also noticeable that their market knowledge was good and had been developed during an intensive pre-start-up phase. There was also creativity to transform ideas into products and services. Owner-manager learning was closely related with interaction with the external business environment, and the stock of knowledge was constantly expanded and utilised to develop further business ideas with the customers.

### **6.3.2 External orientation of start-ups during the economic crisis**

The attitude of all owner-managers to the economic crisis was composed. The crisis caused all three owner-managers of the start-up firms to intensify their focus on customer requirements. The interesting feature is that each owner-manager applied his/her own strategy to fulfil this requirement.

The owner-managers of the firm in Case A intensified their research and development activities in two fields, which is an impressive action for a small firm during a period of economic crisis. The creativity of both owner-managers was encouraged during the economic crisis and their mutual trust and appreciation seems to be immense. All these arguments underline the owner-manager learning in the fields of strategic planning, internationalisation, negotiation skills and presentation of the latest products to achieve a leading position of the firm in the niche of stereolithography. The development of their own machines and customised materials is unique and offered the firm a rich field for further research activities during the economic crisis.

The innovative behaviour of the firm of Case A attracted the interest of research centres and universities from beyond the region of the Rhine Valley. The interest shown and the possibilities for networking were greatly appreciated by the owner-managers but time constraints meant that they were not always able to take advantage of such offers. Furthermore, the cooperation with suppliers changed during the economic crisis in terms of orders for raw materials and machine parts for production. The innovative Case A firm took the opportunity to develop their own resources in these areas to reduce the dependency on suppliers.

The example of Case B shows that commitment to achieving extraordinary goals is an excellent driver for good performance even in bad economic times. That period led to a process of in-depth analysis. The owner-manager is proud of his firm, the employees and the positioning in the market which is now stronger than before the economic crisis. The reshaped strategy to focus on the firm's core competencies was conducive to the success of this firm.

The firm's adapted strategy in Case B focuses on two main topics for the external relationship. Firstly, the customer relationship and an awareness of the customer's point of view were made the central focus during the economic crisis. The owner-manager is convinced that the well-established internal working climate and high commitment are appreciated by the customers and suppliers. Secondly, the owner-manager is continuously observing firms which are market leaders to make comparisons and adopt some ideas in his own firm.

The owner-managers of the firm in Case C took advantage of the changing market environment during the economic crisis to optimally address customer requirements. The top management team (TMT) apply their full range of knowledge to deliver a premium service, while new ideas are developed by observation and analysing the needs of customers. The premium service level combined with an excellent reputation as a reliable partner strengthened the relationship and networks with customers.

The second pillar of cooperation for this firm in Case C builds on the relationship with subcontractors, which is totally different to the firms in Case A and B. This relationship with subcontractors is twofold: firstly, it is an excellent platform for knowledge sharing, and secondly, it helps the firm to cope with order peaks and maintain delivery deadlines particularly in a rapidly changing situation.

### **6.3.3 Internal orientation of start-ups**

During the development of their firms, the owner-managers' internal orientation became more important. The shift in their orientation was a result of growth, the increased number of employees and the complexity of internal operations that followed. In each case, a critical episode and a significant learning process for all owner-managers was their experience of taking on the first employee.

Mike (Firm A) emphasised the close relationship with his brother and their shared reflections on critical episodes. Although both owner-managers did not give much thought to the organisation structure during start-up, they knew they would like to build a family culture, one quite different from their experience as employees in large firms, and therefore encouraged employees to contribute their own ideas. They quickly became disappointed with the first employees as they could not cope with their 'entrepreneurial blood'. Mike says: "*Unfortunately, we recognised too late that we had 'overheated' them.*" This recognition of the different perspectives of work commitment between employers and employees was essential for the development of the firm and the relationship with employees. Finally, Mike came to realise that the employees do not achieve his 100% of workload and that to them 85% was sufficient. "*However, the other 15% drove me crazy at the beginning,*" says Mike. With rapid growth came the recognition that management by close relationships and personal instructions was no longer going to work. At the same time, the brothers called in a

consultant. Mike stresses: *“He did not show anything new, but he was a good observer of whether my brother and I did our homework. He challenged me to think in a larger dimension not only with respect to turnover, but also in terms of the organisation structure. In the end, this process opened up my mind.”*

James, the owner-manager of Firm B, recounted an extreme change in focus caused by employment issues, having been shocked when both employees quit their jobs almost at the same time. This was the result of several circumstances such as inexperience in leadership, trust issues and time constraints. James summarises his most important learning: *“I have learned to listen carefully and to address myself to a problem much earlier. The growth process shapes the profile of the owner-manager as well as the profile of the employees.”* James reported that financial pressures remained at a high level and were certainly a major focus. At the same time, different topics like strategy, leadership or financial management also became demanding. James reflected: *“It turned out that staff and leadership-related issues are the most demanding learning tasks.”* Nevertheless, the owner-manager emphasises that the growth of the firm was an incentive for taking the step of building an organisation structure.

Alice (Firm C) recalled that the initial recruitment of an assistant for management was not successful, although Alice had been convinced of this applicant being the best person for the task. The employee proved unable to cope with the freedom and responsibility to perform the tasks. Alice explained: *“We were used to operating in such an open structure and failed to realise that a person might not feel comfortable in a small team.”* The time constraints caused by the high growth rate generated an open firm culture where the employees were central, rather than the maximising of profit. The combination of high growth, new employees, continuous changes in management tasks and finally a less strict control of costs triggered a change process to a more profit-orientated firm culture. Alice stresses that as an owner-manager of a small firm you know the history of each person within the firm and a lot about their private lives, and underlines: *“The change process completely changed my role and reputation within the firm. It turned me from the kind to the tough CEO. This different perception is a tough learning process, too.”*

For each of the owner-managers, these internal management challenges were new and triggered intensive learning through workplace experience. The market- and

product-based learning during the start-up phase was replaced by learning about staffing and organisational issues. All three owner-managers tried to develop a very open culture as a result of their previous experience as employees and shared a common critical episode in their negative experience with their first employee.

Beyond these similarities, there were also key differences in experience between the owner-managers because of the different founding structures of their firms. The team start-up firms had closer internal relationships from the outset, whereas the single start-up (James in Firm B) first had to build his relationships with the initial employees.

Over time, there were differences in the priorities of the challenges that each owner-manager faced. Whereas internal relationship issues tended to increase continuously and with firm size, the challenges posed by leadership and financial management were most acute during the early growth period and reduced during later periods. In particular, the high-growth phases of the firms' development required several organisational changes due to the increasing complexity of products, customer base and internal processes.

#### **6.3.4 Internal orientation of start-ups during the economic crisis**

The internal orientation of owner-manager in start-ups during the economic crisis is related to overlapping change processes. A view shared by all three owner-managers is that their firm had improved its position during the economic crisis although some painful measures had to be taken.

The owner-manager in Case A started up a new plant during the economic crisis. This important and future-oriented development of the firm with the addition of ten new machines significantly increased the level of automation. Work processes and the skills required of the employees changed as a result. One consequence was that the firm hired technical specialists and engineers instead of sales persons. The high-tech machines called for a high level of technical knowledge and the need for technical experts. Despite the economic crisis, the brother who designs and develops the complex machines employed an assistant to relieve some of the pressure. The owner-managers appreciated these complementary skills which helped to push the firm to its growth limits despite the resulting challenges. The owner-manager underlines: *"The early concentration on our core competencies provided us space for*

*our own development which successfully continued during the economic crisis.*” The trust in their own competencies led them to expand the automation of the smaller stereolithography machines. This increased automation enabled them to introduce shift work in production and to remain competitive in a tough economic climate. At the same time, the concentration of engineering know-how drove development of the technology and enabled the use of existing machines for new products. In spite of the economic crisis, the firm was able to enter new markets with these new products. The consequences of adopting new technologies were nonetheless painful. The firm had its breakthrough with vacuum casting. However, the owner-managers decided to reduce the labour-intensive segment of vacuum casting to strengthen and focus on forward-looking new technologies.

The owner-manager of the firm in Case B employed an open communication style to inform the workforce about the drastically changed and difficult order situation during the economic crisis. This strengthened loyalty and the trust between the employees and the owner-manager. The owner-manager states: *“The employees will always be important as long I have a firm. During the year of the economic crisis, our turnover dropped but my work with my employees has grown.”* Both the employees and the owner-manager are proud of their working climate. The owner-manager fosters the working climate as he spends so many hours in the production area. During the economic crisis, the owner-manager organised internal training for the workforce to build knowledge and HC in order to be prepared for the growth phase after the economic crisis. At the time, the owner-manager made soft factors the priority for his firm. The goal of the owner-manager was to retain the employees and the firm as he had invested in their skills.

Just before the economic crisis, the owner-manager introduced a new organisation structure which was built on the top management team (TMT). This TMT was the basis for the implementation of the new strategy for further growth and a well-considered process of delegation. The owner-manager concludes that each delegation step increases trust on the part of the employees but also decreases the level of information within the firm. This loss of information has to be addressed and in this case involved creating a networking process for the top management team.

The owner-manager of Case B understood the necessity to adapt strategy in view of the change in customer requirements brought on by the economic crisis. At the same time, he expanded his customer base beyond the regional to the international market in view of the growing demand for visible milling parts. Moreover, the specialisation distinguishes his firm from others in the market and makes it more complex for competitors to enter this market segment. The owner-manager invests a lot of time and money in continuous training for the employees. The specialisation focuses on quality rather than on quantity. Finally, the capacity of the expensive machinery is fully utilised to produce complex parts. The stimulation effect of this new strategy is twofold. Firstly, the customers are more satisfied because they get highly complex parts manufactured to the highest quality, and secondly, the employees are happy too, as they are encouraged, empowered and trained to operate the high-tech machines, which is an asset for them.

The third owner-manager of the firm in Case C focuses on the internal orientation of the firm. When the owner-manager reflects on the situation with hindsight, she says: *"We should have introduced a more structured organisation at the start and many critical points could have been avoided. However, that knowledge was not available to us at the time."*

Alice points out: *"That each member of the top management team (TMT) knows that they all make the best out of any situation in the interests of the firm. Everybody can trust one another 100% and that results in harmony within the TMT."* The leadership style during the rapid development phase was influenced by the constant need to strike a balance between entrepreneurial spirit and financial capacity. As the firm has had a rapid growth phase over the last years, the TMT adapted the strategy and decided on a change process instead of further growth in the year 2007. The change process was completed by the end of 2009 when the economic crisis was in full swing. The owner-manager states: *"Currently, we have started the next growth phase but have defined a moderate growth rate."* Experience shows that a change process ties up a lot of energy and the situation was made worse by the critical business environment during the economic crisis. In particular, in the case of the firm in Case C, the change process involved having to lay off long-standing employees. And another critical point in a change process is which of the remaining staff can identify

with the new strategy. The owner-manager summarises: *“A change process is an intensive emotional story. However, the most important thing is to ensure that the direction is clearly defined at the outset and that everybody knows what will be changed and how.”* The firm in Case C used the period of the economic crisis to reshape the business structure in preparation for the next developments after the crisis.

### **6.3.5 Knowledge sharing and owner-manager development in start-ups**

The dynamic and flow of owner-manager learning can best be observed in knowledge sharing and generation activities. The developed product and service portfolio of the two brothers in Firm A resulted from a high degree of conceptual reflection as well as continuous learning about complementary products. In particular, the development of the purpose-built machines, chemical materials and ERP software to cope with the growing organisational complexity underline the strong learning relationship between the brothers. Knowledge-sharing with employees is based on internal training using an own developed “ramp model” which contains product-, customer- and firm-specific knowledge and uses a comprehensive project management tool. Mike stresses: *“The process of knowledge sharing has shifted from general tasks at the beginning to more specific tasks. A useful exercise in knowledge sharing is the examination of positive and negative phases of projects which are discussed in the team.”* During the start-up phase, their own personal development was not perceived as learning by Mike and his brother until their own functions in the business fields had changed. Mike reveals: *“It is still not possible to be responsible for everything. As a technician I jumped into new fields such as marketing, market research and new product opportunities. The regular reflection with a consultant enabled me to think more openly.”*

James, the owner-manager of Firm B, realised that employing someone triggered a shift in responsibility. At the beginning, the pressure was high to ensure the survival of the firm and to build relationships with customers. Once the first employees were recruited, the pressure then shifted towards the responsibility for the employees. James recalls: *“The learning of the owner-manager remains intensive despite the shift between these stakeholders and the financial pressure remains at the same level.”* Knowledge sharing between owner-manager and the employees focuses on the transformation of implicit into explicit knowledge regarding company processes and

customer specifications. James emphasises this: *“Knowledge transfer is central to our performance. We can only differentiate ourselves from our competitors with this explicit firm knowledge.”* This knowledge-sharing process is ongoing. The owner-manager spends approximately 30 minutes per day on this knowledge transfer and complements this with a more informal exchange in a weekly meeting with all six employees. James reports on this excellent knowledge interplay: *“We are more than a team of six employees, as we are more than the sum of each member.”* Besides this internal knowledge sharing, James simultaneously sought some more formal knowledge development and started an MBA course to help him to overcome the critical growth phases and to learn more about the theoretical models of management. From his point of view, the MBA course was an interesting platform for analysing critical business situations. James argues: *“It is important to know that crises are normal in the business world. Having a tool to cope with them is even more important.”*

For Alice (Firm C), learning within a team of three previously independent owner-managers benefited enormously from the experience and networks of each individual. This large stock of knowledge generated an intensive growth rate of the firm, which called for new functions to be performed by the management team. Although they applied a high degree of flexibility and commitment to these new functions, the speed of growth challenged their capabilities. Alice reflected: *“Learning outside our core competencies was time-consuming and prevented the management team from driving forward strategy.”* The management team realised that they were used to close and integrated cooperation when solving strategic problems. However, the financial perspective in contrast generated additional cost savings with less intensive cooperation. These new insights initiated numerous learning loops such as reorganising the order system or optimising the sales structure.

### **6.3.6 Knowledge sharing during the economic crisis**

Knowledge sharing and knowledge generation during the economic crisis were mainly integrated into change processes or strategy adaptations, positioning issues of the firm and the increased investment in research and development programmes.

Knowledge creation for the firm in Case A is mainly based on the owner-manager engineering team. The owner-manager stresses the good cooperation with his brother and is enthusiastic about the latest and largest stereolithography machine in Europe, developed by his brother. This machine makes it possible to produce entire car cockpits, which opens up a new dimension in this technology field worldwide. The vision of becoming independent of material suppliers forced them to focus on their strengths in the fields of research and development.

The continuous development of new and larger machines and the complementary material to optimise the processes of stereolithography has resulted in high-end automation in the new plant. This development has changed the profile and core competencies required of employees. There has been a shift away from the preparation and use of material towards supervision of the high-tech machines. As a consequence, the firm hires more engineers and specialists rather than sales people. In the light of the capacity increase, the firm introduced a two-shift production system. Both factors underline the desire to build up HC. At the same time, the brother who designs and develops the complex machines employed an assistant to relieve some of the pressure and also to introduce a deputy into this research field.

In Case A, knowledge generation is rooted in the life experience of the brothers, the owner-managers. Their activities in their business field go beyond the current needs of the market. By applying this approach they are faced with countless learning opportunities and new insights. This creative spirit helps them to be at the forefront of applied research in the business field of stereolithography.

The owner-manager of the start-up firm in Case B perceives and recognises delegation as an important learning field. For this reason, the delegation process was introduced at an early stage and was managed in several steps. The free capacity during the economic crisis was used to develop a new positioning strategy for the firm and to train the employees for the task of producing highly complex mechanical parts in the high-end league. At the same time, new orders for standard parts decreased. The development and manufacture of highly complex visible milling parts is a masterly feat on the part of the employees and the owner-manager. This highly specialised know-how represents an intangible asset for the firm.

Although the firm is a micro firm in Case B, the owner-manager insisted on retaining all the employees during the economic crisis. Two points are highlighted: firstly, the recruitment and training were an investment in the employees, and secondly, the approach of retaining all the employees strengthened the firm's reputation in the region and among customers.

The owner-manager possesses a large stock of knowledge in this technology field as well as in related sectors. The owner-manager is keen on formal learning and applies the acquired knowledge in the firm. The owner-manager's message implies a paradigm change in thinking about owner-managers in small firms when the firm is growing: *"It is not the technical knowledge that is decisive when it comes to leading a firm."* As long as the team is small, technology-focused thinking is appropriate. A growing team calls for more leadership skills as well as skilled and empowered employees who are required to deal with all the technical tasks.

The economic crisis also encouraged a process of reflection and motivated the owner-manager to add another master's qualification to his MBA. The owner-manager knew that something was missing from his MBA course but he had not known what. The 'bottleneck-focused strategy' (EKS)<sup>24</sup> approach provided him with the strategic tools for understanding how a holistic system operates (Friedrich et al., 2009). The owner-manager sets an example of the life-long learning approach for the employees.

The owner-manager of firm Case C puts the emphasis on the change process, which is in contrast to the owner-managers in Case A with a research and development focus and Case B with a delegation and learning approach. The change process touched many areas, which fosters and hinders knowledge sharing. Many critical events and learning situations were triggered by the change process. Owner-manager development is strengthened by acting and by decision-making. This

---

<sup>24</sup> 'Bottleneck-focused strategy' (Engpasskonzentrierte Strategie (EKS)) emphasises that the key to success is based on the concentration of all limited resources (Venohr and Meyer, 2007).

approach encompasses some uncertainties regarding the results but, without a forward-orientated view, nothing will go ahead. There are two important remarks which the owner-manager of firm Case C highlights. Firstly, an important learning event is the different viewpoints of the owner-manager and employees regarding decision-making and leadership skills. A second interesting aspect relates to key employees. The owner-manager found that too much respect for key employees tends to encourage empire building and a reluctance to share knowledge, which hinders the career paths of others. While the departure of these uncooperative employees initially involves a loss of knowledge for the firm, their remaining colleagues are actually encouraged to close the gap and fill the positions. As a consequence the working atmosphere improves.

The newly established structures of Firm C support team cooperation and knowledge sharing. At the same time, the team has recognised the importance of free capacity for reflection. Therefore, they installed a financial department at an early stage and utilised the existing HC of the firm. For example, a new position in the financial department was internally recruited as the employee had built up the specific company and project knowledge. This signalled to all other employees an active approach to knowledge creation and sharing in this firm during the economic crisis.

### **6.3.7 Summary of owner-manager learning in the start-ups**

Learning and knowledge sharing in the start-up firms was generally driven by current problems and challenges, and was mainly based on informal learning at the workplace. This problem-driven learning was not perceived as such by the owner-managers, but tended to be seen as muddling through to cope with the limited resources. In terms of products, customers, markets and employee relationships, a team start-up seemed to be an advantage.

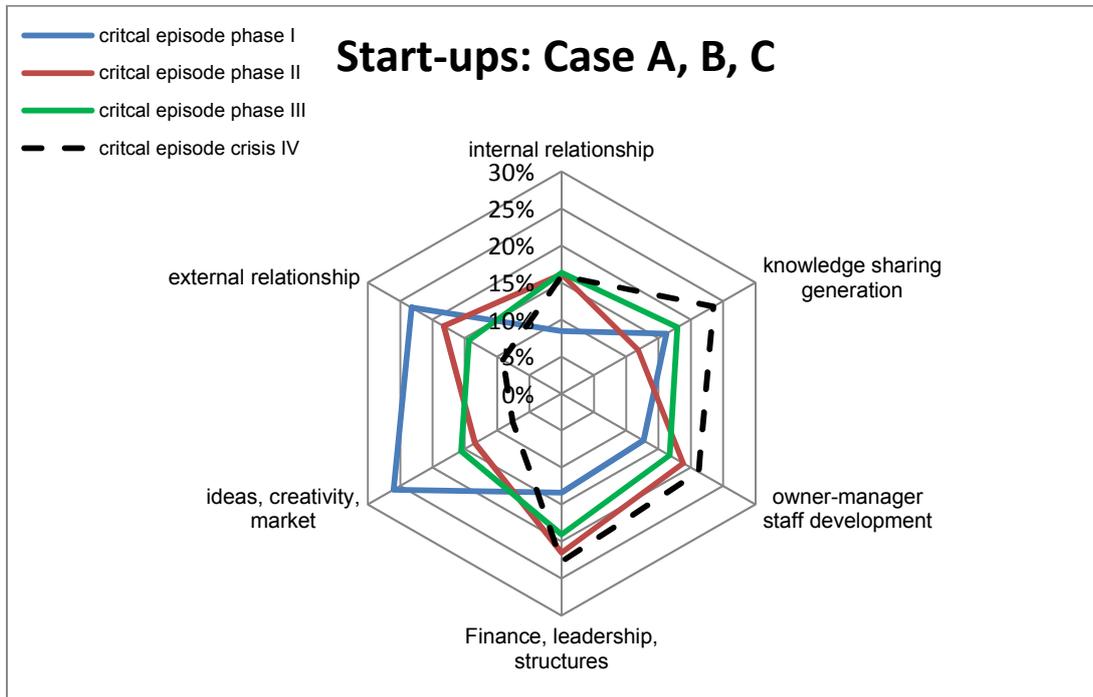
The processes of knowledge sharing and generation grew in importance during the development phases of the firm. Although reflection was recognised as an important part of knowledge generation, it was limited by time constraints. In particular, the speed of growth challenged the capabilities of the owner-manager and management teams, and demanded rapid learning in new management functions such as HR, R&D, leadership, finance and control. With the growth rate of sales, there was no time

available to critically reflect on the key issues. Alice encapsulates this problem: *“The forecast for the next year, 2009, shows a slight reduction in orders. These additional time resources provide additional space for reflection on the last growth years. I am convinced this time will be good for all.”*

Perhaps the most interesting insight into owner-manager learning is that each life-cycle phase of the firm generates different learning emphases. During the initial phase of firm start-up, market competence was of central importance. The owner-manager’s learning then shifts towards knowledge generation in R&D and new product development. All three owner-managers underlined that the growth of a firm with all its evolutionary phases provides a rich field for the development of leadership skills. A too rapid growth rate creates challenges for internal structures and organisation development. A key learning insight generated by this fast firm growth was that it is necessary to integrate ‘recovery phases’. For this reason, the owner-managers consciously limited the growth rate to allow a ‘positive recovery effect’, thus keeping the growth rate in line with the internal growth of the organisation and growth ambitions of the owner-manager. For this reason, the economic crisis of 2009 was still appreciated as an opportunity by one owner-manager (Alice, Firm C).

The owner-manager learning trajectories in start-up firms are visualised in the hexagon framework in Figure 6.3. This consolidated result of all three start-up firms indicates the shifts between the different development phases related to the critical learning episodes. The figure shows a distinct external orientation at the initial phase of the start-up (blue line). The subsequent phase of owner-manager learning underlines the transfer towards the internal learning fields like financial management, leadership and the employee relations (red line). Finally, the third development phase within the owner-manager learning highlights concentrated knowledge generation and knowledge sharing (green line). At the same time, the distribution between the six main learning fields of the owner-managers undergoes a development towards a balanced contribution, which is reflected in an equilateral hexagon in phase three. The critical learning events of owner-managers during the economic crisis are indicated as a dotted line in phase 4. The single learning trajectory for each start-up is displayed in Appendix F.

**Figure 6-3: Owner manager learning and development in start-ups**



Source: Author

More details about the developments of each firm are displayed in the individual owner-manager diagrams in Appendix D. Finally, Table 6-2 summarises the central owner-manager learning areas during the firm development and the particular situation of the economic crisis.

**Table 6-2:**  
**Key findings regarding what and how OMs learn in start-up firms**

Phase	Description of owner-manager learning areas
<p><b>Phase I:</b> External orientation in start-ups</p>	<ul style="list-style-type: none"> <li>• Apply a strong external orientation to acquire new customers</li> <li>• Go new ways to break through traditional boundaries</li> <li>• Take advantage of the external feedback from the markets</li> <li>• Activate a close network with former employers, customers and suppliers</li> <li>• Actively learn about the markets and products through strong interaction with the external business environment.</li> </ul> <p><b>In the start-up phase, owner-manager learning is focused on the product development, market orientation and networking with former business contacts.</b></p>
<p><b>Phase II:</b> Internal orientation in start-ups</p>	<ul style="list-style-type: none"> <li>• Reflect on the recruitment process for the first employee</li> <li>• Invest a lot of effort in retaining knowledge and employees</li> <li>• Recognise differences in work commitment between owner-manager and employees</li> <li>• Overcome internal business blindness with analysis by a third person like a consultant</li> <li>• Shift in roles and growing importance of managerial tasks such as leadership, strategy and financial management</li> <li>• Support an open firm structure where the employees are central rather than the maximising of profit</li> <li>• Transition of the owner-manager role from team member to coach, to leader</li> </ul> <p><b>The owner-manager learning in this phase is concentrated on staffing, organisational issues and the transition from team member to leader.</b></p>
<p><b>Phase III:</b> Knowledge sharing and owner-manager development in start-ups</p>	<ul style="list-style-type: none"> <li>• Focus on intensive development of complementary products and services.</li> <li>• The process of delegation is a key trigger for learning and a transfer of responsibility</li> <li>• Free up capacity for strategic tasks by delegating</li> <li>• Immersing yourself in new management tasks in areas such as marketing or finance significantly increases learning.</li> <li>• Foster learning outside the core competencies, which is effective but time-consuming.</li> <li>• Encourage the knowledge sharing process within the firm and externally, e.g. CoP.</li> <li>• Actively combine informal learning with formal learning activities at the university.</li> </ul> <p><b>The owner-manager learning is accelerated by the delegation of tasks, an open approach to new managerial tasks, a combination of informal and formal learning as well as by fostering the knowledge sharing process.</b></p>
<p><b>Crisis IV:</b> Owner-manager learning elements during the crisis in start-ups</p>	<ul style="list-style-type: none"> <li>• Focus on core competencies and investment in research activities</li> <li>• Commitment to extraordinary goals, reshaping strategy and market observation</li> <li>• Invest in relationship building with subcontractors</li> <li>• Prepare the firm for the challenges after the economic crisis by investing in a new plant, fostering the automation process.</li> <li>• Critically examine the product portfolio</li> <li>• Rethinking the organisation structure</li> <li>• Strengthen relationship building with employees. <i>“The turnover dropped but the work with the employees has grown.”</i></li> <li>• Retain employees and with them the know-how during the tough time of the economic crisis. Develop the capability to invest free capacity in new future-orientated tasks.</li> </ul> <p><b>The owner-manager learning during the economic crisis focuses on retaining employees and their knowledge, and investments in learning activities in preparation for the time after the crisis.</b></p>

Source: Author

## 6.4 Owner-manager learning in family firms D, E and F

In contrast to start-up firms, the owner-managers' learning following a succession process is distinctly different. Market orientation is not as central during the succession phase; the focus is instead on the internal topics according to Figure 6-1. The internal relationship between owner-manager and employees as well as the functions of leadership and financial management are the key learning areas for initial successors. For the owner-managers of a start-up firm, the emphasis is on market-driven learning topics. The order of the analysis of the three learning phases was retained for the family firms in order to maintain the highest comparability of both reference groups.

### 6.4.1 External orientation of family firms

The external relationships of Firm D with customers, competitors and suppliers were not available to the new management team until the succession phase, as the founder exercised a dominant role and was the contact person for all customers until his retirement. Instead, the focus was mainly placed on production issues. Nigel, the current owner-manager of Firm D explains: *"We do not pay attention to the competitors because we are convinced we are best in our class. Therefore the competitors have to pay attention to our firm."* External relationships were strengthened during the growth phase with the launch of the new website in 2006. Nigel emphasises: *"As long as our father was closely related to the firm, new information and communication technology (ICT) were almost unused."* Since the relocation of the firm, relationships with external stakeholders have been redeveloped.

Thomas, the owner-manager of Firm E says: *"I have good contacts with my competitors. I try to get new insights into them while analysing how they organise tasks, or what are the reasons for their success; these are valuable insights."* As the project business is a single order business, there are effectively no key customers. The network of the firm is fostered by the training of apprentices and the HIPOS (High Potentials) network, which consists of 21 different sectors. Membership of this network combines the advantages of the positioning of the firm as an active training firm for apprentices with many social activities including training for trainers. In

addition to this network, an external consultant was used to aid reflection on the business environment.

Firm F has enjoyed organic growth without actively attracting new customers. Although the firm has been in business for more than three decades, nobody has been assigned the responsibility for proactive selling. Peter explains: *“This weakness is recognised and for the next growth phase the full utilisation of all potential customers will be planned.”* External relationships are therefore mainly based on observation of competitors, customers and suppliers. Peter knows about customers who buy some parts from competitors and comments: *“At the moment it makes less sense to inform the customer about the synergies of ordering complementary products from us because we do not have the capacity to cover their demand.”*

The capacity of the new management team of Firm D was constrained by the process of succession. The internal reorganisation and repositioning process of the firm limited the time available for a strategic market analysis, so innovation took place reactively, on the basis of requests from customers. Instead of acquiring new customers, they focused on the modernisation and expansion of the factory. It turned out that the new equipment was not a success factor for new customers; it was the firm’s expertise that became visible through the integration of a new business model, combining the know-how of the entire process of mould construction with a superb after-sales service.

Thomas, the owner-manager of Firm E recalls: *“Intensive market analysis showed several areas of market potential, in particular in the new field of steel construction. Constant competitor observations are important to improve yourself.”* The analysis identified that most of the competitors still work with traditional drawings and communication tools. The early investment in new Computer Aided Design (CAD) infrastructure ensured an advantage in the long term for the firm. The development of the firm and the owner-manager learning reflect important adaptations in line with the changing business environment.

Peter, the owner-manager of Firm F, applies different creative ideas to achieve growth for the firm. A central source for the observation of competitors and suppliers is former apprentices who now work for suppliers, or apprentices who rejoined the firm after a few years of external work experience. Another source is external

recruitment, which has the advantage that newly recruited staff bring in new approaches to solving problems. The owner-manager emphasises: *“In comparison, direct internal recruitment of apprentices has the disadvantage that the apprentices know exactly what they have to do, but critical reflection or new approaches to solve a problem are rare.”* Systematic surveillance of competitors and suppliers signals market trends. Another growth strategy is the selective acquisition of small firms with a good customer base that have a complementary fit with their profile.

#### **6.4.2 External orientation of family firms during the economic crisis**

Although the dimension of the economic crisis could not be estimated, all of the owner-managers were always confident that they would overcome the crisis. Nevertheless, they applied different approaches to address the situation.

The owner-manager of the firm in Case D clearly trusts the long-term and continuity strategy which has its strengths for growth in uncertain times. The example shows that the growth of a firm is also linked with the luck of being in the right place at the right time and the knack for using existing knowledge to creatively implement business ideas at short notice. In order to be able to handle short-dated orders, a firm needs not just the technical competencies but above all loyal and committed employees. The ability to nurture HC is an asset in both the short and long-term perspective.

In comparison, the owner-manager of the firm in Case E underwent the experience that the business environment of a small metal construction firm is extremely challenging. The decrease in orders proved useful in providing some relief for the permanently overloaded employees. The owner-manager took advantage of the available time to restructure and optimise internal processes in order to increase the quality, trust and delivery time to customers as well as to be ready for business recovery after the economic crisis.

The owner-manager of the third family business, Case F, applied a creative and active approach to take advantage of the economic crisis. Peter developed a cooperation model with customers which ran contrary to the idea of lean structures and the customary “just-in-time” model. This involved investing in a warehouse to

provide storage space for customers. It was a new approach which turned the previous production strategy and culture on its head. Thus, the owner-manager was able to optimise planning certainty and more importantly, the model enabled larger batch sizes, which reduced unproductive setup times and ensured a less hectic working atmosphere.

The external orientation with suppliers and customers is a cooperative approach to coping with the economic crisis. These relationships underline not only the mutual trust but also the source for learning. The owner-manager in Case D relies on long-term relationships with customers and also uses indirect ways such as the cooperation with a supplier or joins a network of owner-managers.

Networks and social responsibility are important during the economic crisis. The owner-manager of Case E is very committed to vocational training and actively promotes this social responsibility to other entrepreneurs through the HIPO network. This network not only strengthens the knowledge exchange but also increases the attractiveness of the region through opportunities for apprenticeships.

During the economic crisis, customers, and large companies in particular, did not invest and this affected the number of orders. Therefore, the owner-manager of the firm in Case F twice applied a customer acquisition strategy to enlarge the customer portfolio. The cooperation with the customer is aimed at building trust and a long-term relationship.

### **6.4.3 Internal orientation of family firms**

Internal relationships in Firm D were initially focused on the family firm members, the process of succession and the critical situation of the founder, as he could not relinquish control of the firm. Since the succession, internal relationships have been enhanced by both formal and informal initiatives. Nigel, owner-manager of Firm D, stressed the importance of this: *“As long as the employee has a problem he thinks about it, therefore we support the employee in solving the problem at the earliest possible time.”* At the beginning, the owner-manager was too closely engaged with the firm and felt responsible for dealing with all issues. Nigel recalls feeling the presence of his father and says: *“I am there for the company but I take care of*

*myself.*” As a result of financial losses, the firm had to lay off employees. Nigel stresses: *“Each lay-off concerns not only one employee but rather all.”* Nigel recalls: *“It was a painful experience for me to inform the employees about their lay-off although most of those involved had only been with the company for a short time.”*

Until the succession, the siblings (two brothers and a sister) focused on their expert functions and all strategic issues were managed by the founder. The primary intention of the new management team was to change the leadership style. Nigel underlines this: *“Today we have a good firm culture and criticise the patriarchal leadership style.”* In particular, the critical financial situation and the acquisition of new customers were processes that shaped the profile of the management team.

Thomas, the successor owner-manager of Firm E, had fewer challenges with the succession as he had good relationships with both employees. The fast growth after the succession demanded a high degree of tolerance from these staff members as the influx of new employees changed their tasks repeatedly. The loyalty of these initial employees is valued by Thomas: *“Both employees who were taken on at the succession are still with the firm.”* Thomas adds: *“It is easier to train a new employee for specific tasks than to change his or her attitude or commitment to the job.”* A lack of resources can destroy the commitment of employees when overtime is required over too long a period. The constraint on the availability of good, qualified workers triggered an internal training programme for apprentices. Thomas is proud of the first place obtained by an apprentice in a national competition. These comments suggest a good learning atmosphere in the firm. Thomas has recognised the bottleneck that he is still the only person in the firm who is acquiring new orders and customers. Although he is aware of this limitation, he feels uncomfortable about delegating demanding tasks to key employees.

Firm E is remarkable for the high level of financial control. The close focus on finance is underlined by Thomas: *“I think you are only a satisfied entrepreneur if you are economically successful too. You can have the best machines, employees and orders, but if the economic success is not there you are faced with serious problems as an entrepreneur.”* Critical examination of the processes with a consultant was fruitful in the development of new calculation models for the budget and breakeven analysis, and Thomas has a formal performance review on a yearly basis with the consultant.

Peter (Firm F) benefited from an early and close contact with the business environment. Over 15 years, the owner-manager has experienced all the ups and downs of the family firm. Peter is very close to all the employees and takes the time to go through the firm twice a day to chat with everyone. After the completion of their apprenticeships, the apprentices are encouraged to move to other firms but the firm has also become attractive for past apprentices who choose to rejoin later. The quality of internal relationships is evident during lay-offs. Peter underlines: *“Having to lay off an employee is a critical event, especially if it is a long-standing employee. As owner-manager you are in charge of the firm and it is a hard task but is necessary for the well-being of the whole firm.”*

Peter identified gross margin and liquidity as key measures for leading a firm and learned to watch these two figures very closely and emphasises: *“The turnover figures can be increased, but that does not necessarily mean the gross margin is positive.”* The expansion of the firm with its new plant in 2008 repositioned not only the firm but also the role of the owner-manager. Peter has started to delegate key tasks to a planning engineer and is looking for a salesperson to increase market presence. Peter has some concerns, as each delegated task moves him a little further away from direct contact with the employees.

#### **6.4.4 Internal orientation of family firms during the economic crisis**

The internal relationship to employees is closely related to the applied leadership style and the financial situation during the economic crisis. In each of the three family firms analysed, the relationship of trust between the owner-manager and the employees was an important factor in overcoming the economic crisis. Although the crisis resulted in fewer orders, the employees benefited from more structured work processes. The lower time pressure and more structured planning of production helped the employees to be more effective and at the same time enabled them to increase quality.

All three owner-managers used the economic crisis as an opportunity to optimise the communication flow and two of them established a top management team (TMT). The third owner-manager (Peter, Firm F) restructured the TMT due to the death of the founder and retirement of the mother, wife of the founder. The close interrelationship

between an owner-manager and the family firm also becomes visible with the firm in Case E. The owner-manager became a father, which triggered two positive effects in terms of delegation. Firstly, the delegation of competences to the extended board of technicians helped the owner-manager to reduce the workload. The technicians appreciated their promotion and being given more authority. Both factors were essential to build up loyalty during and, in particular, after the economic crisis. Internally, the loyalty increased whereas customer loyalty decreased during the crisis. Commitment and loyalty are growing and are deeply rooted in the culture of a firm. The development of this culture is based on leadership by example and investment in people during the good times. Consequently, loyalty needs to be built up over a long period of time.

Reorganisation was a major topic for all family firms. A noteworthy feature is that the reorganisation was not centred around downsizing. On the contrary, all three owner-managers took action such as promoting key employees to join the extended board or recruiting new employees. All of these measures are focused on fostering loyalty and preparing for opportunities after the economic crisis. The owner-manager in Case F applied two measures to increase the cooperation with employees. Firstly, two new positions in the firm were introduced: one person for production planning and one salesperson. Secondly, the owner-manager retained the routine of walking through the firm twice a day but in a changed role. The owner-manager no longer deals with production issues and focuses on the well-being of the employees. This unique care-taking role was only made possible by investing in more personnel resources. The internal reorganisation for the sales and production areas was a critical leadership task, but necessary to unburden the owner-manager and prepare the firm for the next development steps.

In terms of the organisation and structure of the analysed family firms in the sample, the economic crisis shows additional gaps. While the organisation and structure of the firms have been growing, they could not be adapted because the resources have been used in production during the boom years. The economic crisis provided the owner-manager with time for reflection about the current situation of the firm and its position in the future. This time has been actively used to invest in the next development phase.

The owner-manager in Case D underlines the positive aspects of introducing the ISO system as a means to develop leadership skills despite the bureaucratic burden and time-consuming process involved. The firm introduced the ISO system when the owner-manager happened to win an order from the automotive branch during the economic crisis. Luck is often underestimated as a driver for development. Similarly, the owner-manager in Case E recapitulates that the moment to start the delegation process should be much earlier than when most owner-managers start to think about delegating. The owner-manager of Case E also underlines: *“The active approach to coping with a challenge like the flood or the economic crisis derives from the conviction to be found within the team that enthusiasm and drive make exceptional achievements possible.”* The owner-manager in Case F adapted the accounting system, which was a means of increasing transparency regarding the contribution of each business unit and at the same time, provided an analytical tool for identifying essential measures for the reorganisation. The financial health of this firm was another positive factor in the decision to launch the expansion during a time of economic crisis.

#### **6.4.5 Knowledge sharing – owner-manager development in family firms**

Knowledge sharing in Firm D is mainly based on three processes: within the management team, with the employees and within an external network, the ERFA-Gruppe (Erfahrungsaustauschgruppe or experience exchange group). Time constraints and limited management experience caused a critical financial loss but this in turn triggered a weekly reflection process and systematic knowledge sharing. Knowledge sharing with employees and external networks requires a certain level of structural stability. Internal knowledge generation is focused on the apprenticeship system, which enjoys a long tradition in the firm. The repositioning of the firm for complex niche products has fostered knowledge exchange between the customers and R&D employees. As soon as the new internal structures were established, external knowledge sharing was enhanced by joining the Vorarlberg Kunststoff Technik (Vorarlberg Plastics Technology) network.

The children of the founder in Firm D witnessed the start-up phase, were involved in the family business from an early age, completed their apprenticeships in the firm and worked for the family firm for several years before the succession took place. In their

view, the most significant opportunities for learning are derived from examining failures, the complicated succession process, the acquisition of new customers and the overlap of the reorganisation process. The management team prefers firm-specific training with the support of an external consultant rather than formal management courses. The internal trainers of the apprentices participate in regular training courses to improve the quality of apprenticeships in the firm.

Knowledge sharing in Firm E was initially focused on dialogue between the employees and Thomas, the owner-manager. After relocation, knowledge sharing was systematically expanded with regular contacts and opportunities for knowledge exchange. Moreover, the location is attractive for hiring staff from competitors and suppliers, and this external know-how generates a flow of knowledge. Additionally, it provides fruitful insights into the market position of the competing firms. Furthermore, the employees sit together at the end of the working day and discuss current projects. This is now part of the company culture and is a valuable source of knowledge sharing. Thomas reflects that: *“The dialogues with experts, colleagues and suppliers are fruitful.”* To aid knowledge generation, Thomas hires from the external labour market and often from other sectors. Thomas explains: *“External recruitment has the advantage of bringing in new approaches to solve a problem.”* Thomas knows every employee and has at least a chat with each one every day. He stresses: *“This informal chat is a tremendous source of information and knowledge sharing.”*

Thomas’s development in Firm E has essentially been through learning by doing, with a very intensive phase during the succession process, followed by the growth and reorganisation of the firm. The investment in new infrastructure revolutionised the workflow, capacity and the firm’s position in comparison to its competitors. The use of CAD technology triggered interrelated learning processes for the owner-manager and the employees. Thomas recognises that the achievement of an optimised workflow was a fruitful way to understand the complexity of all management functions.

Peter, the owner-manager of Firm F, started his apprenticeship within the firm in 1988. After an additional two years’ training he was awarded with the ‘professional master’ qualification (the highest rank of technical proficiency). As a technician, Thomas quickly found his limits in dealing with financial issues. Therefore, the initial successor studied financial management at a business school and completed the

course during the succession phase. In 2008 Peter started an MBA course to shape his management and leadership skills. Besides this extended formal training and education, the owner-manager benefited from an intensive development phase on the job in the firm. Thomas explains his growth strategy: *“Organic growth in a new business field is too complex for a firm of this size. An alternative is to buy a small firm and to optimise it to be profitable within two years.”* The latter approach is applied for growth within the mechanical production division, which offered new insights and learning opportunities.

Peter emphasises the importance of the apprenticeship system: *“The apprenticeships support knowledge sharing and transfer between the senior employees and the apprentices.”* The firm has encouraged apprentices who completed their apprenticeship to gain valuable experience in other firms in the region and to come back after a few years. The reason is that the majority of apprentices enter a related firm such as a supplier or even a customer and the firm benefits from the subsequent knowledge exchange.

#### **6.4.6 Knowledge sharing during the economic crisis**

Knowledge sharing and knowledge generation is a deeply rooted culture of family firms in the region of the Rhine Valley and Lake Constance. All three family firms offer apprenticeships for their specific industries.

The learning during the economic crisis was quite differently situated in the analysed firms. The owner-manager of the firm in Case D experienced three main contributions towards knowledge sharing and knowledge creation during the crisis. Firstly, it was the adoption of a *jour fixe* which is appreciated by the TMT as an opportunity for exchanging information and discussing current issues with orders, production planning and financial performance of the firm. Furthermore, the expansion of the board by appointing the sister as the third member has been a great development for the firm and from the family point of view. Finally, the introduction of an ISO system provided more benefits for all employees and the TMT in terms of critical reflection and process optimisation than initially expected.

The knowledge sharing process suffers under the enormous time pressure in Case E. The economic crisis was a door opener for the owner-manager in terms of fewer

orders, which relieved the pressure resulting from a permanent overload. The case underlines that in the long run an excessive workload hinders current and future improvements. Additionally, the owner-manager highlights an interesting aspect of learning in relation to the frequency of orders. Each order in the project business creates unique financial and time calculations which offer a significant learning potential.

The knowledge sharing approach by the owner-manager in Case F is strategically linked to the firm's need for a salesperson. The economic crisis also offered opportunities which are not available in normal times. An owner-manager of a small sales company went bankrupt due to the crisis as many of his customers opted for insourcing into their firms. The owner-manager in Case F negotiated with this salesperson and pointed out that the value (stock of knowledge) of his firm resided in his person and therefore purchasing his firm would not be lucrative. Instead, the owner-manager offered the sales company owner-manager a job which would enable him to benefit from his network and combine this with the internal network of the firm. This proved to be a smart move on the part of the owner-manager in Case F. Moreover, he very soon recognised that the salesperson's network is of greater value if it is used by this person and combined with the firm. Extensive external recruitment leads to an exchange of views between employees. Long-serving employees discover from their new colleagues that other firms also have unresolved issues. This awareness reduces the attractiveness of other employers and the willingness to leave the company. Furthermore, offering apprenticeships helps to build know-how within the firm. This combination of personnel-related measures promotes the exchange and generation of knowledge.

With his team, the owner-manager in Case D develops high-tech products for several industries such as medicine, automotive, renewable energy or construction. Although he has an enormous stock of knowledge within the plastics sector, the firm is strongly oriented towards problem-solving for customers and tends to react to enquiries rather than proactively developing solutions.

Thomas, the owner-manager in Firm E emphasises: *"The importance of being able to step back from daily business as I have been too closely tied up with the day-to-day business and lacked the time to analyse the mid-term and long-term planning in*

*sufficient depth.*” This case underlines that all the interrelationships between customers, employees and finance have to be considered beside the daily business. Each element can destroy the firm. The existence and the professionalism of SMEs are linked with hedging against external influences. The economic crisis highlighted the cluster risk of this firm. The owner-manager development is related to the time available to consciously reflect on the situation in the firm.

The owner-manager in Case F emphasises that the process of handing over the operational tasks of production planning was an intensive learning process as the responsibility was no longer in his hands and the problem-centred contact with the employees has changed. A major contribution to this owner-manager development is critical examination, which calls for time slots allotted for this purpose. The owner-managers found formal learning modules to be a very positive experience. An MBA course can provide opportunities of this kind with time for reflection with peers. At the same time, this conclusion highlights the fact that it is better to step back from day-to-day business to create the space for critical reflection.

#### **6.4.7 Summary of knowledge sharing in family firms**

In comparison to the interviewees in the start-up firms, the family business owner-managers’ learning following the succession process was distinctly different. Market orientation was not central during the succession phase, the focus being instead on internal issues. The dimensions of internal relationships and the functions of leadership and financial management were the key learning areas in comparison to the owner-managers of the start-up firms, who felt a strong need to focus on market-driven learning.

Each of the firms in second-generation management built on their reputation, customer base and product portfolio, and there was no doubt in the minds of the owner-managers about the importance of the continuous development of products and services for existing and new customers to remain competitive. Nevertheless, their external relationships were concentrated on existing relationships with customers and suppliers. This mindset may be a result of the succession process where they had to take over these relationships from the founder – in each case their father. During this period, the successors rapidly gained knowledge about the

business, its environment and cooperation with employees. The process of succession is not only a learning process but is also a powerful socialisation process for the successor.

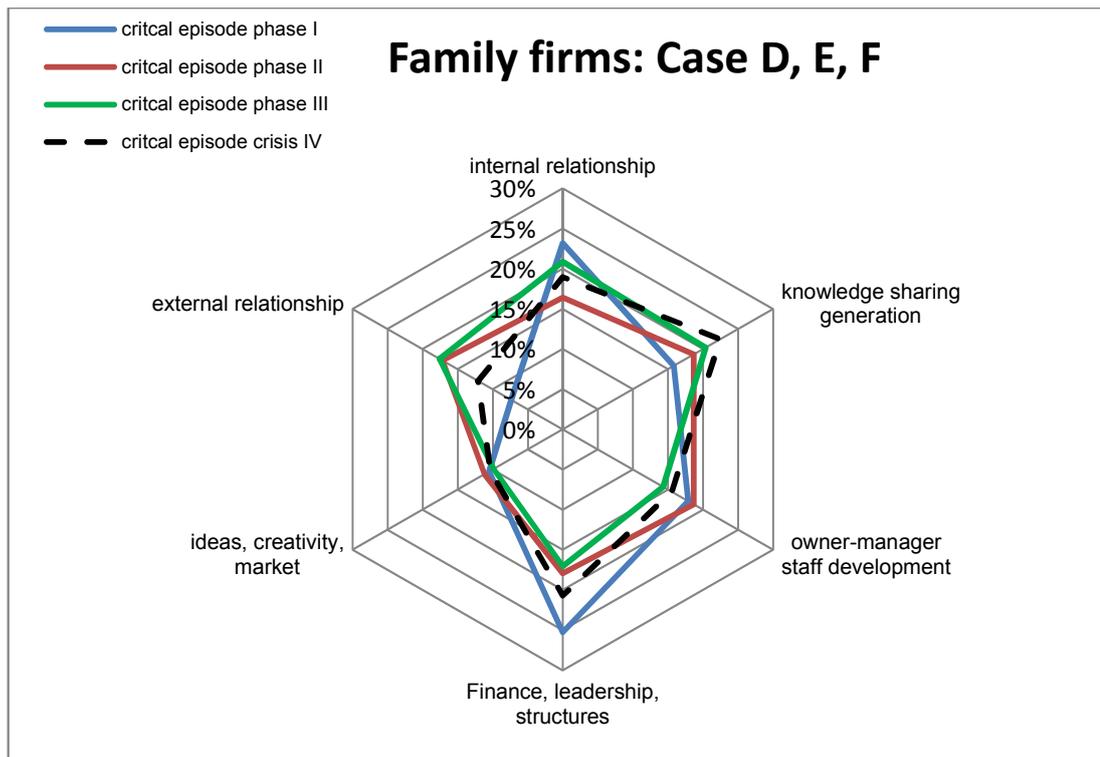
The strong internal orientation of all three family owner-managers probably also derives from their long immersion within the family business, all of them having effectively grown up with it and completed an apprenticeship within the firm. During this time, the future successors underwent an exhaustive knowledge sharing process about products, employees and the business environment, and were influenced by the philosophy of the founder with regard to leading the firm and dealing with customers, suppliers and other stakeholders.

The internal orientation of the successors was particularly distinct directly after the succession when it was important for the successor to gain the trust of the employees and to establish his leadership style. Afterwards, a shift was evident towards the dimension of knowledge sharing. Over the life span of the firm, external orientation increases but knowledge sharing and creation remain central, being seen by the owner-managers as the drivers of growth and the bridge to the external world. This world view is underlined by the emphasis on external placements for apprentices and continuous training of their employees. This intensive knowledge sharing is also part of the philosophy of organic growth, accompanied by steady improvements instead of large innovations. The introduction of new equipment like CAD or the expansion into a new business field is recognised by the owner-managers as enormously challenging fields of learning.

The owner-manager learning development in family firms is summarised in Figure 6-4. The figure displays the shifts between the different phases of critical episodes. The initial phase of owner-manager learning just after the succession phase reflects a focused internal orientation (blue line). This internal focus is replaced by two development trends. Continuous knowledge sharing becomes more important (red line). In parallel, external relationships have been extended. The final development phase underlines the external orientation with increased knowledge sharing and a continuously high level of internal relationships (green line). It is striking that during all three development phases the investment in new product ideas and market issues has remained at a less than average level. Finally, the critical learning events of owner-managers during the economic crisis are indicated in phase 4 as a

dotted line. The single learning trajectory for each family firm is displayed in Appendix F.

**Figure 6-4: Owner manager learning and development in family firms**



Source: Author

Finally, Table 6-3 summarises the central owner-manager learning in family firms with insights into the succession phase, development phases and the particular situation during the economic crisis.

**Table 6-3:**  
**Key findings regarding what and how OMs learn in family firms**

Phase	Description of owner-manager learning areas
<p><b>Phase I:</b></p> <p>Internal orientation in family firms</p>	<ul style="list-style-type: none"> <li>• Aim for a good relationship with family firm members</li> <li>• Deal with the problem of the founder's unwillingness to relinquish control</li> <li>• Adjust the position as owner-manager in the family firm</li> <li>• Critically examine the process of laying off employees</li> <li>• Consider the financial position of the firm as a central task</li> <li>• Install a sound financial control system. This is a critical success factor for second-generation owner-managers.</li> <li>• Critically observe the commitment of employees as a long-term lack of staff resources can destroy commitment</li> <li>• Actively analyse the process of delegation as failure to delegate is a bottleneck for further owner-manager development</li> </ul> <p><b>Owner-manager learning during the succession phase is focused on the succession process itself and financial topics. Later on, the owner-manager learning is closely related to staff topics and the process of delegation.</b></p>
<p><b>Phase II:</b></p> <p>Knowledge sharing and owner-manager development in family firms</p>	<ul style="list-style-type: none"> <li>• Knowledge sharing is based on the exchange with the TMT, the employees and the customers</li> <li>• Invest in the apprenticeship scheme as it provides the basis for strong knowledge generation and sharing processes within the firm.</li> <li>• The early integration of the successor during the firm development stimulates a close relationship with the firm, employees and products</li> <li>• Support internal training courses led by external consultant to bring in new ideas</li> <li>• Aim for a balanced mix of internal/external recruitment as an essential part of the knowledge sharing process</li> <li>• Foster a daily chat with the employees</li> <li>• Support new technological equipment as a trigger for interrelated learning processes</li> <li>• Combine informal workplace learning with formal learning</li> </ul> <p><b>The owner-manager learning in family firms builds on close employee relationships with interrelated support activities like new equipment or a strong apprenticeship scheme. The process of succession encompasses a long and intensive learning period.</b></p>
<p><b>Phase III:</b></p> <p>External orientation in family firms</p>	<ul style="list-style-type: none"> <li>• Intensify the relationship with customers by relocating the firm – accessibility</li> <li>• Observe competitors as a sound source of further market development</li> <li>• Collaborate with apprenticeship training network community of practice (CoP)</li> <li>• Combine core competencies in new business model to acquire new customers</li> <li>• Invest in new technology to trigger learning processes and position the firm as a leading player.</li> <li>• Foster relationships with former apprentices and external recruitment as useful learning fields.</li> </ul> <p><b>The owner-manager learning in this phase is concentrated on new business opportunities, markets and customers. Furthermore, the owner-manager learning utilises networking within a community of practice of former apprentices to gain access to new customers or as recruitment pools.</b></p>
<p><b>Crisis IV:</b></p> <p>Owner-manager learning elements in family firms during the crisis</p>	<ul style="list-style-type: none"> <li>• Overcome the economic crisis with strong confidence in own strengths</li> <li>• Focus on HC, social responsibility and relationships from a long-term perspective</li> <li>• Actively use the drop in orders to critically examine the processes and organisation structure</li> <li>• Develop new challenging business models for the firm</li> <li>• Foster a strong relationship with employees to overcome the economic crisis</li> <li>• Use the reorganisation of the firm as a rich source of new learning opportunities</li> <li>• Prepare the firm for the challenges and next development steps after the crisis</li> <li>• Invest time to achieve a good work-life balance</li> <li>• Seek opportunities to step back from the daily work routine</li> </ul> <p><b>The owner-manager learning during the economic crisis utilises the additional time to develop new business models, reorganise the firm structure to be prepared for the time after the crisis and to take care of the social responsibility and employee relationships.</b></p>

Source: Author

## CHAPTER 7:

### DISCUSSION: OWNER-MANAGER LEARNING IN SMALL FIRMS

#### 7.1 Introduction

The presented findings regarding how owner-managers learn to manage the development in small firms have provided different perspectives on how such owner-managers address their learning paths. The complex process of firm development provides highly demanding, emotional, critical and risky situations. The protagonist, i.e. the owner-manager, is embedded in this interactive relationship with the social environment of the firm, the business environment and the family (Wenger, 1998; Cope and Watts, 2000; Cope, 2005; Fuller-Love, 2006; Rae, 2006; Man, 2012; Ates et al., 2013). Several learning situations have emerged on all levels, from the micro to the meso and through to the macro level, within the business and the environment. The close focus on actual problem-solving causes the learning process for owner-managers to fade into the background. Therefore, owner-managers have often not perceived these problem-solving activities directly as learning, although they exhibited the ability to learn from the experiences. How this learning is practised by the owner-managers is the focus of this chapter, which addresses all the research questions outlined in subsection 1.5.3 such as: “How do the learning priorities of owner-managers change during development of a small firm?” and “How do the learning trajectories differ between founders and successors in small firms?”

The chapter is divided into four sections. The initial section discusses the owner-manager learning themes (propositions) of the founding and establishment of a firm as well as the initial succession process in a family firm. The second section discusses the four key themes of owner-manager learning which are related to role transition. These are the process of delegation, taking on new managerial tasks, the implementation of quality processes and the influence of the economic crisis. The investigation of owner-manager learning in relation to the interrelated development of HC in small firms is the subject of the third section. Macpherson and Holt (2007, p. 177) emphasise that: “The entrepreneur, the firm and the available social and business networks act as the mechanisms through which this [application of knowledge resources] is achieved.” The final section introduces the developed

conceptual holistic framework in order to describe the continuing learning of owner-managers as founders and successors in small firms. The interdependency between firm development and owner-manager learning is continuous, whereas the focal points of the owner-managers' learning shift over the development process of the firm.

Before the focus on owner-manager learning can be conceptualised, it is critically important to conceptualise the problems of growth in small firms while addressing the first research question: "How do owner-managers experience and conceptualise problems of growth in their small firms in the Rhine Valley?"

## **7.2 Critical learning events encountered by owner-managers**

The critical learning events are described as situations in which the owner-manager expresses his powerlessness over an unexpected circumstance within a new set of circumstances such as an accident, a natural disaster, the introduction of new equipment, the expansion of the firm or the recruitment of the first employee, to name but a few. These critical learning events are embedded in a wider context linked with all three levels of the micro, meso and macro analysis model. Some of them are critical incidents and others are encapsulated and interrelated to a critical episode (Cope, 2003b). Such critical episodes of owner-manager learning are the founding or takeover process, the establishment of a firm structure and the role transition of the owner-managers. These themes are investigated with a particular view of the related learning processes as presented in chapter 3.

An owner-manager who is confronted with a critical episode deals with the incident himself. At the same time, this debate creates emotions on the part of the owner-manager and influences the learning situation. The owner-managers in the research sample overcome these critical episodes with a combination of passion, strong commitment and belief in the success of the firm, and their eagerness to be at the cutting edge with new products or services despite the effort involved. All the owner-managers share the trait of high emotions in respect of the overall target, and the survival and growth of their firm. The critical events are analysed according to the IPA method to identify anchor points for how owner-managers learn. The social environment of the owner-manager emerges in quite different lights and reflects the

uniqueness of each small firm. Table 7-1 and Table 7-2 summarise the critical learning events of owner-managers in start-ups as well as those of initial successors in family firms. Both tables build the source for more detailed analyses as well as the cross-sectional analyses in this chapter.

An interesting preliminary finding is that the owner-managers of the investigated firms experience similar critical learning events over a period of time, whereas the order and the frequency of the critical events differ. After an intensive phase of owner-manager learning during the start-up or succession phase, the curve with critical learning events flattens. All the individual critical learning events of the owner-managers along the life-cycle of each firm are shown in Appendix D. A second interesting preliminary finding is that all owner-managers of the start-up firms are proud of the brand recognition and positioning of the firm in the market, whereas all owner-managers who took over the business as initial successor wanted to do things better or at least in a different way to the founder.

In spite of this variety, the critical events addressed by the owner-managers in Table 7-1 and Table 7-2 do show some patterns and similarities. The identified owner-manager learning fields confirm the challenges discussed in the growth literature such as the close relationship to customers and suppliers, product development, employee relations, HR issues, internal communications and other types of processes, networks, exchange with peers, discussions with family members and close relatives, critical reflection with a consultant, and financial and political actors (Birley and Westhead, 1989; Gibb, 1997; Bontis, 1998; Down, 1999; Fuller-Love, 2006; Hamilton, 2006; Ates et al., 2013). While these are all important fields, the underlying processes contain more specific information about with whom owner-managers discuss critical events and the even more challenging question of how they develop solutions or learn from their experience remains largely unanswered (Cope, 2005).

**Table 7-1:  
Critical learning events for owner-managers in start-ups**

Firm	Critical learning events / critical learning episodes
Case A	<ul style="list-style-type: none"> <li>• Founding process which has taken several years. The owner-managers had jobs to finance their own business during start-up phase</li> <li>• Owner-managers' interest in new technology in the thin film and vacuum casting sectors</li> <li>• Initial staffing, staff relations, different attitude to a working day</li> <li>• The customers were not ready for the new technology</li> <li>• Small turnover which ended in the rejection of debt capital</li> <li>• Several learning loops coped with creativity to increase the turnover in order to obtain debt capital. Once the owner-managers had built trust, they were able to cooperate with other firms without any fear that these would copy their ideas.</li> <li>• Dependency on suppliers restricted the growth rate</li> <li>• Establishment of a new organisation structure – new plants</li> <li>• Mission mirror to reflect the business situation – consultant</li> <li>• New business model involving working with previous competitors increased the volume</li> <li>• Cope with the resources – development of ERP Software</li> <li>• First mover on the prototype market underlines market leadership</li> </ul> <p>The owner-manager is thrilled and driven by the idea of finding a product with the goal of becoming independent. He is encouraged by the operational success, although the firm was faced with financial limitation during the initial years.</p>
Case B	<ul style="list-style-type: none"> <li>• Taking the risks and social responsibility for the firm, employees and customers</li> <li>• Process of positioning the firm to differentiate within the traditional market in the Rhine Valley</li> <li>• Hiring of the first employee</li> <li>• Crisis as both employees quit their jobs almost at the same time</li> <li>• Starting a formal MBA course to better understand the various forms of business crises</li> <li>• Careful development of the new organisation structure</li> <li>• Intensive new team-building process – where are our core competencies?</li> <li>• Expansion of production capacity</li> <li>• Laying off the first employee – a process which influences the whole firm</li> <li>• Reorganisation of the firm – board member</li> <li>• Focus on key products and core competencies</li> </ul> <p>The owner-manager is convinced that he has the knowledge to perform better than competitors. He has developed the skill of listening and interpreting the feeling of his employees to avoid misunderstandings. The feedback from customers is an important source of positioning the firm in the marketplace. He is proud of the firm's service and product quality and posts feedbacks on the website.</p>
Case C	<ul style="list-style-type: none"> <li>• Phase of the merger between three firms – complementary strengths</li> <li>• Development of strategy and core business fields</li> <li>• Recruitment and laying off first employee</li> <li>• High growth rate requires new business location</li> <li>• Analysing the process of growth with a consultant</li> <li>• Redesign of financial processes by a specialist</li> <li>• This redesign triggered a change process</li> <li>• Unused skills for leading the employees are required – tough process</li> <li>• Growth rate requires yet another location</li> <li>• Establishment of the new firm structure</li> </ul> <p>Creative attitude was the most enjoyable but not the most efficient way of doing business. The customers' desire to have one point of contact rather than three was the trigger for the merger.</p>

Source: Author

**Table 7-2:  
Critical learning events for owner-managers in family firms**

Case D	<ul style="list-style-type: none"> <li>• Succession process was tough due to the founder's unwillingness to relinquish power</li> <li>• In parallel, the competition situation in the industry has changed</li> <li>• Owner-manager signals strengths by building a new production hall</li> <li>• New tasks of acquiring customers and implementation of another leadership style</li> <li>• Naive new product development under time pressure ended in law courts</li> <li>• Strengthening of apprenticeships to address need for qualified employees</li> <li>• Introduction of a new after-sales model – full utilisation of strengths</li> <li>• Analysis of the business with a consultant</li> <li>• Promotion of the competencies of the firm, e.g. the firm develops customised solutions for the most complex parts in the plastics industry</li> </ul> <p>The succession process was great to become the leader. But it is a sad realisation that you are not recognised as the top person in the firm as the founder was unable to step down. The owner-manager strives for a strong relationship with the employees, which strengthens performance.</p>
Case E	<ul style="list-style-type: none"> <li>• Succession process with the obligation to develop missing financial calculating and planning tools</li> <li>• Investment in new CAD technology – to be one step ahead of competitors</li> <li>• Reorganisation with a new plan and new product portfolio</li> <li>• Growth rate, capacity issues and an unfavourable location for deliveries challenged the firm</li> <li>• Strengthening of apprenticeship training for internal recruitment of qualified staff</li> <li>• Relocation and new plant with increased production capacity</li> <li>• Environmental disaster as the new plant was flooded – critical time with customers</li> <li>• Excessive workload due to full order books</li> <li>• Reorganisation of processes and establishment of business units</li> <li>• Internal training for deputy position</li> </ul> <p>The motivation of the owner-manager was being able to do business in a different way to his father. He took on board the insights from the study to establish good income and balance sheets. His initial driving force was to do things differently and even better than his father and founder.</p>
Case F	<ul style="list-style-type: none"> <li>• Pre-succession phase provided deep insights into the ups and downs of the firm</li> <li>• Succession process was long as the founder was unwilling to step down</li> <li>• Entering into new business to expand</li> <li>• Takeover of a competitive manufacturing firm</li> <li>• Leading the firm – useful key financial and production figures</li> <li>• Revitalising the concept of the dual apprenticeship</li> <li>• New organisation structure</li> <li>• Selection concepts for new employees</li> <li>• Laying off employees</li> <li>• New plant to integrate the manufacturing firm</li> <li>• Development of two key positions to reduce the pressure on the owner-manager</li> <li>• New business concepts for customers for their semi-finished products</li> </ul> <p>His concerns were addressed by separating the business and family capital.</p>

Source: Author

The responses from the owner-managers underline that each critical event is also accompanied by emotions and feelings (Chell, 1998; Cope and Watts, 2000). These critical events always involve emotions as the resulting actions and consequences affect the owner-manager and the firm along with its employees, customers and networks. The following section emphasises the second research question: “How do the learning priorities of founding owner-managers change during the firm’s development?”, and the third research question: “How do the learning priorities of successor owner-managers in small family firms change during the firm’s development?”

### **7.3 Owner-manager learning and firm establishment**

The frequency of learning events influences the duality of owner-manager learning and firm development. This dual learning continuum is the source for new ideas, product development and organisational change. It is also the leverage factor for HC development in small firms as each situation challenges the utilisation of knowledge, creativity and the process of reflection, and affects the way in which exploration and exploitation are applied by the owner-managers (March, 1991; Gupta et al., 2006; Lavie et al., 2010). Findings from the in-depth interviews with six owner-managers suggest that learning for owner-managers is an individual and unique process. Although it is an individual process, some similarities in terms of actions and owner-manager learning events occur over the observation period of more than two years.

The life-cycle theory with the developed growth models (Greiner, 1972; Churchill and Lewis, 1983; Gibb and Davies, 1990; Delmar et al., 2003; Barringer et al., 2005; Dobbs and Hamilton, 2007) underlines the fact that an initial crisis of leadership will emerge after a certain period of growth. Researchers have attempted to describe the process of firm development on the basis of the managerial and organisational challenges involved. All the identified challenges support the defined crises in the growth models and highlight the continuum development process for a firm. The process of dealing with the crisis is related to a certain set of managerial skills (Greiner, 1972; Churchill and Lewis, 1983; Hanks et al., 1993; Swiercz and Lydon, 2002; Phelps et al., 2007). How the owner-managers overcome the crisis, or how they obtain suitable information, knowledge and skills to deal with the crisis, has largely been unanswered. The analysed start-ups and family firms confirm the

findings of Lichtenstein (2000) that the transition processes for the owner-manager and the firm are not straightforward. These processes contain several setbacks and interrelated learning loops, and take place over a longer period of time. The development of the owner-manager runs parallel with the firm development process (Cope and Watts, 2000).

The identified critical learning episodes encountered by the owner-managers confirm the dimensions which have emerged from the theory such as market potential, financial issues, long-term planning, product-related topics, equal opportunities, lack of knowledge in specific fields, infrastructure topics, workload, engagement with the daily business, employee issues and reputation (Williamson, 2000; Baron et al., 2001; Delmar et al., 2003; Barringer et al., 2005; Barber, 2006; Shepherd et al., 2009; Ates et al., 2013). The encountered problem fields are interrelated. Sales and market issues, which are related to capacity, planning and financial challenges, were raised by the majority of owner-managers. It was found that owner-managers are less concerned with employee issues and knowledge topics. The confirmation of the identified issues involved with starting and running a business supports deeper insights into the learning events for the owner-manager. It is striking that the number of critical learning episodes is significantly higher during the owner-manager's initial years in business. This high frequency of critical learning episodes is shown in the life-cycle diagrams in Appendix D. In terms of the growth theory, stage one may end with a leadership crisis, but before this stage is achieved, numerous critical events emerge which are interlinked to critical episodes (Cope and Watts, 2000). The high frequency of critical events during the first years shows parallels to the survival rate of businesses. This finding supports the argument of a high failure rate during the initial years of a start-up. While up to 25% of firms fail within this time period, the rate then decreases over the years that follow (Frank et al., 2007; Shane, 2008). After a time span of five years, new firms are expected to have entered the phase of growth and expansion (Bantel, 1998).

All six owner-managers express this high frequency of critical events during the initial years in business. Overall, they highlighted 100 critical learning episodes in both conducted interview rounds, as summarised in Table 5-5. This result of a high frequency of critical learning episodes underlines that a large crisis as indicated in the

life-cycle theory is built on numerous smaller crises. Each critical episode indicates a fundamental process of personal learning which influences owner-manager learning in small firms when the firm develops, as visualised in the life-cycle diagrams of all six case firms in Appendix D. The comparison of the critical episodes between the firms shows patterns of similarity, although the episodes do not emerge in the same order. It was also noted that awareness and reactions are dependent on the individual experience of the owner-manager. This insight extends the understanding of how individual owner-managers combine their “learning history” and “learning tasks” (Cope, 2005). Furthermore, the results confirm the importance of the continuous development of managerial competencies, which is related to the business fields such as organisational development, employee issues, finance, marketing, customer relationship and, more importantly, to the attitude of the owner-manager (Matlay, 2002; Macpherson et al., 2003; Jayawarna et al., 2006).

The in-depth analysis of the critical episodes mentioned by owner-managers shows additional approaches to the exploration of learning. All owner-managers of the start-up firms have a clear picture and vision about the future and the aims they want to achieve. Their plans cover the positioning of their firm, the segments of customers and products as well as the size of the firm. The related concepts are in the owner-managers’ heads and are mostly defined by some key terms (Castrogiovanni, 2011). Setting targets is an important entrepreneurial process which enables the owner-manager to picture his/her future identity along with personal and family needs (Cope, 2005; Rae, 2006). Tension between the owner-manager’s current and future identity can emerge as personal development and growth of the business take place simultaneously. The available financial and personal resources are easily overestimated by owner-managers during the post-start-up phase. The close connection between family and business as described by Rae (2006) is highlighted by the owner-manager of the firm in Case A: “We had to take out life assurance to get a credit for the business. At the same time, the family was relieved when the debt capital was guaranteed.”

This awareness of the interrelationship between business and family is fundamental for the analysis of owner-manager learning in small firms. In particular, the initial period of leading a firm is most challenging and involves the largest number of new

learning situations (David and Watts, 2008). During the founding or takeover process of a firm, there are many obstacles to overcome. This explains why owner-managers feel a strong emotional attachment to this process. Although the critical learning events during the founding or takeover process lie far away in the past, these are the events which the owner-managers think of with the greatest immediacy. Each critical event is bounded with emotions which are expressed in a unique manner by the owner-managers in the research sample (Cope and Watts, 2000; Vince, 2002). For the owner-managers, the emotions they experienced are important for recalling the critical learning events and for assigning them to the firm's life story. The mind remembers stories with high emotional value more readily. This underlines the argument that each critical incident is essentially an emotional event (Cope and Watts, 2000). The commitment and curiosity of the owner-managers are drivers to exploit new business fields and new technologies (Shane and Venkataraman, 2000; Korunka et al., 2003; Shane, 2008). Furthermore, commitment and curiosity help to provide the energy required to overcome setbacks as the development path towards new products is seldom straightforward.

The following subsections discuss owner-managers' learning during the start-up and succession phases, and also address their learning once structures have been established. This development particularly addresses research question two: "How do the learning priorities of founding owner-managers change during the firm's development?"

### **7.3.1 Owner-manager learning during the start-up process**

The analysis of the sample has shown that the owner-managers who founded a firm experienced critical learning events before, during and after the start-up phases. The ways of establishing a firm are manifold and closely linked with the experience of the industry and previous knowledge (Cope, 2005). All three owner-managers of start-up firms in the sample have pursued a unique founding and growth process. A common feature of all three owner-managers is that they have previous industry experience in several positions and started their careers with an apprenticeship. The early industry experience as an apprentice has had an influence on the type of learning. The apprenticeship based on the dual system model fostered the learning type of concrete experience with active experimentation and the reflective observation described by

Kolb (1984). Additionally, the previous learning processes at the workplace as young employees not only developed their stock of firm-specific knowledge such as the internal processes, the relationship structure, the products and the production processes, to name a few, but also motivated them to establish an interlinked network for owner-managers in the industry (Madsen, 2007).

Although the analysis of the start-up firms distinguishes between a single start-up, a duo (brothers) and a team start-up by three people, the critical learning events display similar patterns. It was noteworthy that none of the owner-managers highlighted any of the typical crises described in the life-cycle model of Greiner (1972). The crises experienced are wrapped up in several smaller critical learning events rather than occurring at one particular moment. The analysis shows that the critical events occur over a longer period of time, mainly linked to a critical episode (Cope and Watts, 2000). In particular, the time factor between the single critical events is the most important driver of learning for the owner-manager. The owner-manager needs some time to grasp, describe and reflect on the new situation.

### **Critical analysis of external factors**

The owner-managers of the start-ups have critically analysed the external factors such as markets, customers and competitors, which is referred to as environment scanning (Lester and Parnell, 2008). This external focus on the macro level is typical when the owner-manager is entering an existing market with a new product or service. The learning of the owner-managers about critical events during initial firm development is a combination of workplace, network and personal learning (Deakins and Freel, 1998; Minniti and Bygrave, 2001; Rae and Carswell, 2001; Marsick, 2009). The continuous learning and adaptation of skills during critical events is central but largely performed unconsciously by the owner-manager. Devins and Gold (2004, p. 246) draw attention to the issue that although such learning “is often very meaningful and directly relevant to work issues, it is not recognised explicitly as learning and occurs in an ad hoc or random manner.” How owner-managers learn to overcome the critical events associated with market entry is illustrated in the following paragraph.

### **Owner-manager learning in relation to start-up forms**

The owner-managers of Firm A were employed part-time during the first three years so that they could finance and run their start-up business. The owner-manager stated

that: *“A real salary increase in comparison with a full-time job has only been achieved after five years in business.”* During this time period, the owner-managers spent countless hours discussing, examining and optimising their products as well as thinking about tapping into new business fields with additional services for their customers. This learning-by-doing process in the context of the complex environment of small firms is a well-recognised approach to learning (Gibb, 1993; Cope and Watts, 2000; Minniti and Bygrave, 2001). In parallel, the owner-manager of Firm A mentioned nine critical learning events during this early phase of firm development. The main issue was that their great ideas went too far beyond the local market needs. However, over the course of time the underlying conditions of the market changed in favour of their products and the firm went from a critical start-up phase to a phase of prosperity with several intervening development stages. The owner-manager underlined that he had always been convinced that they would achieve success in the complex field of stereolithography and chemical material development. This firm achieved growth patterns which exceed 10% of turnover and an increase in the number of employees of at least 20% per annum over a period of three years. Firms with such characteristics are categorised as “high-growth” firms or gazelles (Molian, 2012). At the time of the breakthrough, the firm had already changed its location once and had also employed freelancers and part-time employees. Further details about the experience with initial staffing and related owner-manager learning in this field are described in subsection 7.4.3.

The detailed analysis of strengths and weaknesses of the market and competitors is an important task and well commented in the literature on business planning (Lester and Parnell, 2008; Castrogiovanni, 2011). The market segmentation, marketing mix and positioning of the firm are investigated in the field of marketing (Kotler and Armstrong, 2011). For owner-managers, extensive knowledge of the market is an important foundation for starting a business.

The owner-manager of Firm B had an early experience during his apprenticeship. He said: *“As an apprentice you are always the last person to be informed.”* This situation triggered his wish to become an owner-manager at an early stage. Several years later, he established his own business and summarises: *“For me, being responsible for the firm and its customers was an extraordinary learning event.”* The position of an

owner-manager is built on leadership. Wanting to be and being a leader is something quite different from the initial experience of being an owner-manager. The process of feeling the mental burden of taking responsibility for others and the firm was a key learning event for the owner-managers. This finding is very much in accordance with those of David and Watts (2008).

The third start-up firm benefited from the advantages of being founded by a team, which means more talent and resources (Barringer and Jones, 2004). The process of the merger between the three individual start-ups was an intensive phase of discussion, reflection and goal setting for each owner-manager and incorporated numerous critical learning events. The team of owner-managers in the case of Firm C critically discussed and developed a firm-specific strategy, set communication rules and divisional targets to avoid management conflicts from the beginning. Defining clear roles for the collaboration was a critical success factor as this helped to build an entrepreneurial team (Deakins and Freel, 1998). All three owner-managers were convinced that their complementary skills and ideas have accelerated the growth of the firm. Firm C has had the fastest growth rate of the sample. Castrogiovanni (2011) asserts that firms with strategic planning achieve higher performance.

### **Critical learning events shaped the thinking of owner-managers**

The critical learning events that emerged during the initial and post-start-up phases are unique and at the same time these events shaped the thinking of the owner-managers and paved the way for the next development phase of the firm. Owner-manager learning depends on the balance between the available resources and the optimal resources to solve the problems. The limited resources of small firms make them more susceptible to external influences. At the same time, this encourages an ability to improvise and underlines the applied informal learning approach in small firms (Marsick et al., 1999; European Commission, 2001; Malcolm et al., 2003; Billett, 2004; Oberholzer and Dorr, 2008; Mc Kee and Eraut, 2011). Even the decision to retain a balance between the investment in additional resources and improvisation is a critical event for the owner-managers. The findings highlight the fact that during the start-up phase the critical events are mainly linked with external factors such as customers, competitors and continuous product development. The absence of the appropriate company structures means that there is little or no perception of critical

events. During this phase, the emphasis is on investing all available resources in increasing turnover and generating a profit to ensure survival (Shepherd et al., 2009). In the following section, the critical learning events of the owner-manager as successor are investigated in comparison to the founders. This addresses research question three: “How do the learning priorities of successor owner-managers in small family firms change during the firm’s development?”

### **7.3.2 Owner-manager learning during the succession process**

All successors in the sample completed their apprenticeship in the family firm. Until the time of the succession they had worked in the family firm for between nine and 17 years and in several business fields. Based on their experience, the successors know the social network as well as the ups and downs of the firms and the business environment from different positions in the firm. During this long-term assimilation into the business, all three owner-managers completed formal training with focus on finance and management. This underlines the effort of the owner-managers to develop their management capabilities (Jayawarna et al., 2007).

Two of the three successors suffered from the founder’s hesitation in relinquishing control of the firm during a period lasting several years. They report a critical phase alongside their daily business, which coincides with the findings of Chirico and Laurier (2008) and Pardo-del-Val (2009). For the owner-managers, the succession has brought in particular changes to the usual daily business routines. The tasks shifted from a specialist-driven to a management-driven approach in the fields of production or product development. This transformation, which entailed numerous critical learning events, was tackled differently by the successors. The critical learning events were related to internal issues like new equipment, capacity expansion, financial topics or new organisation structure.

The owner-manager of Firm D expanded the production capacity to be ready for growth. The owner-manager recalls the building of the new plant as an important critical event which marked the launch of a new area. During the succession phase, the owner-managers of Firm E and Firm F started a formal course in economics to cope with the increasing need to address financial issues. The owner-manager of Firm E underlines that his father, the founder, “*did not prepare the income statement*

*and the balance sheet in a structured fashion.*” This lack of the appropriate financial calculation and planning tools was a critical learning event in the new position as owner-manager. In a similar way, the owner-manager of Firm F encountered requirements and undertook several strategic project investments during the pre-succession phase. This owner-manager reports on an intensive learning phase and the recognition that his broad technical knowledge had not been sufficient to run the business.

All three owner-managers of the family firms reported that the production itself is not the most critical point for small family firms. They can build on solid product and customer portfolios and “an intrinsic condition for the existence of knowledge” (Lave and Wenger, 1991, p. 98). The challenging factor is the financial side. In contrast to the start-ups, the financial issues are less related to debt capital. The owner-managers think more about strategic investments or critically reflect on a loss. One owner-manager highlights the investment in new up-to-date equipment to remain competitive. Another owner-manager in the family firm sample has learned to agree the precise scope of delivery with customers in advance to avoid any financial setbacks. This workplace learning enabled him to optimise planning and to avoid bottlenecks in production. Finally, the third owner-manager had experienced a research and development error due to time constraints. This mistake ended in court proceedings and led to extreme losses which almost ruined the family business.

### **7.3.3 Owner-manager learning by establishing a firm structure**

For the most part, owner-manager learning by establishing a firm structure is not perceived as learning. The owner-managers are faced with this kind of learning when the firm develops. The timing and the process of establishing a firm structure vary depending on the growth aspirations of the owner-managers (Davidsson et al., 2006; Brush et al., 2009).

Irrespective of the firm’s development process, it is inevitable that a certain number of roles or a structure will have to be implemented in the interests of more efficient cooperation. Starting and managing a firm successfully requires a different set of competencies (Boeker and Karichalil, 2002).

The analysis of the sample confirms the findings of Barringer et al. (2005) that team founders implement structure earlier than others. Reflecting on the transition and development process, the owner-manager of the fastest growing start-up in the sample commented: *“If we had had the knowledge and experience of today, we would have triggered the phase of the new financial structure much earlier. That means three years earlier.”*

The establishment of the firm structure is linked with growth in the number of employees as well as being interrelated with additional machinery or a new business location in the start-up firms. Owner-managers in the start-up phase react to growing order and sales volumes, which supports the reactive behaviour of small firms highlighted by Ates et al. (2013). This predominantly reactive learning helps the owner-managers to maintain a balance between growing demand and the optimisation of the output and firm structure. The interactive learning between demand, output and resources triggers a dynamic reflection process which builds on the previous learning (Argyris and Schön, 1978; Pedler and Burgoyne, 2008). At this stage, the owner-manager balances the firm’s external demand with its available internal resources.

All three owner-managers of the start-ups report critical learning events at this stage. These include situations such as the growth rate being too high for them to cope with establishing the corresponding internal structure, or having to boost turnover to generate the financial resources to invest in the next development stage. The findings indicate that the more a young firm becomes established, the greater the internal interests and internal issues are developed and the focus on owner-manager learning shifts from market-driven topics to internal management functions.

In contrast, all three successors of family firms had a different purpose. All of them pushed the expansion of the plant to increase the capacity and efficiency for further growth. This expansion highlights the succession process and signals the introduction of a new owner-manager era for the employees, customers and the firm. The owner-managers of the family firms utilise the stable financial position of the business to realise their growth ambitions by proactively investing in the next development phase. This proactive owner-manager learning focuses on internal management functions like HR and internal process management. The owner-manager of Firm E underlines

the reason for the planned expansion: *“The firm needs a certain size to be attractive for industry customers. The customers expect not only a reliable partner for delivery and quality but also a partner for long-term cooperation. Therefore, small firms should invest to become an attractive business partner. At the same time, a certain size of 20 to 30 people increases flexibility, compensates bottlenecks in resources, has the positive side effect of word-of-mouth recommendations and offers the opportunity for attractive jobs.”*

Williamson (2000) argues that smallness is a liability. The findings of the owner-managers underline that smallness can also be a catalyst for creativity and the development of new approaches. The owner-managers conclude that smallness is a liability when it comes to delivering what the market wants but an asset in terms of creativity, owner-manager learning environment and the fast growth of HC.

#### **7.3.4 Owner-manager learning based on the economic crisis**

The owner-managers of the sample started different internal programmes to combat the economic crisis between the years of 2008 to 2010. The owner-managers of the start-ups proactively used the time during the economic crisis to prepare the organisation structure of the firm for the next growth phase after the economic crisis. They focused on their core competencies (Prahalad and Hamel, 1990), repositioned the firm and adapted the strategy. In parallel, they strengthened internal collaboration through investments in continuous vocational training and knowledge sharing programmes. In terms of learning, the owner-managers of the start-up used this critical phase to optimise internal processes and cooperation. The owner-manager of Firm A hired an assistant to strengthen the research and development department and the processes of knowledge sharing and HC development in particular to foster the firm-specific knowledge (Stewart, 1997; Wenger, 1998). Furthermore, he drove forward the automation of the new plant.

The concentration on internal factors during the economic crisis is described by the owner-manager of Firm B: *“The economic crisis hit our firm and our customers immediately without warning. Overnight, one customer reduced 90% of the volume. The critical point in such a situation is that as owner-manager you are powerless to react because the circumstances are externally driven.”* Furthermore, the owner-

manager of Firm B started a formal course during the crisis to understand the relationship between the economic crisis and the operational environment. All owner-managers are proud of their commitment as none of the investigated firms laid off any employee during the economic crisis. They are aware of the positive effect on their reputation as a reliable company, particularly in the local community, and retained their HC for the next development phase after the crisis. All owner-managers highlight the fact that they have invested too much in the development of firm-specific skills (Stewart, 1997) for the employees.

The activities in family firms during the economic crisis were similar to those in the smaller start-up firms. The owner-managers fostered internal collaboration and showed a high level of loyalty towards their employees. This commitment to the employees strongly confirms the initially identified behaviour in small firms (Barber, 2006). The owner-managers of the family firms have critically analysed their internal production and organisation processes to develop new powerful business ideas for cooperation with existing and new customers as all owner-managers were faced with decreasing customer loyalty. Therefore, the owner-managers proactively introduced new business models to reduce customer and profit losses.

The critical analysis of the underlying conditions indicates that the economic crisis rapidly destroyed some business fields but at the same time provided the owner-managers with more time to reflect and look forward to other business opportunities. The time became available because the owner-managers decided not to shed any of their employees. They used this time to critically reflect on existing work flow processes and product portfolios. Two owner-managers underline that they benefited from the economic crisis as the speed, and consequently the likelihood of errors, was reduced in the production area. A positive side effect of the economic crisis for one of these firms was that the number of complaints declined and delivery dates were kept. Previously, employees had been under extreme time pressure due to a permanent overload of too many orders or too short delivery dates. The owner-manager acknowledges this side effect of the increased quality as being very positive. The owner-manager of Firm C put the situation in a nutshell: "The external economic crisis provided us with an appreciated rest."

#### **7.3.4 Summary of learning during the start-up and succession phases**

The critical learning events and episodes which emerged are not perceived as crises by the owner-managers. Examination of the situation mainly triggers informal learning at the workplace (Revans, 1998; Marsick et al., 1999). None of the investigated owner-managers who founded the firm reported twice about same learning events. This finding indicates that learning, mainly informally based, builds on double-loop learning during the development phase. The owner-managers have recognised the necessity to reflect on and critically analyse the current situation, which is related to the double-loop learning model (Argyris, 1999). The critical reflection is expanded beyond the firm development processes and the associated social networks (e.g. family, customers, suppliers, partners) then become involved in the discussion of critical events (Lave and Wenger, 1991; Down, 1999; Clarke et al., 2006; Fuller-Love, 2006; Hamilton, 2006; Rae, 2006). The applied double-loop learning by owner-managers confirms that informal learning in small firms has a significant impact on qualifications and skills (Marsick et al., 1999; Billett, 2004; Eraut, 2004b; Gruber et al., 2008; Livingstone and Raykov, 2008).

In contrast to the founders and as a result of the established firm position, owner-manager learning in the case of successors is more centred on management tasks to ensure that the firm continues to flourish. The findings underline that, particularly during the succession phase, owner-managers in family firms combine formal learning with informal learning at their workplace more frequently than owner-managers in start-ups (European Commission, 2001; Laforet, 2013). This formal learning takes place at business schools and universities. There are two additional conditions which successors have in their favour. Firstly, all three owner-managers who represent the family firms in the sample can rely on an established product portfolio and a developed organisation structure which allows them to be absent from the firm for certain periods of time. Secondly, the financial situation of all investigated family firms is more established in comparison with the situation of founders in start-ups who have to deal with issues like life assurance to obtain debt capital.

There are distinct differences between founders and successors in terms of the owner-manager learning associated with the establishment of the firm structure. The former have to optimise their limited resources to cope with an increasing order

volume, whereas the latter invest proactively in new plant to emphasise their willingness to grow.

The following section highlights the interplay between owner-manager learning and HCD in small firms and addresses the fourth research question: “How are the processes of owner-manager learning and HCD in small firms interrelated?”

## **7.4 Owner-manager learning and human capital development**

The generation of HC in small firms is a multi-layered process and involves a continuous interaction with the external world. Firstly, it comprises all three layers of individual (micro), firm (meso) and the environment (macro). A contribution to one of these layers has a direct and an indirect influence on the other two. Secondly, the commitment of the owner-managers to successfully triumph over critical events positively influences the development of HC. Each critical learning event “can generate new patterns of interaction between individuals and their environment” (Nonaka, 1994, p. 18). Moreover, each of the highlighted critical learning events contributes towards increasing a firm’s HC.

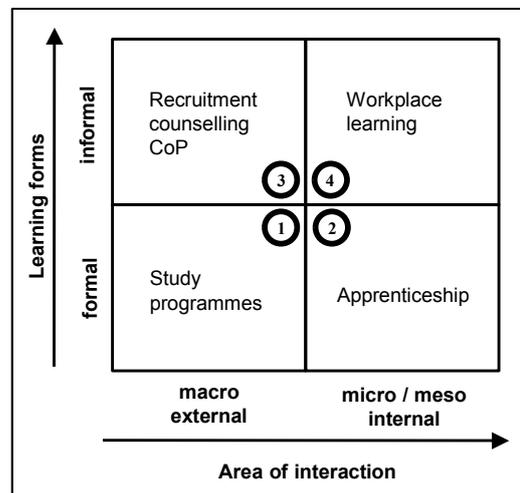
The impact of HC development through learning at the workplace in small firms and its contribution for the firm and the region has started to become a key topic in particular since the economic crisis (Fayolle and Matlay, 2010; Ahlgren and Engel, 2011; Hoffman, 2011; Henry and Chatzichristou, 2014). This will also enrich the studies relating to CVET, which has focused on measuring the days or financial amounts spent on further education activities (Westhead, 1998; Patton and Marlow, 2002).

According to Stewart (1997), HC is in the upper right quadrant of the developed two-by-two matrix as presented in Figure 4-3. The applications and the skills to perform tasks are divided into three categories. Firstly, these involve the commodity skills, which are not specific to a particular business and are useful to a number of other businesses. These skills are related to generic HC (Swart, 2006) and the employee group of support staff (Sveiby, 1997). Secondly, these are the classified leverage skills, which “tend to be industry-specific, but not company-specific” (Stewart, 1997, p. 89). Finally, there are the proprietary skills, which are company-specific and contribute to the firm’s HC while at the same time being less attractive for other

employers. Company-specific skills are an asset for any firm and retention efforts should be targeted at employees who possess them (Stewart, 1997; Taylor, 2002).

The two-by-two matrix developed by Stewart (1997) can be adapted for the owner-manager learning. There are two main approaches to expanding the HC of a firm, which are highlighted in the adapted two-by-two matrix in Figure 7-1. The dynamic process of knowledge creation is influenced by the applied forms of formal and informal learning and by the internal and external interactions of the owner-managers. For the discussion about the development of HC, the adapted two-by-two matrix from Stewart (1997) is suitable as it reduces the complexity to four main areas.

**Figure 7-1: Learning and interaction in the light of HC development in SMEs**



Source: Author

In the upper right quadrant numbered with (4), Figure 7-1 shows workplace learning, which is confirmed by the study as the most active and relevant learning area of owner-managers in small firms (Marsick and Watkins, 1990, 2001; Dehnbostel and Pätzold, 2004; Gruber et al., 2008; Mc Kee and Eraut, 2011). This finding supports informal learning as the widely-used learning form in small firms (Gibb, 1997). The formal owner-manager learning process began with the apprenticeship (2) within the dual system (Masdonati et al., 2010). The HCD in small firms is complemented by formal study programmes (1), in particular finance and marketing (European Commission, 2001; Laforet, 2013). The analysis demonstrates that another important channel for the knowledge sharing and creation process is the informal exchange and

networking (3) with consultants, peers in communities of practice (Wenger, 1998; Ahlgren and Engel, 2011; Castrogiovanni, 2011) and recruitment from the external labour market. Each of these four owner-manager learning areas is discussed below.

#### **7.4.1 Workplace learning and human capital development**

The comparison of the firms and the cross-case analysis are used to display the parallel development of the owner-manager and the firm. The idea is to assign the preferred learning form of the owner-managers in the context of the interaction with their business world. The learning patterns are assigned according to the definition of Stewart (1997) with commodity skills (general), leverage skills (industry-specific) and company skills (firm-specific).

Owner-managers and the initial employees have to fulfil and deal with a wide range of tasks and subjects which are often not their core competencies, particularly in the post-start-up phase of a firm. Their commitment drives them to utilise their knowledge for these new tasks. The knowledge transfer within the new, more specific tasks such as marketing, finance or leadership supports the process of continuous reflection on the part of the owner-manager (Argyris and Schön, 1978; Pedler and Burgoyne, 2008).

Owner-managers are absorbed with daily business due to the rapid development of the firm (Kelliher and Henderson, 2006; Chirico and Laurier, 2008). One meaningful key finding is that in the case of small firms, excessive growth leads to a continual need for phases of consolidation. Taking the time for strategic and organisational realignment is essential if the next development phase is to be successfully mastered. During the initial phases of the firm, the development process is oriented towards the creative chaos which stimulates the interaction between the organisation and the external environment (Nonaka et al., 2000). Conscious examination is performed at a later stage of the firm's development.

The owner-managers highlight the high level of workplace learning through the development of an internal "cockpit" system for capturing specific key figures to help them in their task of running and monitoring the company. The owner-manager of Firm C underlines: *"The key figures provided by the cockpit system are valuable as*

*they enable us to react quickly if necessary.*” The development of such internal key figures was an intensive learning process for the owner-manager with several learning loops and implies a lot of firm-specific experience and time for reflection.

The findings underline that owner-managers spend more time reflecting on their processes and actions than they realise. The reflection is mostly done indirectly, for example as described above by the development of key figures. The development of key figures combines fundamental knowledge about internal processes, the market and the firm’s financial position. Furthermore, the process of interpreting the key figures not only shows where the strengths and weaknesses lie but also encourages owner-managers to think beyond the present moment in time, which supports the process of planning. In terms of owner-manager learning, the example of the key figures underlines that it is not so important which figures are analysed. What is more important is that the owner-manager takes the time to think about the achieved figures and establishes trust in these management figures. The implementation of key figures is a powerful tool to trigger the process of owner-manager learning and reflection as a strategic approach. During incremental growth phases, owner-managers are required to strike a constant balance between order volume and the available personnel and financial resources (Brush et al., 2009).

#### **7.4.2 Fostering apprenticeships for human capital development**

Five of the six owner-managers and the management partners of the sixth firm of the sample completed an apprenticeship under the dual system. The dual system of vocational training enjoys a long tradition in the Rhine Valley area. At the same time, the concept of learning at the workplace and at the vocational training school helps to promote HCD in small firms in several ways. Each apprentice works with an experienced employee and a supervisor in the firm (Taylor, 2002). The owner-manager of Firm F states: *“The training of the apprentices fosters knowledge sharing between the employees.”* This statement underlines that the training of apprentices not only increases knowledge transfer between employees and apprentices but also stimulates the knowledge sharing process between employees, too.

Another approach to the development of HC at the workplace is to build up firm-specific knowledge by utilising the social networks within the firm (Ahlgren and Engel,

2011). This approach supports the findings of Wenger (1998). Once the apprentices finish their training, the owner-managers often encourage them to look for a job outside the firm, despite the fact that the apprentices have acquired a lot of firm-specific knowledge which is an asset for the firm. The idea behind this approach is that the apprentices should obtain further insights into their profession at another firm. The experience of the owner-managers confirms that after a few years most of these apprentices come back to the firm where they completed their apprenticeship. This concept of HC development builds on trust and generates a win-win situation for all the firms involved and for the region, too. The philosophy behind this regionally anchored approach is the development of a strong regional network, the exchange of knowledge, the generation of knowledge, the development of a highly skilled workforce and attractive workplaces. The former apprentices come back as specialists.

#### **7.4.3 Owner-manager learning following initial recruitment**

Small firms recruit most of their employees through informal networks (Barber, 2006; Marlow, 2006). The disadvantage inherent in the practice of recruiting through close relationships is that this can lead to a uniform mindset. These informal methods are appropriate during the early phases of the firm when it is yet to develop and achieve a reputation (Hill and Steward, 2000; Williamson, 2000). The decision to recruit an employee is mostly reduced to capacity issues. David and Watts (2008) analysed this process of initial recruitment which has a significant impact on owner-manager learning. Recruiting the first employee leads to various adaptations in leadership practice which concern social elements. Employing a person means taking on social responsibility and becoming an employer (David and Watts, 2008). The owner-managers in the research sample described recruitment as a multifaceted challenge. In particular, the initial recruitment process involves several tasks which influence the working style of the owner-manager and trigger further development steps as an employer. Initially, owner-managers think about freelancers or part-time employees, or offer placements. HRM literature on small firms tends to focus on this recruitment practice and as a consequence small firms are depicted as having less developed practices in the area of HRM (Rutherford et al., 2003; Barrett and Mayson, 2007).

Finally, when the decision is made to recruit the first employee, further critical events occur. The results demonstrate that one challenging leadership process is the requirement to accept different or even better solutions from employees and the ability to deal with the shift in core competencies towards more managerial and strategic tasks (Baron et al., 2001). The owner-manager of Firm A recalls the situation with the initial employee and his attitude to work. The employee worked his full eight-hour day and even invested more time. However, it took the owner-manager some time to accept that his employee's achievement within that time did not match his own demanding standard. The owner-manager underlines: *"I had to learn that I cannot expect my employee to achieve my 100% and that his 85% is ok."*

Another example comes from an owner-manager of Firm C which was founded by a team. The recruitment of a previous co-worker as the first employee was fine during the first few weeks. The founding team established a culture of collaboration which was collegial. Although the previous co-worker knew the owner-manager, the employee could not cope with the open and informal style of collaboration at work. Both examples of Firm A and Firm C underline that the owner-managers created a unique working environment which fully covered their needs and was in line with their attitudes, making them ideally placed to respond rapidly to the challenges of the business environment. At this early stage in the firm's development, the owner-managers did not recognise this informal style of collaboration as a problem. Both findings underline the importance of the personal fit in the recruitment process (Kristof, 1996; Cardon and Stevens, 2004; Barber, 2006; Marlow, 2006).

The owner-manager of Firm E emphasises: *"It is easier to train an employee than to show and teach him our cultural attitudes."* The close employee relationship is nonetheless underlined by all owner-managers. They stress that knowing each employee and their personal history intensifies the relationship and the responsibility. This close relationship is one of the reasons why small firms are often compared with a family. However, a family structure also has hierarchies, rules and behaviours which have to be respected. This is the rarely mentioned "glue" which ensures the cohesion within small firms and becomes visible when the economy has a downturn. All owner-managers in the sample try to maintain job security for their employees in difficult times.

The core team of a small firm remains predominantly the same despite the growth phases. New employees at a later stage or second-generation employees have a harder time integrating into the team. They miss the family spirit which had been established between the members of the firm during the initial growth phases. However, all three owner-managers of the examined start-up sample were faced with having to dismiss employees. In view of the closeness of the relationship and the commitment to social responsibility, it was a painful experience for the owner-managers, but at the same time they acquired useful skills and respect. The owner-manager of Firm B said: *“I had to dismiss this employee because he disturbed the established team culture.”*

Critical learning events with the first employee are essential for owner-manager learning and enable owner-managers to adjust their recruitment method. Nevertheless, owner-managers of the investigated small firms apply a mixed method of internal and external recruitment to achieve sustainable growth. This knowledge acquisition through external recruitment is described in the next subsection.

#### **7.4.4 Knowledge generation – recruitment and community of practice**

The recruitment of qualified employees has become a challenge not only for start-ups. Nowadays, the workforce of a region is more flexible and mobile. At the same time, this mobility of the workforce is an excellent source of enrichment for the local labour market and increases the HC of the region. Small firms are facilitators of workplace learning. Small firms increase their HC by offering specific informal internal or formal external training as well as through recruitment. The frameworks of recruitment in contemporary literature are often related to company size (Hill and Steward, 2000; Cardon and Stevens, 2004; Barber, 2006; Marlow, 2006).

##### **Knowledge generation through recruitment in small firms**

At the start-up phase, the hiring process is more open and related to the cultural fit (Kristof, 1996). People with similar attitudes and commitment are more present during the initial years of a company. The recruitment methods of the analysed firms developed with time, which supports the findings by Rutherford et al. (2003). The more developed a firm is, the more the firm lacks the time to train a new employee

from scratch. Therefore, more specialists are required and the characteristics of the cultural fit become less relevant. The trend in more established firms is to hire persons with a special corporate fit. The owner-manager in the case of Firm F underlines this: *“The salesperson has been productive from day one as he had his own firm and contributed his own customer portfolio. This is a real advantage to recruit a salesperson who brings his own business with him.”* The owner-manager emphasises three benefits for the firm: 1) profound knowledge of sales; 2) knowledge in the plastics sector; and 3) a network which complements the firm’s existing network.

The initial employees are mainly hired through close relationships or from the family (Barber, 2006). The key characteristic sought when recruiting is the enthusiasm to be part of team. Skills are mostly secondary at this stage. The personal fit is decisive (Kristof, 1996). During the employee’s familiarisation phase, the focus is on assistance with the performance of tasks and psychological support. The owner-manager recognises that over the course of firm development, time resources become increasingly limited and therefore the time-consuming task of training new staff for specific tasks is no longer possible. This recognition also shifts the hiring method to one with a greater industry- and skill-specific focus.

Besides the personal fit, new employees now have to offer convincing basic skills. The recruitment methods develop in parallel with the growth of the firm. Additionally, new employees are given specific training to become familiar with firm-specific requirements, attitudes and quality standards. In particular, this explicit firm training shapes the basic industry skills into firm-related knowledge, which is located at the upper right corner of the HC model proposed by (Stewart, 1997).

The findings relating to staffing in the analysed small firms are very much in accordance with those of Barber (2006), who underlines that in bad economic times small firms often become the basket for staff no longer employed in larger firms and then become the talent pool for these firms when the economy starts to flourish again. With this observation, Barber (2006) is picking up on the HC which small firms generate for a region. Although the leverage of HC and its development in small firms is mainly driven by the owner-managers, the contribution fosters an increase in the stock of knowledge not only at the meso level of the firm but also at the macro level

for the region. The role of small firms in increasing a region's HC is also recognised as the backbone of the economy (Audretsch and Keilbach, 2005; Eurostat, 2006b; Pickernell et al., 2010).

In terms of HC development, firm-specific knowledge makes a significant contribution towards firm value (Stewart, 1997). In a broader context, industry-specific knowledge is learnt during an apprenticeship or course. Studies underline that firm-specific knowledge is less attractive for other employers and lowers the incentive to change the employer (Stewart, 1997; Barber, 2006). However, both firm-specific and generic industry knowledge acts as drivers to increase the stock of knowledge and enrich the HC of a firm and ultimately of a region.

### **Knowledge generation in communities of practice**

Cooperation with small firms during the development phase was built on trust. This applies in particular to case study firm A. A relevant finding is that small firms also cooperate and coordinate with other small firms in the early stages of the firm development process. One suggested explanation is that other small firms have a similar attitude and firm culture, and more importantly, another small firm has only limited resources to take advantage of the know-how involved, which again helps to build trust.

For the firms A, D, E and F, the apprenticeships offered in their firms have been an enabler to cooperate in a community of practice, which strongly supports the framework developed by Wenger (1998). Moreover, the firms in the sample use industry-specific community of practice as a platform to cooperate and exchange experience.

### **7.4.5 Owner-manager learning through role transitions**

The role transitions of owner-managers during the development of the firm are manifold and include a higher grade of formalisation, increased complexity and the outgrowing of the start-up structure (Baron et al., 2001). The cornerstones or crises as described by the model of Greiner (1972) partially occurred in the investigated firms. During the firm development, all owner-managers have been faced with role transitions involving new management functions which are not their core competence

(Churchill and Lewis, 1983). This circumstance means that the owner-managers have to acquire new skills and competencies in the fields of strategy, planning, marketing, negotiation techniques, networking, accounting, finance and, most importantly, in leadership, which underlines the findings of Swiercz and Lydon (2002), and Kempster and Cope (2010). Acquiring these skills is necessary to utilise the growth potential (Scott and Rosa, 1996). Not all founders are willing or able to undertake the next growth step when a firm evolves from an entrepreneurial focus to an established business (Rubenson and Gupta, 1992; Storey, 1994; Grundy and Welsch, 2001).

The transition is linked with several owner-manager learning processes which are related to commitment and emotions (Cope and Watts, 2000). The owner-manager of Firm A describes this situation: *“It is a big emotional deal when you leave your beloved role as inventor behind and jump into a new function like marketing.”* The role transition from ‘doer’ to planner and leader is a long and enjoyable process but can also be painful and involve several critical episodes. In most cases, learning a new function is not consciously planned and tends to be an action to overcome a lack of knowledge or manpower. One of the most important role transitions for founders is the step of becoming an employer (David and Watts, 2008). This transition from founder to leader is described by the owner-manager of Firm B: *“I was too focused on the acquisition of new orders and overlooked the critical internal demands of the first employee. In the end, the employee left the job and the firm almost went under due to the lack of resources.”*

Growing firms need to manage resources effectively if they aim to achieve sustained growth (Macpherson and Holt, 2007). The task of managing resources effectively is linked with a role transition and is aptly described by the owner-manager of Firm C. She talks about the relaxed family atmosphere which allowed a few key employees to obtain personal advantages during the initial growth phase of the firm which could no longer be tolerated once the transition towards a more financially driven business had been achieved.

The successors in the sample referred to the moment when they became an owner-manager leading a team of between eight and 20 employees as a transition from the role of expert in various product-focused areas of the family firm to that of a newcomer in the field of management and leadership.

Owner-manager learning through role transitions is complex as it is interrelated with a wide range of tasks and responsibilities, and is influenced by external factors. The results of the analysis indicate that typical but not well analysed role transitions are the process of delegation, taking on new tasks and dealing with the influence of external factors like the economic crisis. These three aspects call for an adaptation of owner-manager tasks and roles. Additional impacts on owner-manager learning are discussed in the next section.

#### **7.4.6 Process of delegation**

The process of delegation is a central topic of owner-manager learning (Mazzarol, 2003). The results from the investigated sample show a strong link between the delegation of tasks and owner-manager learning. In particular, the process of delegation is an important research field of owner-manager learning. The process of delegation is acknowledged as a key leadership task and reduces the overload for managers (Yukl and Fu, 1999). Delegation is a knowledge sharing process and a catalyst for the development of learning and firm development as the owner-manager can invest more time in strategic planning tasks or new business ideas. This process of delegation is linked with the life-cycle position as described in the subsection 3.3.3. The findings indicate that the delegation of tasks not only includes the acceptance of different solution processes but also requires a reshape of the leadership skills of the owner-manager as they are used to control all aspects of the business (Fuller-Love, 2006).

Owner-managers underline that the process of accepting a different solution is difficult and time-consuming. The acceptance of an achieved result is always compared with the benchmark of the owner-manager. These are the core reasons why the delegation of responsibility is postponed in the early development phases by the owner-managers. However, the actual stage at which the delegation of responsibility takes place is a question of time, ambition of the owner-manager and growth rate. "Managers may place self-imposed limits on growth simply by the amount of time and resources they are willing to dedicate to growth-enhancing activities" (Barringer and Jones, 2004, p. 77).

The analysis confirms that the readiness to relinquish one task is linked with an intensive process of knowledge sharing. Owner-managers in the sample apply a structured but simple approach to trigger delegation by reducing the complexity and dividing the task into several subtasks. The starting point for the process of delegation is mainly production-orientated and is expanded towards planning tasks, followed by financial tasks like the calculation of an offer or the arrangement of payments. The next development phase within the delegation process depends on the level of achievement of the previously delegated tasks. The owner-manager categorises the level of achievement into three development phases. The initial stage shows that the employee requires further supervision and training (Taylor, 2002). Level two still calls for some supervision, before the owner-manager accepts the final product. As soon as the level is successfully achieved, the employee is prepared for the next level of complexity. The second level of complexity deals with additional external tasks and encompasses direct contact with customers and suppliers. Owner-managers in small firms are the interface between the firm and the external environment. Therefore, the delegation of this extremely important position calls for a high level of trust and commitment.

Finally, level three, the highest level of delegation for a key employee, involves taking on the complete project management life-cycle of an order according to the defined quality standards without checking by the owner-manager.

The owner-managers in the sample describe a multiple-stage learning process associated with delegation. It can be illustrated with the matrix shown in Table 7-3. The x-axis corresponds to the “level of achievement” and the y-axis to the “level of complexity”. As soon as at least 80% of the benchmark for the highest level of achievement is fulfilled by the employee, the owner-managers increase the level of complexity. The approach of learning at the workplace is successfully implemented by means of this iterative learning process.

**Table 7-3:  
Owner-manager learning matrix of delegation**

		Achievement in [%] of owner-manager expectation			
	Level	Area	≤ 60% More guidance and training	> 60% ≤ 80% Some adaptation and training	> 80% Acceptance, plus firm-specific knowledge
Level of complexity	1	Production			
		Planning			
		Calculation			
	2	Customer and supplier service			
	3	Project management life-cycle			

Source: Author

The listed order and level of achievement within the delegation process follow the concepts of the owner-managers in the production area and are not necessarily transferable to other sectors. Nevertheless, the emerged concept of delegation contains the complex fields of commitment, trust, empowerment and satisfaction for both the owner-manager and the employee. The interrelated process of owner-manager learning at the workplace contains several stages in terms of achievement and complexity, and mirrors the parallel development process of the firm and the owner-manager (Cope and Watts, 2000). Additionally, the process of delegation is an important driver to accelerate the transfer of knowledge and foster the community of practice (Wenger, 1998). Owner-managers demonstrate their ability by motivating and coaching their employees and are committed to the future. The continuous adaptation of the owner-manager role as boss, coach and adviser during the development phases is the focus of the next paragraph.

#### **7.4.7 Owner-managers learn by jumping into new tasks**

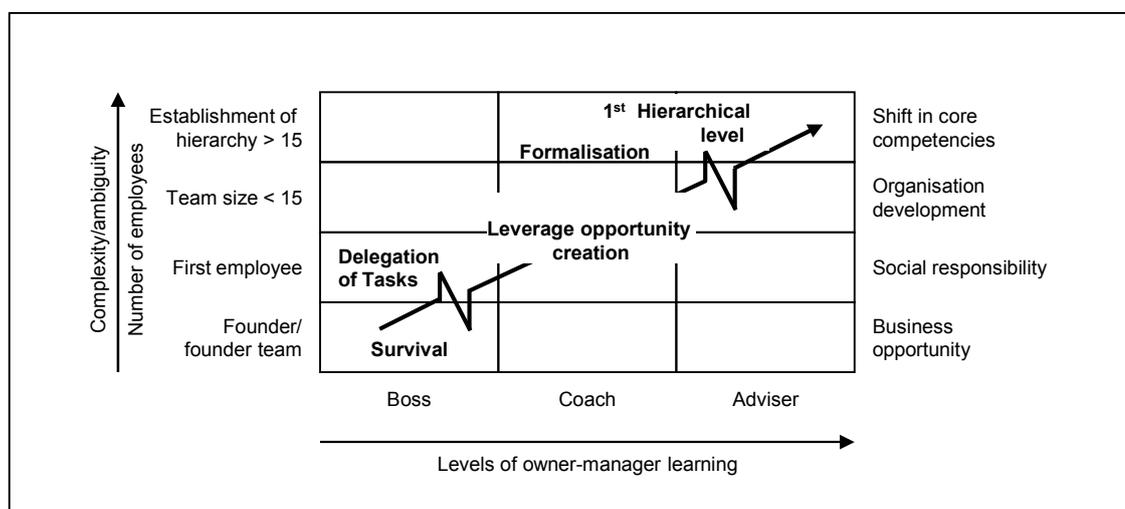
All owner-managers of the analysed firms look back with pleasure to the key events during the start-up phase. This time period is associated with a lot of positive and emotional feelings despite all the challenges (Vince and Gabriel, 2011). The start-up phase is seen as a great milestone and particularly as the first achievement of success, i.e. of ensuring the firm's survival. The owner-managers are proud of the mastered start-up and development phases of the firm.

During these challenges, the owner-managers mainly applied the learning models described in chapter three. The informal learning approaches contribute most to the owner-manager learning process (Marsick et al., 1999). The successful start of the firm strengthens the self-confidence of the owner-managers and encourages them to cope with the next challenges during the development of the firm. The owner-managers pass through several role transitions when the firm develops. Scott and Bruce (1987) express the changing roles of small business management in five distinct stages over the whole life-cycle of a firm. The owner-manager learning reflects a three-stage process in small firms in relation to the number of employees and the increased organisation complexity.

Figure 7-2 illustrates the evolution from owner-manager as individual learner to the more complex role as trainer and coach to the holistic role as adviser, which is consistent with the leadership continuum approach developed by Tannenbaum and Schmidt (1973). During the first stage, the owner-manager is focused on product implementation and the survival of the company. During this stage, the owner-manager's learning is concentrated on the development of creative solutions in new situations. The decisions are often based on a mix of experience, intuition and gut feeling. Analysis of the results enables the owner-managers to shift from tacit knowledge to more explicit knowledge. Owner-managers who have established a mixed organisational classification (e.g. commitment and star model) according to the definition of Hannan et al. (1996) prefer to delegate tasks in a transformational manner. Within a team of four to 15 people, the involvement of employees is more common and the owner-manager takes on the role of a coach and trainer for the learning processes. Until this size is reached, the owner-managers characterise not only the firm culture, but also act as the holder of technical knowledge and are the contact person for all key customers and suppliers. With increased complexity resulting from growth, the next role transition step for the owner-manager involves relinquishing the role of coach and becoming an adviser (Swiercz and Lydon, 2002). This is a consequence of the kind of formalisation process and the limited time resources of the owner-manager. An owner-manager who enters into the role of adviser applies characteristics to support the transfer of knowledge (Knowles et al., 2005).

In the learning context, the owner-manager passes through three different layers of learning. These consist of the learning as individual and boss, the learning as trainer/coach for the key employees and the learning as adviser within the context of the whole firm. The interplay between the different learning roles enhances the owner-manager learning process. Figure 7-2 summarises the main development phases for the owner-manager of a start-up when the firm develops in terms of learning to cope with the increased complexity.

**Figure 7-2: Role transition of the owner-managers**



Source: Author

This transition process also reflects the flows of learning during these transitions. The stock of knowledge of the owner-managers and the firms increases as a result of the development. However, the process of firm and owner-manager development influences the knowledge focus. The learning continuum for an owner-manager is multi-phased while the firm develops (Cope and Watts, 2000). The tasks for owner-managers at the start-up phase and during the later expansion phase differ with regard to the increased responsibility for the products, the firm and in particular for the employees (Grundy and Welsch, 2001).

The successors of the family firms experience a different development. Initially, all three successors grew up when the firm was founded by their fathers. Later, they completed their apprenticeships and took up positions in the research and development department or key positions in production. This approach to knowledge

sharing is underlined by Zahra et al. (2007, p. 1076): “They also suggest that family firm managers have an important role to play in defining these capabilities and promoting formal and informal knowledge sharing.” The close relationship with the founder and consequent dependency when it comes to decision-making have emerged as the greatest burden when it comes to the succession process (Cabrera-Suarez et al., 2001; Pardo-del-Val, 2009; Hamilton, 2013). The owner-manager of Firm D recalled the critical situation when he was responsible for the whole firm but experienced a lack of knowledge regarding customer relationships and financial issues. This situation highlights the fact that while founders and successors have to learn advanced management skills, the focus on these skills takes place at different stages (Pardo-del-Val, 2009). The final subsection addresses the applied owner-manager learning concept where workplace learning is combined with formal study programmes.

#### **7.4.8 Formal study programmes for HC development in small firms**

The owner-manager of Firm B represents a leading approach to knowledge creation by pursuing formal courses of study. An interesting statement of the owner-manager is that *“a degree course which is too generic does not fit with the firm strategy of creating value for the firm and the costs will probably be far too high for a small firm.”*

Owner-manager learning during the economic crisis is mainly based on informal learning at the workplace. However, two owner-managers, one founder and one successor, took advantage of the situation to start a formal course of study. Both owner-managers found the formal learning modules to be a positive experience. Completing an MBA degree provided opportunities for reflection with peers (Laforet, 2013; Rae and Woodier-Harris, 2013). The learning of an owner-manager largely depends on the time horizon because the interpretations are directly linked with the environment in which the firm operates. It is important for the owner-manager to be able to recognise the contribution of knowledge. “In other words, the owner-manager’s HC is applied to create structures of organizing and address the owner-manager’s role in creating a context in which knowledge and learning are valued” (Jones et al., 2007, p. 283).

#### **7.4.9 Summary of knowledge creation and sharing in small firms**

Knowledge sharing and creation are combined with concrete tasks in the analysed firms. The owner-managers emphasise that the multiple tasks become more complex due to a mix of several disciplines such as project management, finance and organisation development.

The findings highlight the fact that the establishment of personnel development structures lags behind firm development. The most important feature of this process is that the top management team should lead by example. This approach is fundamental as the basis for the knowledge creation and sharing. Incremental growth and firm development generate new positions for employees. The owner-manager in Firm C uses internal recruitment to demonstrate to employees that career development is possible and desirable within the firm. In one example, the internally recruited employee has gained notable firm-related experience in the project management field. This specific know-how provides the basis for a new post in the financial department. In view of the fact that firm development is built on firm-specific knowledge, HC of this kind can make a significant contribution in this context (Stewart, 1997). However, findings relating to the willingness of key employees to share and create knowledge demonstrate a high rate initially when they start off in a new job but a decrease over the course of time. The identified reason is that key employees can use their inside knowledge for personal development.

All six investigated firms cooperated with an external consultant on at least one occasion. The levels of cooperation differ in terms of the scope and type advice. Examples include help with a marketing campaign, critical examination of the annual report or support for the development of a new strategy. All owner-managers emphasise that the inputs from the consultants are helpful because the examination takes place away from the daily business. A consultant is seen by the owner-managers as a sparring partner for firm-specific knowledge sharing and knowledge generation to transfer tacit knowledge into explicit knowledge (Nonaka, 1994; Stewart, 1997; Nonaka, 2005). In summary, while the external perspective is helpful, ultimately the owner-manager has to decide which aspects will be taken on board or translated into action.

In response to the economic crisis, many medium and large firms insourced services, causing many small firms to go bankrupt. The owner-manager of Case F negotiated with the owner of a bankrupt firm and pointed out that the value (stock of knowledge) of his firm resided in his person and therefore purchasing the firm would not be not lucrative. However, the owner-manager was able to take advantage of the situation by offering the firm owner a job as salesperson. This would enable the firm owner to benefit from his own network and combine this with the existing network of his new employer. With this strategic approach to knowledge sharing, the owner-manager succeeded in simultaneously resolving his own requirement for a salesperson and the firm owner's need for income.

The training provided in the investigated sample is predominantly focused on firm-specific learning. This informal learning for employees is resource-based and target-oriented to fulfil the daily learning (Marsick and Watkins, 1990). At the same time, this specific firm and process knowledge is less attractive for other employers and therefore strengthens the bond with the company (Stewart, 1997).

The knowledge creation process within the sample firms was accelerated by the challenge of increasing orders levels, which put the firm's problem-solving capabilities to the test. The resulting close relationship with customers strengthened the learning process between customer and owner-manager (Wiklund et al., 2009). The owner-manager of Firm D was given an opportunity of this kind and encouraged to exploit a gap in the market by coming up with a creative solution. Although the order was related to a new sector, the owner-manager was convinced the firm had the knowledge to realise the project. This confidence was rooted in the experience gained in different fields in the plastics and tool making sectors over the last two generations. The example shows that positive experience is an important factor to accelerate the knowledge creation and sharing process. In the following section the owner-manager learning experiences revealed by the research are mapped onto the conceptual framework of the owner-manager learning continuum, in order to answer the fifth research question "How do the learning trajectories differ between founders and initial successors in small firms?"

## **7.5 Learning continuum of owner-managers**

The above highlighted processes of delegation and the process of assuming new tasks are the source of the learning continuum for the owner-managers. The following analysis of the learning continuum is twofold. Firstly, it depends on the experience and previous knowledge of the owner-manager (Cope, 2005) and the stage of firm development. Secondly, learning while the firm and the owner-manager are developing is closely linked with the duality of exploration and exploitation (March, 1991; Gupta et al., 2006; Politis, 2008; Lavie et al., 2010). The learning continuum reflects the parallel development processes of the owner-manager and the firm (Cope and Watts, 2000). As a consequence, the development of the owner-manager is linked with his/her ability to learn and the applied learning forms of informal and formal learning (Deakins and Freel, 1998; European Commission, 2001; Devins and Gold, 2002).

### **Strategic drivers of owner-manager learning in small firms**

The learning continuum as previously identified by Cope and Watts (2000) can be adapted to the early learning in family firms. As described in subsections 3.4.3 and 3.4.4, learning and knowledge generation in family firms are embedded in the initial phases of the life of a family firm (Hamilton, 2006; Chirico and Laurier, 2008; Hamilton, 2013). Cabrera-Suarez, et al. (2001) underline that the family involvement triggers an evolutionary process that begins before the next generation enters the family business. In the course of time, the potential successor is supervised and encouraged by taking over more responsible tasks.

Owner-managers of start-ups, small firms and family firms are committed to their company. Although business strategy is not always clearly defined or written down, it is far from being arbitrary because the strategy process in small firms is generally more informal and unstructured (Leitner, 1998). It appears the strategy has a tacit character as the owner-managers act according to virtual and intuitive guidelines based on an emerged process (Mintzberg et al., 1998). Furthermore, the personal goals of the owner-manager can influence the strategy of the firm (Wiklund et al., 2009).

In order to cope with an unknown future, targets are kept within a particular bandwidth by the owner-managers. The ability to balance resources in a rapidly changing and uncertain business environment is therefore a key to growth and at the same time the trigger for various learning processes for owner-managers. In contrast to the general approaches of learning, owner-managers cope with challenges in ways which are unique for their particular companies and appear to follow strategies based on intuition (Leitner, 1998).

Cope (2003a) emphasises that the critical experiences during the growth process help to understand the learning developments of owner-managers. Learning is a process which never ends and is also a process of unlearning. "A human being cannot avoid learning" (Härtel, 2009, p. 23). This statement underlines the importance of the data collection on owner-manager learning as a learning continuum. In small firms, the development of owner-managers and the firm is a complex interrelated and simultaneous process. "However, any integrating framework would need to recognise the immense diversity of accumulated learning brought to the start-up, the individuality of both the context and the development of every small business and the super-complex interactivity between the 'personal' and the 'business'" (Cope and Watts, 2000, p. 118). The development of a framework to capture the learning continuum has to consider the internal and external knowledge gaps.

The learning gaps may often emerge as side effects of growth in small firms. According to the findings of the life-cycle theory, the reactions of owner-managers are critical learning events to overcome the problems in running a business (Greiner, 1972; Hanks et al., 1993; Hill et al., 2002). An internal learning gap can be a learning crisis of the owner-manager caused by several factors such as loss of market share, missing leadership, illness or personal reasons.

In contrast to the internal learning gaps, there can at the same time be external knowledge gaps. One feasible definition of an external knowledge gap is the difference between the available knowledge within the firm to produce its innovative products and services compared with the leading products and services in this competing market of best-in-class or world-class companies for a service or product. The term "world-class manufacturing" was first used by Hayes and Wheelwright (1984, cited in Flynn et al., 1997, p. 671) to describe organisations which achieved a

global competitive advantage by using their manufacturing capabilities as a strategic weapon. In contrast to large firms, small firms play a central role in particular in their niche market, where they can provide customised products and services, which distinguishes them from the standard provided by such world-class manufacturers. Consequently, a leading small firm provides at least best-in-class standards in their niche market.

The obtained field data provides a set of internal and external critical learning events of owner-manager learning for a detailed analysis and the development of an initial framework of the continuum learning approach. The framework is described in the next subsection.

### **7.5.1 Framework of the learning continuum**

The owner-manager learning continuum is directly related to the parallel development of the firm and its environment. Owner-managers in small firms have phases of different learning foci such as external issues, internal issues and knowledge sharing, as described in the previous chapter 6. The owner-manager learning is mainly informal (Eraut, 2000a; European Commission, 2001; Mc Kee and Eraut, 2011). The analysis of the owner-manager learning continuum follows several development stages of the firm. Although life-cycle models have reaped a lot of criticism, they do highlight key development steps and crises which can occur during the development of a firm (Phelps et al., 2007). Nevertheless, despite the criticism that they simplify growth stages into linear sequences, life-cycle models provide a solid basis for analysing the continuous learning steps. The life-cycle models are well known and make it easier to follow the interrelated development processes of the owner-manager and the firm.

Owner-managers are constantly challenged by the balance between daily operational problems and the parallel long-term development process of the firm. Around three-quarters of the emerged critical events highlighted by the owner-managers in this research sample are reactions to such events. All of these events triggered greater reflection. Particularly the open and creative approach to getting things done fosters creativity in the initial years of the firm. This speedy process also increases the failure rate but triggers the reactive learning process (Politis and Gabrielsson, 2009). In

terms of the concept of reactive learning, this early firm-specific learning at the workplace is a real asset for both the owner-manager and the firm (Stewart, 1997). For this reason, the shift from the daily operational challenges towards to more strategic thinking is a major step towards fostering the proactive learning approach of the owner-manager. The shift towards this proactive learning approach requires a certain set of established organisation structures. These structures are built on a growing customer and financial base. For example, the owner-manager of Firm B established a top management team to relieve him of the daily business issues and enable him to devote more time on strategic management topics.

The learning continuum of owner-managers is individual and depends on the selected position of the analysis. Owner-managers who have started a firm possess a certain amount of previous knowledge (Cope, 2005) and enter into the parallel development process. Each owner-manager takes on the responsibility for the firm, customers, products and employees from the very beginning.

In comparison, the group of owner-managers who are successors grew up with the firm and became familiar with the business during their childhood (Hamilton, 2006, 2013). Later on, most of them completed their apprenticeships in the family firm and took up key positions in the firm. These positions are primarily focused on the internal responsibilities of product development and production planning. Management functions like finance, personal or customer relationships are rarely touched by the successors before they have completely taken over the family firm. After the succession, the owner-managers are suddenly confronted with issues of customer relationship management, financial topics or staff issues after an extensive and smooth process of integration.

The ways and underlying conditions of taking over responsibility and leadership for the firm are quite different for owner-managers in start-ups and successors in family businesses. The deeper analysis of the different approaches is highlighted by the three owner-manager learning phases of external issues, internal issues and knowledge sharing in the previous chapter, summarised in Tables 6-2 and 6-3. These three learning phases are complemented by a specific pre-learning phase of in start-ups and family firms. The specific pre-learning phase in start-ups is centred on products and services in which the owner-managers recognise a potential market

(Shane and Venkataraman, 2000). For young family members in family firms, the pre-learning phase encompasses their smooth integration into the firm by means of placements (e.g. during holiday periods). Later, they then go on to complete an apprenticeship in the family firm. All four phases of the learning continuum and parallel development of the owner-manager and the firm for both kinds of small firms are discussed on the basis on the comprehensive framework of the “Learning continuum” in Figure 7-3. The comparison of these two different forms of entry into a firm provided the basis for the development of the framework of the learning continuum in small firms.

Figure 7-3 portrays the learning continuum for owner-managers labelled with (a) who founded the firms or (b) who took over the firms as initial successors. The learning stage of the owner-manager is described according to the four identified learning phases of pre-learning about the business and product, the start-up or succession phase, the development phase of the firm and the knowledge sharing phase. The learning continua for owner-managers in start-ups<sup>25</sup> and for successors<sup>26</sup> are analysed in the following paragraphs with the framework of the learning continuum. These learning phases during the development of the owner-managers and their firm are related to the concept of the life-cycle model of a firm (Greiner, 1972; Phelps et al., 2007). Each analysed firm and owner-manager in the sample has unique development processes and therefore the described patterns are just attempts to sketch the complex interrelation of the learning continuum.

The learning continuum in Figure 7-3 also indicates the different development stages of the firm. The displayed learning continuum reflects the development stages of the analysed owner-manager learning in small firms. It is striking that for the most part the activities of owner-managers are oriented towards the past. This can be explained by the shortage of resources in small firms in the growth context (Wiklund et al., 2009). At the same time, this underlines a reactive learning approach as the owner-managers often reflect in an unconscious manner. Owner-managers at the start-up phase are mainly focused on external learning issues (phase 2). Strategically, it

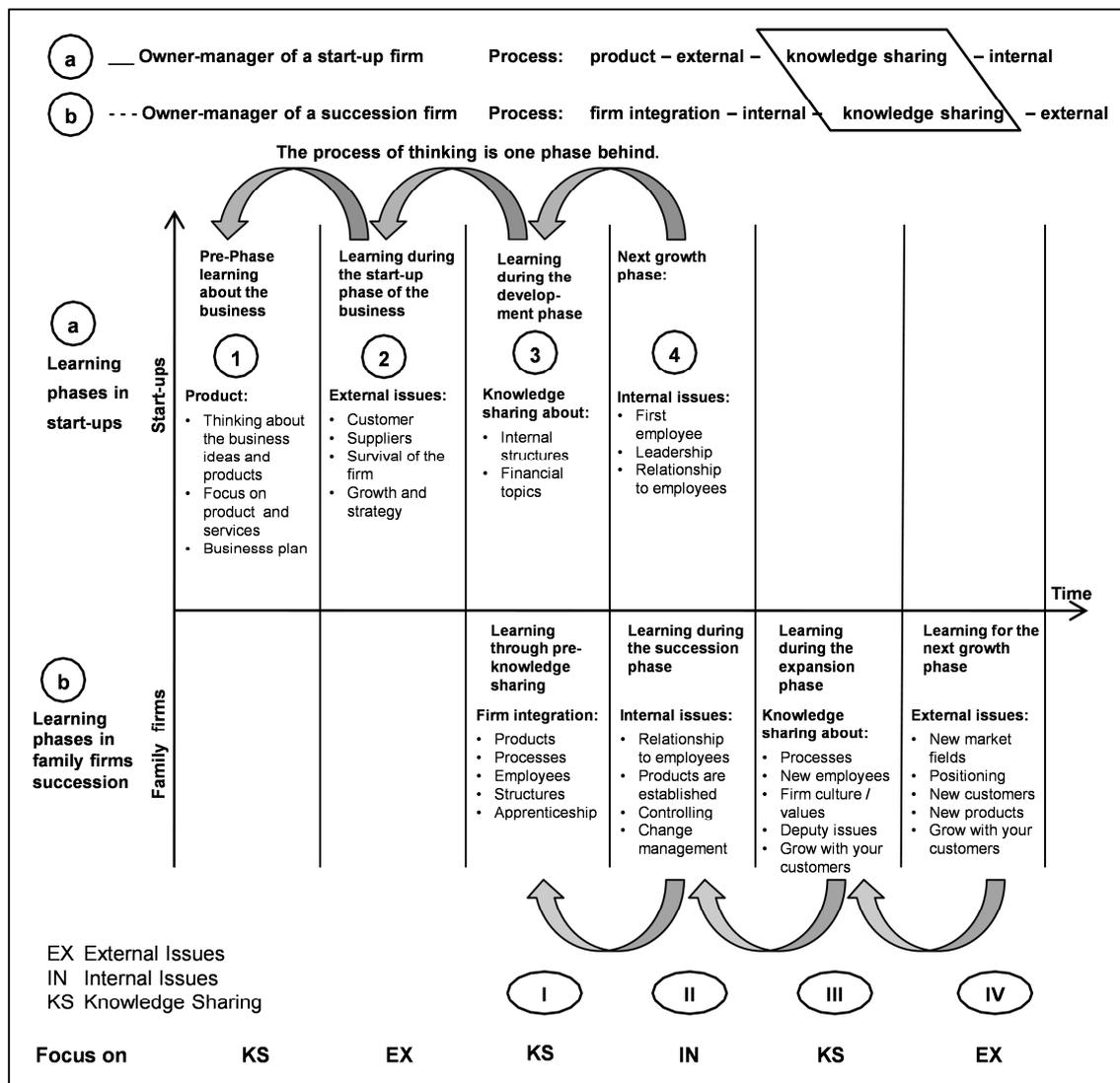
---

<sup>25</sup> The owner-manager learning phases in start-ups are indicated with 1, 2, 3 and 4

<sup>26</sup> The owner-manager learning phases in family firms are indicated with I, II, III and IV

would be an advantage for the owner-manager to generate and share knowledge about internal processes (e.g. HR, finance) at an early stage (phase 3) so that he/she is prepared for the upcoming management tasks and internal issues (phase 4). When owner-managers establish the internal structure of the firm, they should already be going ahead with the next development stage by exploiting opportunities (Davidsson and Wiklund, 2006).

**Figure 7-3: Owner-manager learning continuum in small firms**



Source: Author

## **7.5.2 Learning continuum of owner-managers in start-ups**

### **Phase 1: Pre-learning about the business**

The owner-manager learning process starts before the firm is settled. Cope (2005) summarises this knowledge as pre-learning and underlines that the stock of knowledge and experience are critical factors to run a business. The pre-learning provides the owner-manager with a solid position for the start of the firm. It consists of industry experience complemented by formal learning at schools and universities and in apprenticeships. The formal learning is supplemented by the experience gained from different critical learning events at the workplace. The accumulation of all this knowledge and skills is the stock of knowledge when an owner-manager identifies market opportunities and launches the firm (Shane and Venkataraman, 2000; Cope, 2005; Politis, 2008). The pre-start-up phase is necessary to stimulate knowledge generation a creative phase so that knowledge transfer can take place for the creation of new products and services.

### **Phase 2: Learning during the start-up phase – External learning**

The investigated founders of the start-up population differed not only in terms of the time taken but also their approach to launching the firm. Despite these firm-specific approaches to setting up a business, each owner-manager was faced with critical learning events from the external business environment, in particular relating to finance for the start-up phase. All three owner-managers used large amounts of their own savings during the early days of the firm. For the owner-managers, financial security was quite important as they had families to support. The example of the financial situation shows that the challenging founding process is not only externally and product-driven but is also related to family issues.

The initial development phase of the firm is closely linked with product development and the building of networks with customers, suppliers and financial institutions. In this development and learning phase, the owner-manager goes beyond his existing in-depth product knowledge and acquires predominantly new knowledge through close cooperation with external partners. Critical learning events such as the relationship with banks or the observation of suppliers underline the informal and also external learning focus. This external phase hones negotiating skills and the ability to

listen carefully to the feedback from both satisfied and dissatisfied customers. All these additional new skills support and trigger the process of reflection about the products and services provided. This informal learning during the start-up phase is not perceived as learning by most owner-managers. Complementary formal learning about management functions or development theories is largely dispensed with due to a lack of time and limited financial resources.

### **Phase 3: Learning during the development phase – Knowledge sharing**

The previous phase two enters into a new phase of creativity which is triggered to overcome the internal challenges associated with production capacity, recruitment, formation of teams and related leadership topics. For the owner-managers, these internal challenges initiate a knowledge generation and knowledge sharing phase in new learning fields. The owner-managers become aware of the need to adapt internal structures in line with the developed firm size. All owner-managers tend to adopt a reactive approach to internal learning fields such as the development of organisation structures, processes and HRM, whereas the learning for new products and customer services is pushed proactively. This finding underlines the theory of scarce resources and the limitation of smallness (Williamson, 2000).

### **Phase 4: Learning for the next growth phase – Internal learning**

A major topic is the process of delegation and the transition from the concentration on daily business to a greater focus on strategic tasks. In parallel, this process also requires a transition in the leadership role from as described in Figure 7-2. Both processes trigger the next development phase in the learning continuum for the owner-managers. The delegation process shapes the development of leadership skills and the capability for knowledge sharing. Both developments require highly extended skills and knowledge on the part of the owner-manager and the firm. The process of delegation is postponed at the beginning and is also indicated as one of the most complex processes by the owner-managers. All owner-managers of the analysed sample triggered this process. The learning continuum, and in particular the process of delegation, is closely interrelated with the development of the firm. The successful delegation of tasks opens the way for assuming more strategic tasks in

terms of new products, the acquisition of new customers, enhancing the internal structures and the process of knowledge sharing with key employees.

### **7.5.3 Learning continuum of owner-managers as initial successors**

#### **Phase I: Pre-learning about the business**

The pre-learning of the owner-managers as successors starts during childhood. In one example, the son of a founder performed tasks in the production field during the school holidays, which emphasises the learning between the founders and the second generation (Hamilton, 2006, 2013). All of the successors in the research sample went on to complete their apprenticeship in the family firm. These are unique familiarisation and socialisation processes with the firm environment and the employees.

#### **Phase II: Learning during the succession phase – Internal learning**

The learning continuum during the succession phase primarily fosters the focus on internal topics like the relationship with the employees or financial issues. In the case of the founders, however, the initial focus is on the products, i.e. externally oriented. During the succession phase, learning tends to be complemented by further formal learning involving short-term studies in the field of finance at a HE institution. All owner-managers were surprised by the requirements of the financial tasks to lead and expand a firm.

#### **Phase III: Learning during the development phase – Knowledge sharing**

Based on the high stock of knowledge and established firm structure, the successors utilised their knowledge to trigger the expansion of the firm. At the same time, they pushed the process of knowledge sharing in particular to prepare key employees for new tasks in the production planning and sales functions.

#### **Phase IV: Learning during the post-development phase – Externally focused**

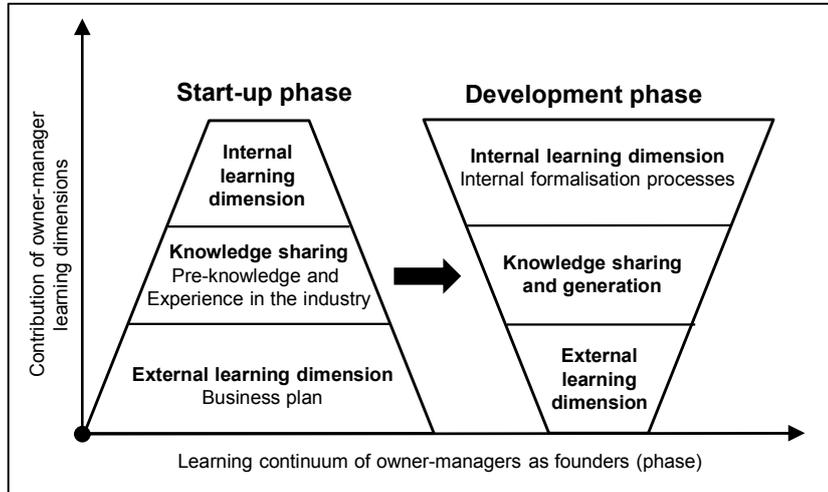
Learning during the post-development phase is focused on the acquisition of new customers, expansion into new business fields and products. The previous extensive knowledge sharing in phase III has been the preparation for the next development step for the learning continuum for the owner-managers and their firms.

### 7.5.4 Conceptual framework of owner-manager learning

The findings of the analysis show differences in the learning approach of owner-managers of start-up firms and family firms. The individual findings of the analysis enable a new starting point for the investigation of owner-manager learning in small firms. At first glance, the developments are similar, but the order of importance between the dimensions of owner-manager learning differs significantly.

The learning foci of owner-managers during a start-up phase and successors during their takeover phase as well as during their respective development phases are displayed in the following Figures 7-4 and 7-5. The assessment results strongly support the findings of Rae (2006) that the contribution to the owner-manager learning dimensions is related to the context of the firm. Furthermore, the results show that owner-manager learning during firm development can be divided into four different learning dimensions (I) pre-learning, (II) learning during start-up, (III) learning during development and (IV) learning in preparation for the next growth phase).

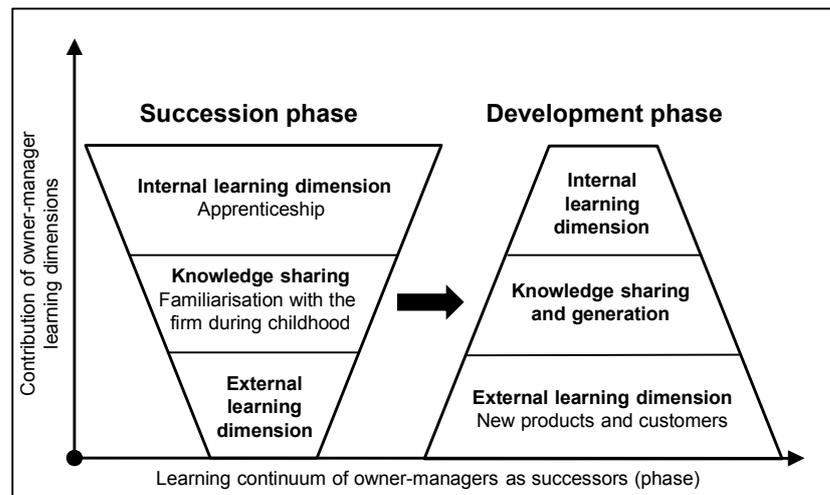
**Figure 7-4: Learning contribution of founders**



Source: Author

The owner-manager learning process for successors shows a distinct internal orientation before and during the succession process, which turns into an external orientation during the development phase, as indicated in Figure 7-5.

**Figure 7-5: Learning contribution of successors**



Source: Author

A feature common to both owner-managers learning processes is that knowledge sharing and generation remain in the centre. Over time, the learning positions shift towards a more balanced contribution of internal and external orientation. The identified learning continuum of the owner-managers confirms the regular process of exploitation and exploration (March, 1991; Politis, 2008). Furthermore, the learning continuum of the owner-managers links the balancing process of external and internal orientation with the central component of knowledge sharing and generation for small firms. As knowledge sharing and knowledge generation act as a bridge between the external and internal dimensions, it also act as a leverage factor for increasing HC in small firms.

### 7.5.5 Summary of the learning continuum

The learning continuum of the owner-managers is hyper-complex and at the same time unique for each owner-manager. The analysis and comparison of the owner-managers' learning continuum as founders and successors show differences in the order of the learning phases. It can be concluded that the focus on the learning continuum is dependent on the development phase of the firm structures. The learning continuum contains an external and internal balance between exploitation and exploration (March, 1991; Politis, 2008; Lavie et al., 2010) and is present at all development phases of the firm. The most important finding is that owner-managers

generate valuable knowledge before they adapt the organisation structure or expand into new markets. The developed conceptual frameworks in Figures 7-4 and 7-5 take this circumstance into account by placing knowledge sharing and knowledge generation at the centre.

The founders proactively push learning related to new products and customer services in the early phase. This finding underlines the theory of scarce resources and the limitation of smallness (Williamson, 2000). In contrast, the successors first build up trust, then reorganise internal structures. Before they invest in new products, they push an intensive knowledge transfer to empower key employees and ensure they are prepared for the next development step.

## CHAPTER 8: CONCLUSION

### 8.1 Introduction

This research has a number of distinguishing characteristics when compared with other studies of owner-manager learning in small firms. Two reasons are contextual: one is that the interviewees, the owner-managers, are beyond the survival phase of the firm and another is the firms' location in the Rhine Valley, a prospering area of entrepreneurship encompassing the four countries of Austria, Germany, Liechtenstein and Switzerland. Furthermore, there are two differentiating factors. Firstly, the research is focused on the *content* of owner-manager learning with the dominant intellectual and management challenges during the development of small technology-based firms. Secondly, the research applies a longitudinal approach with six rich in-depth data sets of owner-manager learning.

All these elements support the purpose of this research, which was to explore the owner-manager experiences that enhance the understanding of their learning *content* in various stages of small and family firms in the Rhine Valley, with the additional perspective of HC development.

The objectives linked with the research aim were:

1. To analyse the aspects of small firm development that owner-managers find challenging.
2. To explore the learning processes and personal development in responding to these challenges of owner-managers who founded a firm or took over a small family firm as initial successor.
3. To understand the ways in which owner-managers of growing firms manage the development of human capital.
4. To develop a conceptual framework which provides an enriched understanding of the interrelated processes of owner-manager learning and HCD in small, growing firms.
5. To provide recommendations for customised continuous training modules for owner-managers of small firms in the Rhine Valley.

The conducted study has been successful in achieving the outlined research objectives. The findings have enriched the understanding of owner-manager learning in small technology-based firms, in particular in the region of the Rhine Valley. Furthermore, the findings underline that owner-manager of small firms act in a complex and dynamic business environment which strongly influences their learning *content* during the firm development.

The key findings of the research and the central contribution to knowledge are addressed in the forthcoming sections. Initially, the framework of the developed hexagon is illuminated as a substantial tool to answer the research questions. The key findings and learning trajectories of founders and successors are presented. This analysis provides the source for critical examination of the knowledge contribution. Furthermore, the limitations of the present study are underlined and the implications for practice are highlighted. The chapter closes with a personal reflection on the research journey by the author.

## **8.2 The hexagon framework**

The aim of the research was to investigate the processes of owner-manager learning while the firm develops with a complementary focus on HCD. The key findings of the research indicate that owner-manager learning in small firms primarily takes place at the workplace (Marsick et al., 1999; Fuller-Love, 2006; Gruber et al., 2008; Marsick, 2009; Ahlgren and Engel, 2011; Mc Kee and Eraut, 2011). This is a crucial implication as studies and analyses of training in firms are mainly focused on formal learning activities and on employees (Jayawarna et al., 2007).

Owner-manager learning in small firms is strongly influenced by contextual factors of the business environment, the technology sector or the industrial concentration. The analysis of owner-manager learning according to the developed hexagon framework indicates that owner-manager learning varies in a dynamic way along the parallel firm development.

The hexagon framework applied for the analysis not only enables the foci of owner-manager learning in small firms to be identified but also takes the contextual factors of owner-manager learning into consideration. During the analysis, it turned out that the identified 'growth problems' by the owner-managers have complex relationship.

These relationships were taken on board when the hexagon framework in Figure 5-10 was developed and the critical events were transferred into the hexagon framework. The key support functions of the hexagon framework in Figure 5-10 in relation to answering the research questions are presented in Table 8-1.

**Table 8-1:  
Usefulness of the hexagon framework to explore OM learning**

Research focus	Support functions of the hexagon framework	Degree of usefulness
Analyse specific areas of owner-manager learning	• Analyse critical events identified as 'problems of growth' by the owner-manager.	√
	• Analyse how owner-managers learn	√
	• Analyse what owner-managers learn	√
	• Analyse aspects of formal and informal learning	√
	• Analyse owner-manager learning activities in the workplace and in training to increase HC.	√
Explore the owner-manager learning process	• Investigate the sequence of owner-manager learning when the firm develops.	√
	• Investigate the shift of the learning foci of the owner-manager	√
	• Analyse owner-manager learning in a longitudinal approach	√
	• Analyse whether the owner-manager learning is active or reactive	√/2
	• For analysis purposes, the hexagon framework can be combined with other frameworks such as the life-cycle framework.	√

Source: Author

Key to ratings: very useful = √, useful = √/2

In this research, the holistic analysis of the owner-manager learning in small firms is based on the identified critical events. Each critical event builds the smallest unit of owner-manager learning in their life-world (Husserl, 1970). The owner-managers provided extensive descriptions of the experience they gained from critical events. These descriptions provide the content for the analysis of owner-manager learning in small firms. This analysis is presented from the researcher's and from the owner-managers' point of view in the following sections.

### **8.3 Critical events and owner-manager learning**

The exploration of critical events plays a central role in illuminating the nature of the owner-manager learning process in their 'life-world' (Husserl, 1970) of small firms. The study of the six owner-managers underlines the experience that the identified 'growth problems' presented as critical events by the owner-managers were perceived as 'learning lessons' and affected them emotionally both as owner-manager and as individual (Cope, 2003b). The owner-managers recalled these 'growth problems' by telling their individual story of running a small firm in their industry. The storytelling provided anchor points for recalling these 'growth problems' in a comprehensive manner. These were described in depth by the owner-managers in order to conceptualise the learning *content*. The usefulness of recalling the critical events as a contribution to the research aim became visible when these were transferred to individual owner-manager life-cycle diagrams as shown in Appendix D. In total the owner-managers of the sample raised 100 critical events indicated as 'growth problems' which challenged them to examine their situation and triggered their knowledge generation. The 'growth problems' identified by the owner-managers exist at all three micro, meso and macro levels as indicated in Tables 7-1 and 7-2. This finding supports the results of other research studies (Cope and Watts, 2000; Rae and Carswell, 2001; Cope, 2005; Rae, 2006).

#### **8.3.1 How owner-managers conceptualise critical events**

The interviewed owner-managers had a rich repertoire of 'growth problems' as they have been in business with their firms for at least five years. The overall framework for discovering critical learning events for owner-managers covers their time in this role as well as experience gained from previous periods of their working lives. The analysis of these events yielded valuable results not only in terms of the identified numbers of critical events but also in phenomenological terms, as "focusing on specific events enables the participant to provide a fuller, more detailed description of an experience as it was lived" (Thomson et al., 1989, p. 138).

The process of conceptualising such critical events was positively supported by the owner-managers recalling the story of the business and firm developments. As soon as the owner-managers came into the flow of recounting their business development, the description of critical events flowed quite naturally, even if the sequence was not

always straightforward. The owner-managers already triggered an internal evaluation of the events as sometimes they stopped and began to describe another point which was more relevant for them.

The process of identifying and describing critical events by the owner-managers was a powerful initial filter for the key owner-manager learning events. The owner-managers' choice of the critical events is deeply grounded in their experiences and detached from the researcher's perception.

The encapsulated critical events were then analysed within the context and afterwards transferred to an individual life-cycle diagram for each case firm in Appendix D. This representation of the critical events described by the owner-managers has at least two important functions. Firstly, the owner-managers obtained an overview of their key learning events when they dealt with 'growth problems', and secondly, the life-cycle diagrams provide an extensive set of data on which to base the investigation aimed at answering the research questions. The nature of the critical events and their sequence build the source for the researcher's analysis of the phenomenon which is discussed in the following section.

### **8.3.2 Interpretation of reported critical events**

From the researcher's point of view each critical event contributes to the knowledge in respect of "how owner-managers learn in small firms". The description of critical events embedded in the owner-managers' life-world business stories enables the researcher to familiarise himself with all three levels of analysis: the owner-manager (micro level), the firm and family (meso level) and its business world (macro level) according to the model of Bronfenbrenner (1979).

Each individual critical event allows the researcher to immerse himself in one of the owner-manager's social networks and to establish its relevance to owner-manager learning on the three levels. In particular, this enables the researcher to identify the nature of the critical event, e.g. an operational problem, feedback from a customer, reflection on the organisational structure or a new competitor ranking, to name but a few. However, the analysis of single critical events nonetheless produces a fragmented view of owner-manager learning in small firms. Therefore, the tangible

contribution towards the investigation of owner-manager learning is made by linking these single events to form a holistic, interrelated picture of the critical events along the individual life-cycle diagram of the firms in the sample.

These diagrams enable the researcher to conceptualise the owner-manager learning process in a comprehensive approach. The display of the critical events in the diagrams opens further routes to investigating the phenomenon of owner-manager learning in small firms as deliberated in section 5-2. It prepares the data for cross-case analysis and supports the research to go beyond the surface by applying structured and different lenses to analyse the data (Eisenhardt, 1989; Eisenhardt and Graebner, 2007). A noteworthy finding from this process is the pattern of an intensive frequency of critical events recalled by the owner-managers at the start-up or during the take-over phase which subsequently flattens. Furthermore, the owner-manager learning events are similar but take place in a different order. This difference provided the insight into the shifts in focus of owner-manager learning related to the firm development.

The research objective to enrich the understanding and the description of the phenomenon of owner-manager learning as it is 'lived' in small firms was achieved by applying an inductive and emergent theory-building process. The key findings and the established conceptual framework of owner-manager learning are built on this iterative theory-building process. Both the key findings and the description of the owner-manager learning framework within the context of the development of a small firm are highlighted in section 8.4.

## **8.4 Key findings about owner-manager learning**

In broad terms, this research has indicated as key findings the different owner-manager learning trajectories in small firms (Sohler and Watts, 2012), the linkage to a learning continuum and its related conceptualised framework in Figure 7-3. The development of owner-manager learning is directly linked with contextual changes in the firm's internal and external environment.

#### **8.4.1 Key finding 1: The different learning trajectories in small firms**

A central finding from the research project with implications for the theory is the very different learning trajectories and approaches applied by the founding owner-managers and the successors to family businesses. The different starting points for running a business are reflected in the preferred learning trajectory of the owner-managers.

In broad terms, the most interesting insight into owner-manager learning was that each development phase of the firm generated a very different *focus and direction* of, and mechanism for, owner-manager learning (Sohler and Watts, 2012). This implies that not only the business environment but also the learning focus of the owner-managers changes when the firms develop.

Although the process of owner-manager learning looks fuzzy in the investigated small firms, it becomes obvious that the dynamic of owner-manager learning and the development of the firm generate aligned learning processes. In the following, the key findings are presented.

All six owner-managers underline that learning is part of daily life. Although there are countless learning events every day, the owner-managers recall a number of critical learning events as summarised in Tables 7-1 and 7-2. These events are related to a unique or unforeseen value of learning. All owner-managers of start-ups and successors in family firms bring to mind more than ten critical learning events within the initial five years. Although the initial years of leading the firm are the period which is the furthest in the past, this is the time span which the owner-managers can most readily recall and is reflected in the fact that the frequency of critical events is highest within this time period. This phenomenon underlines that the initial business phase as owner-manager is the most formative one. It also highlights the fact that the start-up phase or the takeover phase of the family firm in the second generation is learning-intensive. At the same time, these circumstances underpin the initial years as the most dynamic phase for the owner-managers, not only in terms of learning. One explanation for this development is that the owner-manager has learnt to deal with uncertainty and has acquired a certain level of routine. The routine weakens the awareness of new critical learning events as these are not perceived as such. The

different learning trajectories and foci of owner-manager learning during these initial years are summarised below.

### **Learning trajectory of founding owner-managers**

During the initial phase of business start-up, the market and the firm's competitiveness were perceived to be of central importance by the founding owner-managers. This predominately external orientation is perhaps not surprising, given the vital challenges of establishing a market position and customer base, but was perhaps also influenced by the need to prepare a business plan before start-up. It was only later that internal issues such as administration, HRM, leadership, streamlining financial issues and communication become priorities, in almost every case as a response to a critical event. For example, all of the founding owner-managers reported difficulties with employment relationships, recalling disappointment with their first employees as they could not cope with the 'entrepreneurial blood' of the owner-managers, preferring more structure and less discretion than they anticipated or hoped. This recognition underlines the different perspectives of work commitment between owner-managers and employees (Barringer and Jones, 2004). Therefore, it was essential to build a relationship with the employees. As soon as this relationship was established, the founders' learning priority then moved towards knowledge generation in R&D in order to sustain competitiveness and further development.

All three of the founders emphasised that the growth of a firm with all its complex phases of evolution provides a rich field for leadership skills development as emphasised by Kempster and Cope (2010) and that too rapid a growth rate causes challenges to the internal structures and organisation development. For this reason, the owner-managers consciously limited the growth rate to ensure that it was in line with the internal development of the organisation.

### **Learning trajectory of owner-managers as successors**

In contrast to the founders, the successors' learning followed a very different trajectory. All had completed their apprenticeships within the family firms and this was coupled with a long socialisation process within the firms. All these factors gave them a rich knowledge of the technology base, operations and other internal issues, in

particular the employee relationship. Despite this, market orientation was not central during the succession phase; instead the focus continued to be on internal issues, such as internal relationships, leadership and financial management. One reason for this was that successors felt that their firms had already built their reputation, customer base and product portfolio, and that these were sustainable. Another was that the successors felt it important for them to gain the trust of the employees and to establish their leadership style. An additional reason was explained in powerful terms by the owner-manager of Firm D: "Our father was dominant and was the contact person for all customers". In a striking mirror image of the founders' learning trajectories, the successors all eventually found a balance in focus and learning between the internal and the external management topics, sometimes again driven by crisis. For example, in one case this took the form of the loss of a key customer, which forced a refocusing on the market and on rebuilding sales.

Over time, and in different ways, both the founder and the successor owner-managers learned to facilitate knowledge sharing, both within their firms and within external networks. For the founders, the pace was set by growth and the need for delegation and facilitated by developments in ICT, although it was far from a linear, problem-free transition. The successors inherited a business in which knowledge-sharing processes were well established, including apprenticeship schemes, meetings and informal discussions. Reflecting their movement to a more balanced orientation, the successors came to make good use of external networks, including industry bodies, supplier networks and HCD initiatives.

A recent study of 200 Finnish SMEs in the area of metal-based manufacturing and business services underlines this phenomenon of the initial focus on external factors during the first development phase and the move towards internal factors in the second development phase of the firm (Littunen and Niittykangas, 2010). The comparison of owner-manager learning in different types of firms shows that the learning focus in growing firms depends not only on the experience, knowledge and growth ambitions or the characteristics of the owner-managers, but also on external, contextual influences and the development phase of the firm. The learning trajectory of a founder owner-manager differs from that of an owner-manager who is a successor.

#### 8.4.2 Key finding 2: Shape of the owner-manager learning trajectories

The shape of the different owner-manager learning trajectories was initially displayed and discussed in sections 6.3 and 6.4. Nevertheless, the findings of this particular different set of owner-manager learning in small firms contribute to a richer understanding of the process of owner-manager learning. In particular, the learning trajectories show the changing learning *focus and direction* of owner-managers when their small firms develop over a time span between seven and 18 years (Sohler and Watts, 2012). The longitudinal research into owner-manager learning in small firms indicates that the learning trajectories and the learning foci between founders and initial successors are quite different.

As already mentioned, founder owner-managers are more externally orientated during the start-up phase. This external focus is reduced during the firm development but nonetheless remains dominant compared with the case of successors. In contrast, the internal orientation of successors is at the highest level during the takeover phase but also remains high over the next development phases. This level is rarely achieved by owner-managers who founded their firms. This finding indicates that in particular the socialisation processes before a firm is founded or taken over by the successor are formative and influence owner-manager learning.

The third component besides the external and internal learning contains knowledge generation and knowledge sharing as well as owner-manager and staff development. The distilled information from the interviews shows that the investment in knowledge sharing and generation is similar for founders and successors. A further remarkable finding at this area is that all owner-managers who founded their firm were more concerned about firm-specific knowledge during the economic crisis. The founders underline that the investments in the development of HC were key for further growth.

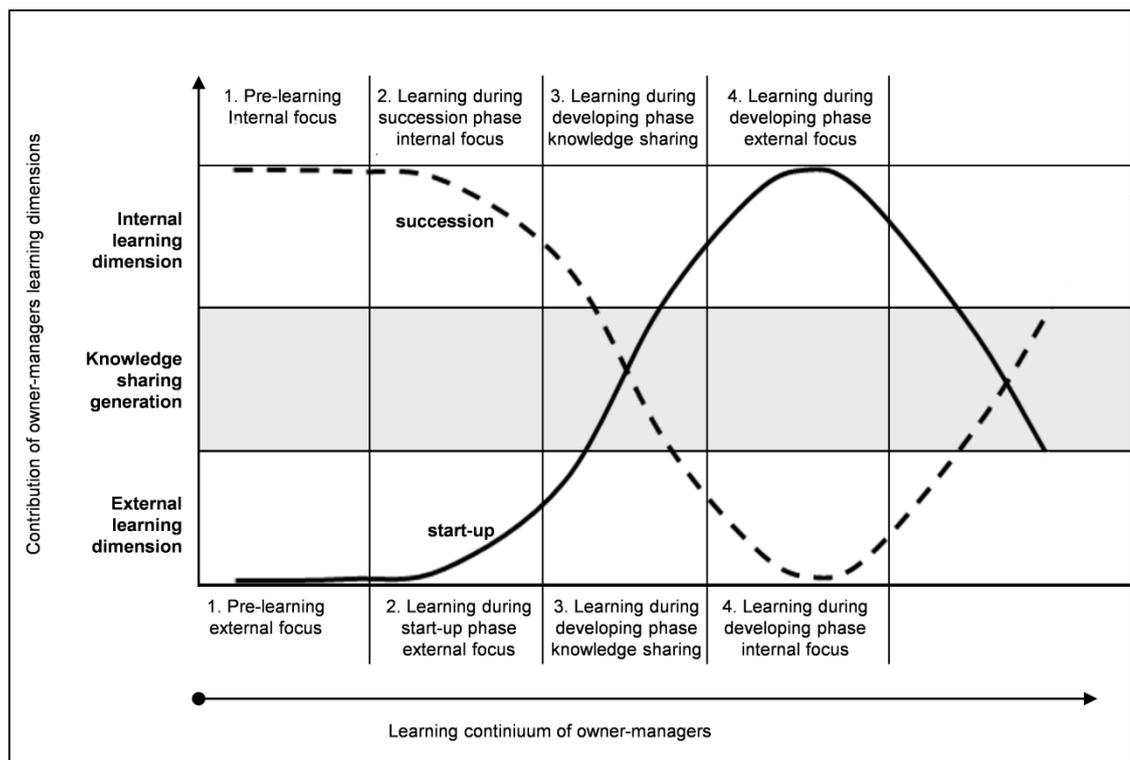
Although the founder and successor owner-managers generally showed quite different behaviours and learning approaches, they reacted similarly to a sudden event like the economic crisis of 2008. The force of the economic crisis surprised the majority of owner-managers who lacked the time to respond. The emergence of a sudden unexpected situation triggers a similar behaviour aimed at the limitation of loss and the survival of the firm.

The analysis of the owner-manager learning shows different learning sets which vary according to the development phase of the firm. Building on this new knowledge regarding the owner-manager learning trajectories, it is useful to transfer this into a more abstract framework of the “owner-manager learning continuum” in Figure 8-1.

### 8.4.3 Key finding 3: High level framework of owner-manager learning

The high level framework of owner-manager learning in Figure 8-1 is the result of the further development of the previous concepts and frameworks (Figures 7-3, 7-4 and 7-5) in this research. The framework indicates the phases of the continuum of owner-manager learning related to the firm’s development on the x-axis. The y-axis specifies the established three learning areas of internal learning, external learning, and knowledge generation and sharing.

**Figure 8-1: Framework of the owner-manager learning continuum<sup>27</sup>**



Source: Author

<sup>27</sup> The data after the fourth phase are beyond the data collection source.

The main difference between founders and successors lies in the owner-manager's initial learning phases. The start of the initial phase of pre-learning is contrary. The founders focused on external learning issues and the successors on internal learning. The emphasis on these learning areas is retained during the start-up and succession phases. The shift from external to internal learning topics requires additional knowledge. Therefore, owner-managers acquire this knowledge by informal or formal learning. In parallel, the framework displays this process in phase 3. This intensive learning phase is crucial as the owner-manager must acquire the knowledge required for next development stage of the firm. Phase 3 also symbolises that the learning shifts from internal to external or vice versa.

All owner-managers of the start-up firms in the sample were more focused on product and the external business environment during the start-up phase. The mindset of the owner-managers of a start-up is influenced by personal ambition and goals, the development of the products and the establishment of a customer portfolio (Rae, 2015). Innovative products and services are the key drivers to obtaining business from potential customers. The necessity for learning and knowledge creation is enormous during the pre-phase and start-up phase for the owner-managers. The pre-phase is the concentration on the product, service and potential market as well as the funding. The start-up phase is shaped by the acquisition of customers. Such owner-manager learning is mostly informal and not generally perceived as learning as it is closely linked to the context of daily challenges and problems of surviving and of establishing and running a firm, which underlines the findings of Argyris and Schön (1978), Wenger (1998), Marsick et al. (1999), Wenger et al. (2002) and Argyris and Schön (1978); Wenger et al. (2002); Marsick (2009). This position is underlined by the owner-manager of Case A who said: "We had great ideas and products but we were too early on the market for customers in the region." The learning of owner-managers of start-ups tends to be concentrated on external relationships and in innovative products and services. These learning events are generally followed by new internal challenges of hiring employees and the development of roles and structures in the firm. The rapid growth rate of the firms tends to hinder the timely establishment of an organisation structure.

The owner-managers who are initial successors in a family firm tend to be satisfied with the firm structure and products as well as the production processes. The main challenges for successors are “intergenerational dynamics” (Hamilton, 2006, p. 8), the change of leadership style from the founder to the successor and the adaptation of the firm philosophy. Consequently, the main tasks are closely linked to the internal processes of finance, leadership and relationships with employees. The continuous growth of the family firm is a defined target for all of the owner-managers in the study. The growth phase is initially linked to growth of the firm’s capacity supported by an intensive exchange of knowledge between employees. Each of the three owner-managers who were initial successors in family firms built a new plant to demonstrate their commitment to further growth. This approach was also a reaction to unexploited potentials such as synergies relating to semi-finished products or additional products and services for existing customers. In particular, an applied strategy is to grow with the customers. This strategic approach underlines the commitment of the business environment and confirms that the small firm’s growth depends on the industry growth rate (Audretsch and Mahmood, 1994; Wiklund et al., 2009).

The owner-managers of family firms identified the firm’s capacity as the bottleneck for growth. They are also aware of the unused market potential with existing customers and are well informed about the market and market trends. The focus on internal processes and relationships limit the time and space for new ideas and active market expansion. The position of the three sample firms was strengthened as the owner-managers strategically combined the firm’s expansion with an upgrade to the latest technology.

The owner-manager learning process is dynamic and changes during the development phase of the firm. The focus on owner-manager learning centres around knowledge sharing. One noteworthy point is that knowledge sharing occupies a similar level of importance for owner-managers in start-ups and family firms and in both cases provides the link between internally and externally oriented owner-manager learning. The dimension of knowledge sharing has a leverage effect on both dimensions, internal as well as external.

The findings are a contribution towards aligning some learning behaviours of owner-managers in small firms to the development phases of a firm. The results underline

that the interrelated development of the owner-manager and the firm show more heterogeneous patterns in terms of learning. The findings draw attention to the combination of all three learning forms (Eraut, 2000a; European Commission, 2001). This is a mixture of informal learning during the daily business on the job and of consulting phases to deal with current issues as well as strategic planning and firm development.

#### **8.4.4 Key finding 4: Human capital development in small firms**

A further key finding is based on a dual approach of owner-manager learning. This approach reflects the relation between social interactions and places where owner-managers learn. Most learning, in particular the learning about operations, production, the market and competitor environment as well as finance and HR management functions, takes place at the workplace in an informal manner (Marsick et al., 1999; Fuller-Love, 2006; Gruber et al., 2008; Marsick, 2009; Ahlgren and Engel, 2011; Mc Kee and Eraut, 2011). The other part of the dual learning approach covers more theoretical, formal learning at education or training institutions which complement the informal learning at the workplace. The findings indicate that owner-managers are challenged by crisis or critical events (Cope and Watts, 2000) which call for solutions beyond their existing experience and knowledge. Owner-managers deal with such situations by reflecting or looking ahead of the current position and make several attempts. Some of them discuss the topic with consultants. The external consultants contribute an impersonal view of the situation. They act as facilitators as they translate theoretical models into a readily comprehensible and practice-orientated approach to prepare the required steps for the owner-managers to go beyond the current status of the firm. Other owner-managers prefer to study the topic of management as a part-time student to overcome such situations. Common to all the analysed owner-manager learning approaches analysed is the necessary interplay between practice and theory to advance beyond their current level of knowledge (Marsick, 2009). Kolb (1984) visualised this duality of learning with the learning cycle presented in Figure 3-8 on page 54. This model shows that sequences of critical thinking and applying the theory are followed by phases of doing and feeling. The owner-manager learning follows this duality of doing and reflecting. Furthermore, the developed concept of exploration and exploitation by March (1991) covers to a large

extent the applied dual learning process of owner-managers in small firms during the different and parallel development phases of their firms.

The study confirmed that owner-manager learning in small firms is predominately informal and takes place at the workplace (Marsick and Watkins, 2001; Gruber et al., 2008; Marsick, 2009; Mc Kee and Eraut, 2011). From one perspective learning is a result of critical learning events and it is also a positive side effect of the delegation of tasks and projects to reduce the workload for the owner-managers (Yukl and Fu, 1999). The owner-managers in the sample describe the process of delegation as a vital learning process accompanied by a strong mutual trust exchange and relationship with employees. Furthermore, delegation fosters knowledge sharing with peers and employees in an informal manner. This informal kind of learning in small firms contributes to a large extent to the increase specific firm knowledge and of HC within a firm (Stewart, 1997).

Each of these key findings provides a fruitful basis for researchers, continuous training institutions, consultants and public authorities to conduct further research and to develop additional and focused training modules for owner-managers in small firms. In particular, the link between informal and formal education with a focus on entrepreneurship has to be given greater attention (Colardyn and Bjornavold, 2004; Matlay, 2008a; European Commission, 2012; Rae and Woodier-Harris, 2013). How these learning processes may influence the theory and practice of owner-manager learning in small firms in the region of the Rhine Valley is the subject of the following sections.

## **8.5 Contribution to knowledge**

The results of this thesis will contribute to the existing literature in the field of owner-manager learning in small and family firms and HC development in numerous ways (Ahlgren and Engel, 2011). The key contributions derive from the exploration of the *content* of owner-manager learning, as well as its process. This approach revealed striking differences between the learning priorities and trajectories of the sample members, dependent on whether they were founders of their firms or had succeeded to that role. Additional contributions were generated by the longitudinal study of owner-manager learning, revealing responses to the recent economic crisis, the

development of two conceptual frameworks for the analysis of owner-manager learning and an enriched understanding of the links between the two research fields of entrepreneurial learning and HCD. The conceptual framework of the learning continuum for owner-manager learning in small firms in Figure 8-1 offers new insights into the topic and provides a starting point for discussing the learning continuum from different perspectives. The findings described in 8.4 above are key contributions to knowledge of this research. These are supplemented by the three contributions to knowledge outlined below. Each finding relating to owner-manager learning has helped to develop a richer understanding of the contents of the “black box” that was highlighted in Figure 3-1 on page 36.

### **8.5.1 Longitudinal view of founder owner-manager learning**

An additional contribution is the applied longitudinal perspective of owner-manager learning in small firms. The longitudinal approach identified very different foci of and mechanisms for owner-manager learning during the firm development. At the same time, owner-manager learning is a constant interplay between internal resources and external demands and conditions. Although each of the investigated owner-managers acts within his/her own business environment, the analysis has revealed clear patterns of owner-manager learning in small firms. So far, research and studies in the field of learning in small firms have been mainly focused on the applied learning form but have barely analysed the continuous learning of owner-managers when small firms develop. The development of a firm with all its interrelated processes of delegation, negotiations and critical events provides key learning fields for owner-managers. This owner-manager learning was described and visualised in chapter 7. The learning activities of the owner-manager are differently focused, depending on the development stages of the firm. In accordance with life-cycle theory (Greiner, 1972; Hanks et al., 1993; Phelps et al., 2007), the development of a firm goes through several stages. However, the order in which those development stages take place can vary. The necessary learning patterns can nonetheless be assigned to these development stages. The owner-manager learning encompasses several areas related to external topics like the relationship to suppliers, customers, financial institutions, etc. and the internal focus. The internal focus is related to management functions and the relationship with employees. A third field of learning is the area of

knowledge sharing. The continuum learning model and the development of the firm are built on the duality of doing and reflecting. The model in Figure 8-1 builds on the continuous development of the firm and on the owner-manager learning according to the complex duality of exploration and exploitation (March, 1991; Gupta et al., 2006; Lavie et al., 2010). This developed model of the continuum learning makes a meaningful contribution to the existing exploration and exploitation model by enabling the assignment of the owner-manager learning within the parallel process of the firm development. Future research in the field of owner-manager learning can benefit from the two identified learning trajectories for owner-managers. Finally, the conceptualised framework provides a new perspective for visualising the learning processes of owner-managers in small firms.

### **8.5.2 Longitudinal view of successor owner-manager learning**

The results contribute new insights for research in the field of succession. In particular, the fields of finance, customer relations and strategic planning were identified as demanding processes during the succession phase. Production processes are an area where successors possess a high level of knowledge. Moreover, the internal relationship with the employees is also well established. The process of learning depends largely on family resource management along with the cooperation and interface between the family and the business (Fletcher, 2000; Rogoff and Heck, 2003). While the issue of succession is broadly discussed in the literature (Sharma et al., 2001; Le Breton-Miller et al., 2004; Cabrera-Suarez, 2005; Mitchell et al., 2009; Pardo-del-Val, 2009), the learning activities of the owner-manager during the succession process have been addressed by few studies (Hamilton, 2006; Chirico and Laurier, 2008; Hamilton, 2013). Therefore, the findings of this research have important implications for further theory development in the field of succession.

### **8.5.3 Hexagon framework**

The research findings provide an interesting insight for the theory of continuing owner-manager learning in small firms. The basis of the findings strongly supports the entrepreneurial learning literature which emphasises that experience, family background, knowledge about the industry or pre-knowledge influences the

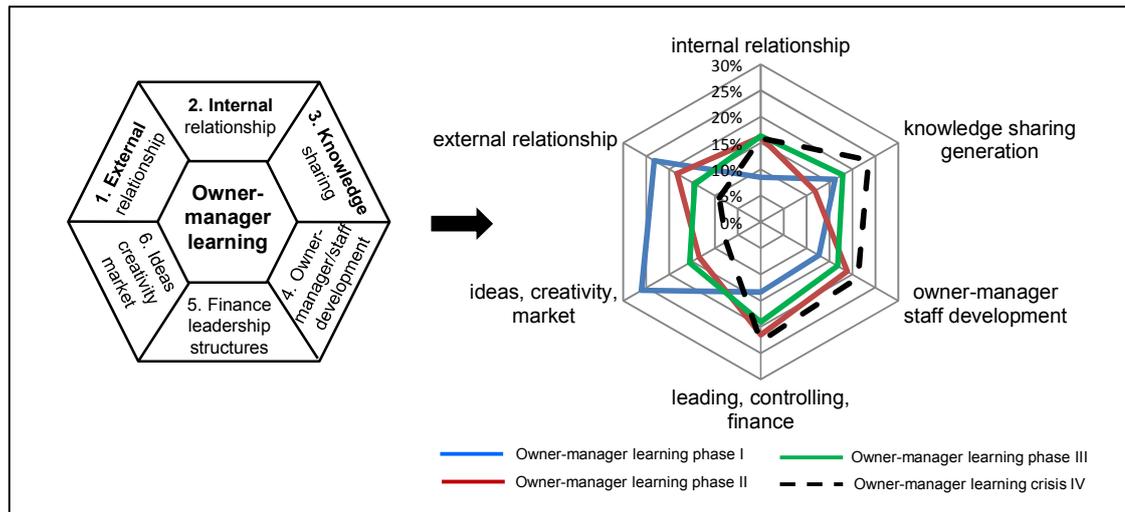
development process of the entrepreneur and the firm (Cope and Watts, 2000; Rae and Carswell, 2001; Cope, 2005; Fuller-Love, 2006; Rae, 2006).

Each of the critical 'growth problems' stated by the investigated owner-managers underlines their main learning areas. The developed hexagon framework is initially an instrument where the distribution of each single critical learning event can be shown over the defined six owner-manager learning areas. The hexagon framework, initially shown in chapter five in Figure 5-10, not only provides all six key areas where growth problems for small firms occur and owner-manager learning is triggered, but also aligns the identified problems with a timeline of the preferred owner-manager learning at a particular development phase of the firm (Phelps et al., 2007). It also provides an analytic instrument to compare and visualise the learning continuum of an individual owner-manager or to demonstrate the cluster of a cohort like the founders and successors.

However, the real contribution of the hexagon framework becomes visible when a number of critical learning events are bundled over a time period. Each critical learning event is then analysed according to the characteristics of the owner-manager learning within all six defined learning areas. The outcome of this process shows the focal points of owner-manager learning during an analysed time period when the firms develop. The visualisation of the dynamic owner-manager learning in the hexagon framework provides a powerful tool for discussing the research questions. The hexagon framework supports the researcher who intend to investigate and analyse the owner-manager learning for founders and successors in terms of how and what they learn from critical events, to explore the owner-manager learning process over a longer period of time, or to question the form of learning, i.e. formal or informal.

Figure 8-2 shows the visualisation of the parallel development processes of owner-manager learning and the firm. Furthermore, it provides new insights into the dynamic of owner-manager learning in the conceptualised six learning fields at the workplace in small firms and the parallel HC development.

**Figure 8-2: Visualisation of the shift of owner-manager learning in start-ups**



Source: Author

#### 8.5.4 Link between entrepreneurial learning and human capital

The research provides new links between the theories of entrepreneurial learning and HCD as discussed in section 4.1. In particular, the key frameworks in both of these fields show striking similarities when levels of analysis (micro, meso and macro) are applied. The majority of the available theoretical models in the two research fields investigated in chapters three and four apply the micro, meso and macro level concept related to the individual owner-manager, the firm and the environment. These three level concepts in both research fields form the common ground for combining the entrepreneurial learning and HCD in small firms. The link between entrepreneurial learning and the development of HC in small firms is a source of sustainable competitive advantage for small firms (Hayton, 2003).

The key findings indicate that owner-managers of small firms act in a complex and dynamic business environment which strongly influences their learning *content* during the firm's development. As a consequence, the smallest unit of owner-manager learning in the 'life-world' of a small firm is formed by critical events. The owner-manager's interpretation of critical events enables the researcher to familiarise himself with all three levels of analysis: the owner-manager (micro level), the firm and family (meso level), and the business environment (macro level). Each critical event shapes the owner-manager's learning at these three levels (Bronfenbrenner, 1979; Fuller and Moran, 2001). Owner-managers are challenged by critical events during the firm's development which call for solutions beyond their existing experience and knowledge.

The previous subsection introduced the hexagon framework as a powerful tool for gaining a better understanding of what and how owner-managers learn when creating practical solutions to overcome the challenges posed by critical events. Studies which look at learning in small firms, in particular the learning about operations, production, the market and the competitor environment as well as finance and HR management functions, confirm that learning takes place at the workplace in an informal manner (Marsick et al., 1999; Fuller-Love, 2006; Gruber et al., 2008; Marsick, 2009; Ahlgren and Engel, 2011; Mc Kee and Eraut, 2011). In particular, the owner-manager learning in these subject areas is firm-specific and is linked with the HCD of the owner-manager. Firm-specific knowledge of this kind is located in the upper right quadrant according to the two-by-two matrix developed by Stewart (1997) in Figure 4-3 independently of which concept of learning the owner-manager applies for the problem-solving. The link between entrepreneurial learning and HCD in small firms is strengthened when the owner-manager learning and small firm development are analysed over a longer period. The high-level framework of owner-manager learning in Figure 8-1 aligns the learning dimension of external and internal learning as well as knowledge sharing and generation with small firm development. These two dimensions of the firm's development and owner-manager learning also support the combination of the entrepreneurial learning dimension and HCD in small firms as discussed in the chapter 4.

## **8.6 Limitations of the research**

This research project analyses the owner-manager learning in small technology-based firms in the region of the Rhine Valley. The in-depth investigation of the micro and meso level of the embedded owner-manager learning may be influenced by the selected sector of technology-based firms. Moreover, it is essential to underline that the findings are limited to the area where all this knowledge sharing and generation have taken place, i.e. the Rhine Valley.

Although there are limitations to the aims, sample and scope of this research project, the findings are a fruitful contribution in the field of owner-manager learning in small firms. The limitations have been taken into consideration during the process of analysis and interpretation of the findings. The limitations discussed below also provide a source for further investigation of this research topic by other researchers.

### **8.6.1 Regional scope**

The research was undertaken in small technology-based firms in the region of Lake Constance and the Rhine Valley. This region is well known for its technology-driven industries, particularly in the manufacturing sector. It is also characterised by a close relationship between VET schools and HE institutions in this field and a particularly strongly-rooted apprenticeship system. The explicit role of the Rhine Valley as an 'Eldorado of entrepreneurship' is acknowledged in the thesis, as is that of the supportive role of the educational and apprenticeship systems. The literature states that the local socio-economic environment, which may not only produce different levels of start-up activity but also different structural characteristics of new firms, can be directly linked to growth (Tödting and Wanzenböck, 2003).

A further layer of context is the regional culture that is shared across the national borders of Western Austria, Southern Germany, Liechtenstein and Eastern Switzerland. This has a possible impact on many issues, including values concerning education and employment, attitudes to investment and behaviour within family firms, but an in-depth exploration of these was beyond the scope of this study. Therefore, the findings of this research project should not be generalised to other regions without considerable care. However, there are many possibilities for useful comparative research. The region of Lake Constance and the Rhine Valley were ranked among

the top 10 regions of over 1,200 regional clusters all over Europe and continuous to be one of the vibrant regions (CONTOR, 2004; Scherer and Gutjahr, 2012). The findings regarding owner-manager learning could provide an interesting basis for analysing and comparing the other 10 top regions in Europe.

### **8.6.2 Small technology-based firms**

The sample comprised small firms with fewer than 50 employees according to the definition of the European Commission (2003a). As was discussed in Chapter 3, many researchers have highlighted qualitative differences between small firms and larger businesses. Storey, et al. (1987, p. 130) pointed out that “a small firm is not simply a scaled-down version of a large firm.” Therefore, the scope for transfer of the findings to larger firms is limited as there is a significant difference in terms of content of learning. Moreover, as was highlighted in the discussion of the research findings, the technological base of the sample firms raised particular issues in knowledge and skills development and retention, as well as having an impact on competitive strategy and investment. Again, simple generalisation to other sectors is unwise without further research.

### **8.6.3 Sample size**

The size of the sample was clearly limited, restricting the generalisability of the research findings in several ways. There is no ideal number of cases; a sample of between four and ten cases has been recommended as appropriate to identify robust patterns (Eisenhardt, 1989; Yin, 2002; Eisenhardt and Graebner, 2007). The sample consisted of six small firms which were homogeneous in respect of the time frame of leading the firm, but heterogeneous in terms of management type. Although there were striking and internally consistent differences between the learning priorities and trajectories of the founder-owners and family successors, the samples of each were too small to claim that these patterns are representative of the broader populations of each type of firm.

Instead, the research and its findings should be seen as exploratory, highlighting several new insights that are in themselves valuable, while raising numerous issues for future research. The findings from the six owner-manager case studies provide a

significant contribution to the understanding of owner-manager learning in small firms through focusing on the *content and direction* of learning. However, it is acknowledged that further research is required in order to map these issues conceptually and to test their generalisability. However, In the light of his personal experience and knowledge, the author can be reasonably confident that the findings are representative of a larger population of small and family firms in the Rhine Valley, so that the research presented here will provide a sound foundation for further research, as discussed in 8.7 below.

#### **8.6.4 The impact of dual vocational education and training**

All owner-managers in the sample completed an apprenticeship within the dual vocational training system (work-based with part-time study) or attended a secondary technical and vocational school. Around two-thirds of the pupils leaving general secondary schools in the area of the Rhine Valley regularly enter into vocational training. This form of training has a long tradition and is widely valued as a solid basis for entering the labour market and starting a professional career (Masdonati et al., 2010; Hoffman, 2011). This duality of learning at the workplace and the vocational training school is reflected in the dual model of the apprenticeship in the Rhine Valley and in German-speaking countries in general. The concept of the preferred learning mix as owner-manager could thus be influenced by the socialisation process during apprenticeship and vocational training. Therefore, the findings of this study are possibly influenced by the common educational background of the sample members and further research is required among owner-managers with different educational backgrounds (Pickernell et al., 2010).

#### **8.6.5 Focus on the owner-manager**

Owner-manager learning was investigated from the owner-managers' perspective within their business environment relying on personal construction and interpretation of past experience. The social-cultural lens of analysis was considered to examine the interactions of the owner-managers with employees, family members, customers, suppliers and peers. However, the analysis did not apply a full 360° analysis to explore owner-manager learning from the standpoints of employees, family members, suppliers or customers. A further issue was that each of the three owner-managers of

the start-up firms had a different founding experience. One founded the firm by himself, the second case involved two brothers, and the third firm was a team start-up. In terms of the succession process, the focus laid on the initial succession. This diverse picture of the respondents supported the visualisation of the owner-manager learning process in the longitudinal perspective when the firm develops in real situations. However, the collected data is based on the individual views of the respondents in the different owner-manager groups. The limitation here is that the data analysis is restricted to the individual perspectives of the owner-managers interviewed and that these views do not necessarily represent those of other members of the top management team in the sample firms.

### **8.6.6 Comparison with existing studies**

The learning activities in small firms differ from those in large companies and are mostly not orientated towards formal learning measures. For this reason, such activities are often underestimated or not obvious. The engagement of larger companies as sponsors of further training is well known (Gonon et al., 2005). In contrast, owner-manager learning in small firms is predominantly based on informal learning, supplemented by some elements of formal learning and linked with an important contribution to the HC of the firm (Ahlgren and Engel, 2011; Jones et al., 2013).

Although informal learning has attracted more and more attention and has been a growing field of research since the 1990s, research evidence on learning in small firms is still limited. This gap in understanding of informal owner-manager learning in small firms complicated the comparison with existing results and literature but also highlighted the contribution to knowledge offered by this research.

## **8.7 Implications for further research**

This study provides a useful contribution to enhancing the understanding of owner-manager learning in small technology-based firms in the location of the Rhine Valley. The insights and findings of this qualitative research are promising but at the same time relate to only a small part of the overall picture of owner-manager learning in small firms. The developed framework of continuing owner-managers learning in Figure 8-1 acts as a starting point to extend the research interests within this topic.

### **8.7.1 Comparative studies**

The owner-managers in this research study completed an apprenticeship within the dual system. The dual system strongly supports the early involvement with the real business world as the apprentices work three to four days per week in the company and, depending on the profession, spend one to two days attending lessons at the vocational training school. Additionally, the owner-managers in the research sample completed continuing training or a course in business management. At present, the impact of the shared educational background on the research findings is uncertain. It would therefore provide added value to explore this impact by conducting similar studies with owner-managers with different educational histories, including those who entered business following full-time academic study and those with less vocational education. Additionally, further comparative studies would be useful to explore other sampling and contextual issues. For example, further studies should be conducted within other sectors, in other geographical regions and with a stronger focus on gender issues. Broadening the scope of this research on owner-manager learning will thus gradually provide a greater robustness of research findings and steadily refine the framework of continuing owner-manager learning.

### **8.7.2 Longitudinal studies**

The qualitative study was conducted using a longitudinal research approach. The owner managers were interviewed twice over a time period of 18 and 24 months. To investigate owner-manager learning in SMEs, further longitudinal studies are required to develop and test the developed framework for the owner-manager learning continuum in Figure 8-1. One additional topic for further research would be the analysis of owner-manager learning before the founder or the initial successor hands over the firm to the next generation. This additional understanding in the pre-learning phase (I) would be particularly valuable as all the successors in the research sample experienced the adverse effects of founders who unwilling to relinquish their control over the business.

### **8.7.3 Small firms and human capital development**

The findings of the study support the argument that owner-managers of small firms and the learning provided at the workplace enrich the HC of the individual, the firm

and the region (Audretsch and Keilbach, 2005; Audretsch and Monsen, 2008). The question which theory needs to answer is therefore: How can the informal learning and training at the workplace for owner-managers and employees in small firms best be captured? This calls for a sophisticated model to explore and describe the important contribution of small firms as places of learning. Above and beyond this, the learning environment of small firms acts as a catalyst for the dissemination of informal learning and HC development for owner-managers, the firms and their employees, and in the wider context for the region.

As highlighted, all the investigated owner-managers had completed an apprenticeship. The success of the dual training system is confirmed in the region of the Rhine Valley and in all German-speaking countries (OPET, 2007). A comparison of youth unemployment rates shows these countries to have the lowest rates in Europe (Dietrich, 2012; Office of National Statistics, 2012). The findings of the research underline that workplace learning constitutes a core strength of the dual system (Blum, 2004; Hoffman, 2011). Moreover, the networking which takes place between owner-managers and the firms under this system is another strong factor. This factor of the dual apprenticeship system has not been analysed either in terms of its impact of enhancing the network and learning activity of owner-managers within small firms or in analysing its effect of increasing HC within an industry or a region. It is reasonable to suggest that these factors have an important positive impact on the economic dynamism of the Rhine Valley region. The findings of this research offer an expanded analysis of owner-manager learning related to the dual vocational training system but further research is needed to develop a rich understanding of the inter-relationships between these contextual factors and their collective impact.

#### **8.7.4 Curricula for owner-manager education**

The available curricula at training institutions should be assessed on the basis of the research findings, particularly with regard to the preferred learning trajectories and the requirements of owner-managers in small firms. Further research is recommended to explore the needs of owner-manager learning in small firms (Devins et al., 2005; Molian, 2012). The additional insights would provide further knowledge which can be used to inform curriculum development in line with the requirements of owner-manager learning.

## 8.8 Implications for practice

This research into owner-manager learning in small firms in the region of the Rhine Valley provides a potential field for further research by other researchers or scholars with an interest in exploring the field of owner-manager learning in small firms. One powerful finding is that while all owner-managers have applied a forward-focused development strategy for their firm, development has been implemented on a step-by-step basis. Each of the applied steps aimed at firm development has a direct effect on management and is dependent on the available resources, the risk readiness and the aspirations of the owner-manager to grow the business (Fuller-Love, 2006). In general, all of the owner-managers in the sample had a fixed idea and a vision when they started the business. They were convinced that their idea would work. While, basic ideas have not always proved successful, they have been sufficiently open-minded to adjust their initial business ideas. The following principles were important to them:

1. Recognise the feedback from others and start to think about it.
2. Recognise your failures as an opportunity for the next development phase.
3. Use key figures as these are helpful for the systematic examination of business performance.
4. Complete formal further management training to strengthen your management and leadership skills.

The example of the rejected business plan in Case A shows that critical events can trigger important and valuable learning processes. An initial bad outcome can encourage owner-managers to utilise the full potential of their knowledge. Therefore it can be concluded that a setback at the beginning of a start-up puts the commitment of the founders to the test. The investigated firms and owner-managers emphasised not only the need for commitment but also creativity to overcome difficult situations of this kind. This finding stresses once more that straightforward formal learning is limited to provide adequate preparation for business reality. The combination of formal and informal learning at and outside the workplace challenges the providers of management development programmes and policy makers to promote economic development by investing in competitive conditions for the region. The development of training modules and further applications of these findings are described in the next subsections along with implications for practice.

### **8.8.1 Combination of formal and informal training**

The research identified the training needs for founder owner-managers or for successors in family firms. It is well understood that owner-managers in small firms tend to favour an informal learning approach, closely integrated with practice (Marsick et al., 1999; Fuller-Love, 2006; Gruber et al., 2008; Marsick, 2009; Ahlgren and Engel, 2011; Mc Kee and Eraut, 2011). At the same time, owner-managers have a requirement for complementary knowledge to strengthen the firm development and to reduce the risk of failure by applying theoretical frameworks. The combination of both forms of learning increases the management skills of the owner-managers and is a preferred learning approach (Malcolm et al., 2003).

Additionally, informal learning should be supported by a knowledge-sharing environment which is available in a community of practice (Wenger, 1998). The informal learning of individual owner-managers is thus best accompanied by cycles of formal or non-formal learning. The concept of learning-on-the-job and learning-off-the-job for short periods combined with knowledge sharing within the community of practice and classroom teaching fits with the needs for problem-solving in small developing firms (Fuller-Love, 2006; Raelin, 2008; Molian, 2012).

The ideal concept of owner-manager learning in small firms combines experience, training and education which mirrors the complexity, heterogeneity and intensity of entrepreneurial practice (Cope and Watts, 2000; Matlay, 2005). It is aligned to current work-related challenges of the owner-manager and structured in short programme modules. Handy et al. (1987) define such a concept as a management development programme in contrast to formal long-term business education programmes like MBA courses with several fields of study. The research findings underline this preferred learning approach of owner-managers in small firms. All owner-managers in this research had completed an apprenticeship within the dual vocational training system. Furthermore, all of them underwent either further short or long-term formal training when the firm developed. In comparison, research in Europe confirms that less than one third of entrepreneurs have a university degree (Roure, 2000).

### **8.8.2 Fostering of community of practice development for small firms**

Small firms are the backbone of the economy and centres of innovation in the Rhine Valley region. Policy makers focus their attention on the competitiveness of the economic zone, in particular on the tax system, infrastructure, attractiveness of the labour market and political stability. All the listed topics are critically important.

The research results suggest that owner-managers of small firms would benefit from an incentive programme to foster knowledge sharing and management development for this target group. All owner-managers in the sample collaborate with a consultant to examine their current business performance and financial results as well as to discuss strategic topics for further development. The owner-managers of small firms point to a need for courses on finance and strategy which are specially geared to SMEs. This requirement shows a gap in the landscape of continuous short-term training for owner-managers. Owner-managers are not eager to complete a management course; they want solutions for ordinary business problems of finance, HRM, marketing or strategy when a firm develops. According to the received feedback, a regular short-term module of one or two days once or more times a year would suit them to address their business challenges (Devins et al., 2005). The configuration of the modules should be open and related to real case studies, including the exchange of experience with peers and should be combined with focused consultancy time for individual owner-managers. Politicians could help to foster entrepreneurship by providing free access to these regular study modules for owner-managers of start-ups or successors for up to five years after founding or taking over the business. This approach strongly supports the policy of entrepreneurial education and learning (Matlay, 2008a; Pickernell et al., 2010; European Commission, 2012; Molian, 2012; Rae and Woodier-Harris, 2013; Henry and Chatzichristou, 2014).

Finally, the research demonstrates that both as founders and initial successors the owner-managers show complementary skills which are based in particular on their pre-knowledge. It would be fruitful to trigger the process of developing structures which enable the exchange of experience and job shadowing for owner-managers of start-ups and small family firms. In view of the different learning trajectories of owner-

managers of start-ups and successors, the contribution to knowledge creation relating management skills would be high.

The advantages of this approach are manifold:

1. Setting up a platform where young entrepreneurs and successors could exchange experience would to foster the development of management skills.
2. Large-scale development of entrepreneurship and business development within a region.
3. Development of a community of practice of owner-managers of small firms.
4. Problem-based combination of learning within businesses and continuous training institutions.
5. Establishment of a database of real-life case studies to better understand the learning challenges of owner-managers in small firms.

### **8.8.3 Dual vocational education and training system**

In particular, the dual VET system is popular in all German-speaking countries (Deissinger and Hellwig, 2005; Masdonati et al., 2010). Since the economic crisis in 2008, the interest on the part of other European countries has increased. This interest is due to the fact that the lowest youth unemployment rates are to be found among Europe's German-speaking countries (Hoffman, 2011; Dietrich, 2012).

For example, the UK has made large-scale investments and research into the vocational training system. In 2011, London organised the 41<sup>st</sup> WorldSkills competition in cooperation with UK-Skills. This competition has been the most successful for the UK-Skills team since they first participated. The investment in vocational training in small firms is an important measure for increasing human resources (Matlay, 1999a).

The dual vocational training system is an adjusted workplace learning concept with clearly defined theoretical lessons at the vocational training school. The owner-managers of the family firms investigated completed their apprenticeship within their family firms. Today, they are proud to offer these job opportunities to young people. This system not only operates as a dual system in the conventional sense, but also

as a dual system for knowledge sharing and knowledge generation between the apprentices and the employees in a firm.

The networking dimension becomes visible when the owner-manager of Case F argues: “Some of the apprentices leave our firm after they completed their apprenticeship. The knowledge they acquire will then be applied by a competitor, customer or supplier. At the same time, we take on board apprentices from other firms like our competitors, customers or suppliers.” This intensive exchange of knowledge is extremely valuable, not only for increasing the knowledge level within one firm but also within one industry in a region. It also helps to foster competitiveness. The experience of the owner-managers shows that the exchange of skilled labour works well because they trust in the network they have established to strengthen the dual training system. The added value of the dual system thanks to systematic knowledge transfer goes beyond a firm or an industry and raises the HC of a region. However, the establishment of trust within different firms has taken time. Some of the owner-managers recall the initial feeling mistrust and not wanting to train an apprentice who might subsequently leave the firm once qualified and therefore support a competitor. This risks of external employee mobility are well known and often the reason behind an underinvestment in training for employees in small firms (Westhead, 1998).

#### **8.8.4 Transfer of knowledge between generations**

Many of the family firms which were founded as start-ups during the period from 1960 to 1989 belong to the group of firms now facing a succession process. The attitude of owner-managers differs according to the process of succession. The process of succession can start at different stages in the organisational life-cycle. Some of the owner-managers know from the very beginning that new ownership and management will be necessary at some time; others postpone it until an external event occurs (Pardo-del-Val, 2009). Kets de Vries (1993) asserts that 70% of family businesses fail to survive through the second generation and 90% do not outlive the third generation. Learning in family firms can be affected by the attitude of the owner-manager towards the succession process. Not all children of owner-managers enter the family firm, but empirical research underlines the fact that children whose parents were entrepreneurs are more likely to become entrepreneurs themselves (Davidsson and

Honig, 2003; Hamilton, 2006; Baldegger and Pock, 2009; Hamilton, 2013). In view of the high failure rate, it is economically valuable to obtain a more detailed insight into the learning processes as described in the previous section and in particular the transformation of knowledge in family firms and to use these insights in developing appropriate support programmes for family firms as they enter the transition process. The research findings suggest that the initial successors are focused on daily business routines before they become the owner-managers of the small family firm. From an owner-manager learning perspective, the tasks shift from a specialist-driven to a management-driven approach. Furthermore, the findings underline that, particularly during the succession phase, owner-managers in family firms tend to combine formal learning with informal learning at their workplace more frequently than owner-managers in start-ups (Eraut, 2000a; European Commission, 2001; Malcolm et al., 2003; Laforet, 2013). The formal learning of successors normally takes place at business schools and universities. This preference for a combination of informal learning at the workplace with formal learning within an educational institution has important implications for policy, which are discussed in the following section.

## **8.9 Implications for policy**

The universally high value placed on knowledge by the owner-managers of these firms is perhaps a reflection of the cultural context of the region, in which education, training and qualifications are valued across all professions and in which the dual apprenticeship system has very deep roots. These values may be particularly strong within the sample sector, as the owner-managers of technology-based firms tend to have a powerful orientation towards technical knowledge. While it is probable that the broad shifts of learning focus would be shared across other sectors, regions and cultures, there remains considerable scope for further research to develop and test the conceptual framework which has been developed.

From a policy perspective, the findings highlight a need for understanding and supporting informal learning in small firms. Recent research underlines the importance of learning in non-formal and informal settings to cope with the continuously changing requirements of the labour market and the economy, youth unemployment, the increased competition, the transition to a knowledge-based society and the demographic shift towards older workers (Gallenberger et al., 2000;

European Commission, 2003b; Leney, 2004; Gruber et al., 2008; CEDEFOP, 2009; Council of the European Union, 2009). As amply demonstrated by the owner-managers in the sample, there is a strong sense of the need to develop structured programmes to foster knowledge-sharing between groups of owner-managers, whether founders or successors, particularly in the earlier stages of their careers (Rae and Woodier-Harris, 2013).

A second important policy issue is that of business transfer due to the retirement of small firm owner-managers; about one third of European entrepreneurs who run a family business will retire from their business over the next ten years (European Commission, 2009). The adoption of measures for efficient succession and transfer of knowledge in small firms is crucial to the struggle against global competition. For this reason, governments in some countries have already created programmes that support and facilitate successful business and knowledge transfer (Nordqvist and Melin, 2010).

## **8.10 Personal reflection**

The journey of the doctoral research project has been demanding, challenging and enjoyable. Without this experience the fascinating world of research would have remained closed for the author and the success story of learning documented in the workplace in Appendix A would not have been sustained. The in-depth analysis of owner-manager learning in small firms has shaped the understanding and thinking of the author about these hyper-complex processes of starting, running and developing a firm. While there were many critical episodes of learning for the author during this intensive seven-year research project as part-time student, there are three episodes which stand out in particular.

Firstly, the author had to familiarise himself with the long-term perspective of the research project. Prior to this, the author had successfully completed research projects of one or two years' duration. Therefore, a steep learning curve was required to cope with the challenges of this long-term research project from defining the research questions and the methodology through to the field research and analysis, and finally the critical interpretation of the findings. During the research process, the

continuous examination of the interim results and fruitful discussions with both supervisors helped to develop the necessary skills required for research at this level.

The second critical learning episode for the author was attributable to dramatic changes in the business world during this time. These were not limited to the financial and economic crises in Europe. The author was faced with the key decision of whether to remain in a part-time position or to take the opportunity to become a director for the newly established Agency for International Education Affairs. In an entrepreneurial manner, the author applied for this unique job offer. The high demands of the research project and the new job proved to be particularly challenging. The strong level of commitment required for the research work initially led to a conflict in terms of the time demands for these two activities.

The third critical episode was an accident resulting in a femoral neck fracture, which resulted in a major interruption to the planned time schedule. This critical episode shows a parallel with the owner-manager of Case B during the economic crisis. He emphasised that “you didn’t have the chance to negotiate with the customer as the speed of the loss during the economic crisis was new”. The parallel is that in business and in life, new situations can occur suddenly and are often accompanied by a painful loss.

Furthermore, the research was a powerful process of learning which shaped the experience, increased the knowledge and fostered the understanding of owner-manager learning in small firms located in the Rhine Valley. In particular, the research project has fostered the research skills of the author in the following areas:

1. The importance of formulating appropriate research questions and the clarification of the position of the researcher in relation to the ontological and epistemological issues raised by the overall research project.
2. The added value of a qualitative research approach for exploring the ways in which people make sense of their experience and learn from it.
3. Solid planning for collecting and analysing the field data is the key for generating reliable results.
4. The insight that the entire research project consists of one holistic loop which drives countless smaller ones.

5. Each qualitative research project is unique as the topic, the underlying conditions and broader environment as well as the researcher's experience, skills and thinking shape the process of examination.
6. Investigating the owner-manager learning in small firms in the German-speaking area of the Rhine Valley has been a positive challenge as this research topic is primarily driven by researchers in the United Kingdom.
7. The findings of the research project have exceeded the expectations of the author as the visualisation of the different learning trajectories of the owner-managers during the development phases is a fruitful contribution and provides a basis for further investigations.
8. A simple presentation of the two different learning trajectories of the owner-managers turned out to be far more complex than expected.
9. The experience of presenting the preliminary findings at the EFMD Entrepreneurship Conference at Maastricht University's School of Business and Economics in March 2012 was an enormous learning experience for the author within the research field of entrepreneurship.
10. The developed hexagon framework for describing the owner-manager learning in small firms has a strong symbolic character. Owner-managers of small firms operate and learn in an efficient way which is symbolised by a hexagon as it has high stability and an optimal ratio between material and volume.
11. Finally, the exchange of ideas, thoughts and experiences with my supervisors and research colleagues at the University of Gloucestershire and the University of Liechtenstein has been a fundamental element of my research journey.
12. The research project has provided many opportunities to build an interesting network with other researchers within the fields of entrepreneurship and learning in small firms.

Each of these dozen points has made my seven-year journey as an international part-time student both interesting and challenging at the same time.

## REFERENCES

- Ahlgren, L., & Engel, L. C. (2011). Lifelong learning through SMEs: exploring workplace learning in the UK. *Journal of Workplace Learning, 23*(5), 331-348.
- Aldrich, H. E., & Cliff, J. E. (2003). The pervasive effects of family on entrepreneurship: toward a family embeddedness perspective. *Journal of Business Venturing, 18*(5), 573-596.
- Amara, N., Landry, R., Becheikh, N., & Ouimet, M. (2008). Learning and novelty of innovation in established manufacturing SMEs. *Technovation, 28*(7), 450-463.
- Andriessen, D. (2001). Weightless wealth: four modifications to standard IC theory. *Journal of Intellectual Capital, 2*(3), 204-214.
- Andriessen, D., & Tissen, R. J. (2000). *Weightless wealth: finding your real value in a future of intangible assets*. London: Financial Times Prentice-Hall.
- Argyris, C. (1999). *On Organizational Learning* (2 ed.). Oxford: Blackwell Publishers Ltd.
- Argyris, C., & Schön, D. (1978). *Organizational learning: A theory of action perspective*. Reading: Addison Wesley.
- Ates, A., Garengo, P., Cocca, P., & Bititci, U. (2013). The development of SME managerial practice for effective performance management. *Journal of Small Business and Enterprise Development, 20*(1), 28-54.
- Audi, R. (2003). *Epistemology: A contemporary introduction to the theory of knowledge* (2 ed.). London: Routledge.
- Audretsch, D. (2002). *Entrepreneurship: A survey of the literature*: Institute for Development Strategies, Indiana University & Centre for Economic Policy Research (CEPR), London.
- Audretsch, D., & Monsen, E. (2008). Entrepreneurship capital: a regional, organizational, team and individual phenomenon. In R. Barrett & S. Mayson (Eds.), *International handbook of entrepreneurship and HRM* (pp. 47-70). Cheltenham: Edward Elgar Publishing Limited.

- Audretsch, D. B., Carree, M. A., van Stel, A. J., & Thurik, A. R. (2002). Impeded Industrial Restructuring: The Growth Penalty. *Kyklos*, 55(1), 81-98.
- Audretsch, D. B., & Keilbach, M. (2005). Entrepreneurship capital and regional growth. *The Annals of Regional Science*, 39, 457-469.
- Audretsch, D. B., & Mahmood, T. (1994). Firm selection and industry evolution: The post-entry performance of new firms. *Journal of Evolutionary Economics*, 4, 243-260.
- Audretsch, D. B., & Thurik, A. R. (2001). What' s New about the New Economy? Sources of Growth in the Managed and Entrepreneurial Economies. *Industrial and Corporate Change*, 10(1), 267-315.
- Austrian Economic Chamber (2010). *Statistical Yearbook of the Austrian Economic Chamber*. Vienna.
- Baldegger, U., Fueglistaller, U., & Kraus, S. (2010). Neue Schriftleitung der ZfKE. *Zeitschrift für KMU und Entrepreneurship*, 58(2), 89-91.
- Baldegger, U., & Pock, M. (2009). *Unternehmensnachfolge im Fürstentum Liechtenstein*. Vaduz: Hochschule Liechtenstein, Institut für Entrepreneurship.
- Baldegger, U., Zäch, S., & Müller, D. (2012). *Unternehmerische Absichten und Aktivitäten von Studierenden an der Universität Liechtenstein aus dem Global University Entrepreneurial Students' Spirit Survey (GUESSS 2011)*. Vaduz: Institut für Entrepreneurship an der Universität Liechtenstein
- Bantel, K. A. (1998). Technology-based, "adolescent" firm configurations: strategy identification, context, and performance. *Journal of Business Venturing*, 13(3), 205-234.
- Barber, A. E. (2006). The hiring challenge: Recruitment in small firms. In R. L. Heneman & J. W. Tansky (Eds.), *Human resource strategies for the high growth entrepreneurial firm* (pp. 99-113). Greenwich: Information Age Publishing, Inc.
- Barber, A. E., & Manger, G. (1997). Improving management's valuations of human capital in small firms. *Journal of Management Development*, 16(7), 457-465.
- Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*, 17(1), 99-120.

- Baron, J. N., Hannan, M. T., & Burton, D. M. (2001). Labor Pains: Change in organizational models and employee turnover in young, high-tech firms. *American Journal of Sociology*, 106(4), 960-1012.
- Barrett, R., & Mayson, S. (2007). Human resource management in growing small firms. *Journal of Small Business and Enterprise Development*, 14(2), 307-320.
- Barringer, B. R., & Jones, F. F. (2004). Achieving Rapid Growth: Revisiting the Managerial Capacity Problem. *Journal of Developmental Entrepreneurship*, 9(1), 73-86.
- Barringer, B. R., Jones, F. F., & Neubaum, D. O. (2005). A quantitative content analysis of the characteristics of rapid-growth firms and their founders. *Journal of Business Venturing*, 20(5), 663-687.
- Becker, B. E., & Gerhart, B. (1996). The impact of human resource management on organizational performance: Progress and prospects. *Academy of Management Journal*, 39(4), 779-801.
- Becker, G. S. (1993). *Human Capital: A theoretical and empirical analysis, with special reference to education* (3 ed.). Chicago: The University of Chicago Press.
- Bhaskar, R. (2009). *Scientific realism and human emancipation*. New York: Routledge.
- Billett, S. (2002). Critiquing workplace learning discourses: participation and continuity work. *Studies in the Education of Adults*, 34(1), 56-67.
- Billett, S. (2004). Workplace participatory practices: Conceptualising workplaces as learning environments. *Journal of Workplace Learning*, 16(6), 312-324.
- Birley, S., & Westhead, P. (1989). *Growth and performance contrasts between 'types' of small firms*. Paper presented at the EIASM Third workshop on recent entrepreneurship research.
- Bjornavold, J. (2004). *Common European principles for validation of non-formal and informal learning in Europe*. Paper presented at the DGVT Conference.
- Blum, E. (2004). *Dialog zur Jugendbeschäftigung: Lehre, Karriere, Zukunft*.

- Blundel, R. (2007). Critical realism: a suitable vehicle for entrepreneurship research? In H. Neegaard & J. P. Ulhoi (Eds.), *Handbook of qualitative research methods in entrepreneurship*. Cheltenham: Edward Elgar Publishing Limited.
- Boeker, W., & Karichalil, R. (2002). Entrepreneurial Transactions: Factors influencing founder departure. *Academy of Management Journal*, 45(3), 818-826.
- Böhm, S. (2009). *Individuelle Weiterbildungsstrategien: Zum Lernen von Professionellen in Unternehmen* (Vol. 17). Bielefeld: W. Bertelsmann Verlag GmbH & Co. KG.
- Bolton, J. E. (1971). *Report of the Committee of Inquiry on Small Firms* (No. CMND 4811). London: HMSO.
- Bontis, N. (1996). There's a price on your head: Managing Intellectual Capital Strategically. *Business Quarterly* 60(4), 40-47.
- Bontis, N. (1998). Intellectual capital: an exploratory study that develops measures and models. *Management Decision*, 36(2), 63-76.
- Bontis, N. (2001). Assessing knowledge assets: a review of the models used to measure intellectual capital. *International Journal of Management Reviews*, 3(1), 41-60.
- Bontis, N. (2004). National intellectual capital Index: A United Nations initiative for the Arab region. *Journal of Intellectual Capital*, 5(1), 13-39.
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.
- Brooking, A. (1996). *Intellectual capital: Core asset for the third millennium enterprise*. London: Thomson Learning.
- Brush, C. G., Ceru, D. J., & Blackburn, R. (2009). Pathways to entrepreneurial growth: The influence of management, marketing, and money. *Business Horizons*, 52(5), 481-491.
- Bryman, A. (2008). *Social Research Methods* (3 ed.). Oxford: Oxford University Press Inc.

- Bryman, A., & Bell, E. (2007). *Business Research Methods* (2 ed.). Oxford: Oxford University Press
- Burrell, G., & Morgan, G. (1979). *Sociological Paradigms and Organisational Analysis*. London: Heinemann.
- Bygrave, W. D. (2007). The entrepreneurship paradigm (I) revisited. In H. Neegaard & J. P. Ulhøi (Eds.), *Handbook of qualitative research methods in entrepreneurship*. Cheltenham: Edward Elgar Publishing Ltd.
- Cabrera-Suarez, K. (2005). Leadership transfer and the successor's development in the family firm. *The Leadership Quarterly*, 16(1), 71-96.
- Cabrera-Suarez, K., De Saa-Perez, P., & Garcia-Almeida, D. (2001). The Succession Process from a Resource- and Knowledge-Based View of the Family Firm. *Family Business Review*, 19(1), 37-47.
- Canton St. Gall (2008). Gute Lehrstellensituation im Kanton St.Gallen Retrieved 17th February 2009, from [http://www.sg.ch/news/1/2008/06/gute\\_lehrstellensituation.html](http://www.sg.ch/news/1/2008/06/gute_lehrstellensituation.html)
- Cardon, M. S., & Stevens, C. E. (2004). Managing human resources in small organizations: What do we know? *Human Resource Management Review*, 14(3), 295-323.
- Carr, J., & Gannon-Leary, P. (2007). Understanding the learning process in SMEs. *Education, Knowledge & Economy*, 1(2), 145-165.
- Carsrud, A. L., & Brännback, M. (2010). Fostering sustainability in family firms. In R. W. Y. Kao (Ed.), *Sustainable Economy: Corporate, Social and Environmental Responsibility* (pp. 53-69). Singapore: World Scientific Pub Co. Pte. Ltd.
- Castrogiovanni, G. J. (2011). The role of human capital factors in small business performance and success. In C. L. Cooper & R. J. Burke (Eds.), *Human Resource Management in Small Business: Achieving Peak Performance* (1 ed.). Cheltenham: Edward Elgar Publishing Limited.
- CEDEFOP (2009). *Continuity, consolidation and change: Towards a European era of vocational education and training*. Luxembourg: European Centre for the Development of Vocational Training.

- Chaston, I., Badger, B., Mangles, T., & Sadler-Smith, E. (2001). Organisational learning style, competencies and learning systems in small, UK manufacturing firms. *International Journal of Organisations & Production Management*, 21(11), 1417-1432.
- Chell, E. (1998). The critical incident technique. In C. Cassell & G. Syman (Eds.), *Qualitative Research in Organisations*. London: Sage Publications.
- Chell, E., & Baines, S. (2000). Networking, entrepreneurship and microbusiness behaviour. *Entrepreneurship & Regional Development*, 12(3), 195-215.
- Chirico, F., & Laurier, W. (2008). The Creation, Sharing and Transfer of Knowledge in Family Business. *Journal of Small Business and Entrepreneurship*, 21(4), 413-434.
- Chowdhury, S. (2011). The moderating effects of customer driven complexity on the structure and growth relationship in young firms. *Journal of Business Venturing*, 26(3), 306-320.
- Christman, J. J., Chua, J. H., & Litz, R. (2003). A unified systems perspective of family firm performance: an extension and integration. *Journal of Business Venturing*, 18(4), 467-472.
- Churchill, N., & Lewis, V. (1983). The five stages of small business growth. *Harvard Business Review*, 61(3), 30-50.
- Clarke, J., Thorpe, R., Anderson, L., & Gold, J. (2006). It's all action, it's all learning: action learning in SMEs. *Journal of European Industrial Training*, 30(6), 441-455.
- Coetzer, A. J. (2006a). Managers as learning facilitators in small manufacturing firms. *Journal of Small Business and Enterprise Development*, 13(3), 351-362.
- Coetzer, A. J. (2006b). Developing human capital in small firms: A conceptual framework for analysing the effects of managers on employee learning. *Research and Practice in Human Resource Management* 14(1), 143-179.
- Colardyn, D., & Bjornavold, J. (2004). Validation of Formal, Non-Formal and Informal Learning: policy and practices in EU Member States. *European Journal of Education*, 39(1), 69-89.

- CONTOR (2004). *Hochtechnologie: Ein Vergleich Deutschland - Österreich*. Hünxe: CONTOR Gesellschaft für Grundbesitz- Baubetreuung- Investitionen mbH.
- Cooper, A. (2005). Arnold Cooper - Combining Interesting Research Questions with Scientific Rigor. In Z. J. Acs & D. B. Audretsch (Eds.), *Pioneers in entrepreneurship and small business research* (pp. 380). New York: Springer Science+Business Media, Inc.
- Cope, J. (2003a). Exploring the nature and impact of critical experiences within small business growth and entrepreneurial development. Institute for Entrepreneurship and Enterprise Development.
- Cope, J. (2003b). Researching entrepreneurship through phenomenological inquiry: Philosophical and methodological issues. Lancaster University Management School.
- Cope, J. (2005). Toward a Dynamic Learning Perspective of Entrepreneurship. *Entrepreneurship: Theory and Practice*, 29(4), 373-397.
- Cope, J., & Watts, G. (2000). Learning by doing: An exploration of experience, critical incidents and reflection in entrepreneurial learning. *International Journal of Entrepreneurial Behaviour & Research*, 6(3), 104-124.
- Council of the European Union (2009). *Council Conclusions on a strategic framework for European cooperation in education and training "ET2020"*.
- Creswell, J. W. (2003). *Research Design: Qualitative, Quantitative, and Mixed Method Approaches* (2 ed.). London: SAGE Publications, Inc.
- Creswell, J. W. (2007). *Qualitative Inquiry and Research Design: Choosing among five approaches* (2 ed.). London: Sage Publications, Inc.
- Creswell, J. W. (2009). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches* (3 ed.). London: SAGE Publications Inc.
- Cuningham, I. (1999). The business of learning. In A. Landale (Ed.), *Gower Handbook of Training and Development* (3 ed., pp. 402). Hampshire: Gower Publishing Ltd.
- Curran, J., Blackburn, R., Kitching, J., & North, J. (1997). Small Firms and Workforce Training: Some Results, Analysis and Policy Implications from a National Survey. In M. Ram, D. Devins & D. Smallbone (Eds.), *Small Firms: Enterprising Futures* (pp. 90-101). London: Paul Chapman Press.

- Daily, C. M., & Dalton, D. R. (1992). Financial performance of founder-managed versus professionally-managed corporations. *Journal of Small Business Management*, 30(2), 25-34.
- Daily, C. M., McDougall, P. P., Covin, J. G., & Dalton, D. R. (2002). Governance and strategic leadership in entrepreneurial firms. *Journal of Management*, 28(3), 387-412.
- David, H., & Watts, G. (2008). Becoming an employer. In R. Barrett & S. Mayson (Eds.), *International handbook of entrepreneurship and HRM* (pp. 326-344). Cheltenham: Edward Elgar Publishing Limited.
- Davidsson, P., Delmar, F., & Wiklund, J. (2006). Entrepreneurship as growth; growth as entrepreneurship. In P. Davidsson, F. Delmar & J. Wiklund (Eds.), *Entrepreneurship and the growth of firms* (pp. 21-38). Cheltenham: Edward Elgar Publishing Limited.
- Davidsson, P., & Honig, B. (2003). The role of social and human capital among nascent entrepreneurs. *Journal of Business Venturing*, 18(3), 301-331.
- Davidsson, P., & Wiklund, J. (2006). Conceptual and empirical challenges in the study of firm growth. In P. Davidsson, F. Delmar & J. Wiklund (Eds.), *Entrepreneurship and the growth of firms* (pp. 39-61). Cheltenham: Edward Elgar Publishing Limited.
- Deakins, D., & Freel, M. (1998). Entrepreneurial learning and the growth process in SMEs. *The Learning Organization*, 5(3), 144-155.
- Deakins, D., & Freel, M. (2009). *Entrepreneurship and small firms* (5 ed.). London: McGraw-Hill Education.
- Dehnbostel, P., & Pätzold, G. (2004). Lernförderliche Arbeitsgestaltung und die Neuorientierung betrieblicher Bildungsarbeit. In P. Dehnbostel & G. Pätzold (Eds.), *Innovation und Tendenz der betrieblichen Berufsbildung* (Vol. 18). Stuttgart: Franz Steiner Verlag.
- Deissinger, T., & Hellwig, S. (2005). Apprenticeships in Germany: modernising the dual system. *Education + Training*, 47(4/5), 312-324.
- Delmar, F., Davidsson, P., & Gartner, W. B. (2003). Arriving at the high-growth firm. *Journal of Business Venturing*, 18(2), 189-216.

- Devins, D., & Gold, J. (2002). Social constructionism: a theoretical framework to underpin support for the development of managers in SMEs? *Journal of Small Business and Enterprise Development*, 9(2), 111-119.
- Devins, D., & Gold, J. (2004). Entrepreneurial learning and growth process in SMEs. In J. Stewart & G. Beaver (Eds.), *HRD in Small Organisation: Research and Practice*. London: Routledge
- Devins, D., Gold, J., Johnson, S., & Holden, R. (2005). A conceptual model of management learning in micro businesses: Implications for research and policy. *Education + Training*, 47(8/9), 540-551.
- Dierickx, I., & Cool, K. (1989). Asset stock accumulation and sustainability of competitive advantage. *Management Science*, 35(12), 1504-1511.
- Dietrich, H. (2012). *Youth Unemployment in Europe: Theoretical Considerations and Empirical Findings*. Berlin: Friedrich Ebert-Stiftung.
- Dimov, D. P., & Shepherd, D. (2005). Human capital theory and venture capital firms: exploring "home runs" and "strike outs". *Journal of Business Venturing*, 20(1), 1-21.
- Dobbs, M., & Hamilton, R. T. (2007). Small business growth: recent evidence and new directions. *International Journal of Entrepreneurial Behaviour & Research*, 13(5), 296-322.
- Down, S. (1999). Owner-manager learning in small firms. *Journal of Small Business and Enterprise Development*, 6(3), 267-280.
- Downing, D. (2005). The Social Construction of Entrepreneurship: Narrative and Dramatic Processes in the Coproduction of Organizations and Identities. *Entrepreneurship: Theory and Practice*, 29(2), 185-204.
- Drucker, P. F. (1999). *Management Challenges for the 21st Century*. New York: HarperBusiness.
- Dürndorfer, M., Nink, M., & Wood, G. (2005). *Human-Capital-Management in deutschen Unternehmen: Eine Studie von Gallup und the Value Group*. Hamburg: Murmann Verlag GmbH.
- Easterby-Smith, M., Thorpe, R., & Lowe, A. (2002). *Management Research: An Introduction* (2 ed.). London: SAGE Publications Ltd.

- Edvinsson, L. (2000). Some perspectives on intanibles and intellectual capital 2000. *Journal of Intellectual Capital*, 1(1), 12-16.
- Edvinsson, L., & Malone, M. S. (1997). *Intellectual Capital: Realizing your company's true value by finding its hidden brainpower*. New York: HarperCollins.
- Eisenhardt, K. M. (1989). Building Theories from Case Study Research. *Academy of Management Review*, 14(4), 532-550.
- Eisenhardt, K. M., & Graebner, M. E. (2007). Theory building from cases: opportunities and challenges. *Academy of Management Journal*, 20(1), 25-32.
- Eisenhut, P., & Bodmer, F. (2007). *Wirtschaftsstudie "Ostschweiz 2007": Die Ostschweiz in Bewegung*. St. Gallen: IHK - Industrie und Handelskammer St. Gallen Appenzell.
- Eisenhut, P., & Schönholzer, U. (2008). *Wirtschaftsstudie Liechtenstein 2008*. St. Gallen: ecopol ag - wirtschafts- und politikberatung.
- Ellinger, A. D., & Cseh, M. (2007). Contextual factors influencing the facilitation of others' learning through everyday work experience. *Journal of Workplace Learning*, 19(7), 435-452.
- Eraut, M. (2000a). Non-formal learning, implicit learning and tacit knowledge. In F. Coffield (Ed.), *The Necessity of Informal Learning*. Bristol: Policy Press.
- Eraut, M. (2004a). Informal learning in the workplace. *Studies in Continuing Education*, 26(2), 247-273.
- Eraut, M. (2004b). Transfer of knowledge between education and workplace setting. In H. Rainbird, A. Fuller & A. Munro (Eds.), *Workplace Learning in Context*. London: Chapman & Hall.
- European Commission (2001). *Communication from the Commission: Marking a European Area of Lifelong Learning a Reality* (No. Com (2001) 678 final). Brussel: European Commission.
- European Commission (2003a). *The new SME definition: User guide and model declaration*. Brussels: European Commission.

- European Commission (2003b). *Observatory of European SMEs: Competence development in SMEs*. Brussels: European Commission, Enterprise DG.
- European Commission (2006). Establishing an action programme in the field of lifelong learning. *Official Journal of the European Union*, 1-24.
- European Commission (2009). *Guide for training in SMEs*. Lille/Hamburg: DG Employment, Social Affairs and Equal Opportunities.
- European Commission (2012). *Entrepreneurship action plan 2020: Reigniting the entrepreneurial spirit in Europe*. Brussels.
- European Parliament and Council (2008). *Recommendation of the European Parliament and of the Council of 23 April 2008 on the establishment of the European Qualifications Framework for lifelong learning*.
- Eurostat (2006a). *The 3rd Continuing Vocational Training Survey (CVTS3): European Union Manual*. Luxembourg: European Commission (Eurostat Working papers, Population and social conditions 3/2006/E/No 32).
- Eurostat (2006b). *SMEs and entrepreneurship in the EU*. Luxembourg: European Commission.
- Ezzy, D. (2002). *Qualitative Analysis: Practice and Innovation*. London: Routledge Chapman & Hall.
- Faure, E., Herrera, F., Kaddoura, A. R., Lopes, H., Petrovsky, A. V., Rahnema, M., et al. (1972). *Learning to be: The world of education today and tomorrow*. Paris: UNESCO.
- Fayolle, A., & Matlay, H. (2010). Social entrepreneurship: a multicultural and multidimensional perspective. In A. Fayolle & H. Matlay (Eds.), *Handbook of research on social entrepreneurship* (pp. 1-12). Cheltenham: Edward Elgar Publishing.
- FH Vorarlberg (2009). Bibliothekskatalog Retrieved 15th February 2009, from <http://www.fhv.at/bibliothek>
- Fillis, I. (2006). A biographical approach to researching entrepreneurship in smaller firms. *Management Decision*, 44(2), 198-212.

- Fiol, C. M., & Lyles, M. A. (1985). Organizational learning. *Academy of Management Review*, 10(4), 803-813.
- Fletcher, D. (2000). Family and enterprise. In S. Carter & D. Jones-Evants (Eds.), *Enterprise and Small Business: Principles, Practice and Policy* (pp. 155-165). London: Prentice-Hall.
- Flick, U. (2007a). *Managing Quality in Qualitative Research*. London: Sage Publications Ltd.
- Flick, U. (2007b). *Designing Qualitative Research*. London: SAGE Publications Ltd.
- Flynn, B. B., Schroeder, R. G., Flynn, E. J., Sakakibara, S., & Bates, K. A. (1997). World-class manufacturing project: overview and selected results. *International Journal of Operations & Production Management*, 17(7), 671-685.
- Frank, H., Keßler, A., Korunka, A., & Lueger, M. (2007). *Gründungsrealisierung und Erfolg von jungen Unternehmen in Österreich: Eine Analyse der Entwicklung im Verlauf von acht Jahren (1998-2005)*. Wien: Wirtschaftskammer Wien.
- Frank, H., Lueger, M., Nose, L., & Suchy, D. (2010). The concept of "Familianness": Literature review and systems theory-based reflections. *Journal of Family Business Strategy*, 1(3), 119-130.
- Friedrich, K., Malik, F., & Seiwert, L. J. (2009). *Das große 1x1 der Erfolgsstrategie: EKS® - Erfolg durch Spezialisierung* (13 ed.). Offenbach: GABAL Verlag GmbH.
- Fuller-Love, N. (2006). Management development in small firms. *International Journal of Management Reviews*, 8(3), 175-190.
- Fuller, T., & Moran, P. (2001). Small enterprises as complex adaptive systems: a methodological question? *Entrepreneurship & Regional Development*, 13(1), 47-63.
- Gabrielsson, J., & Politis, D. (2012). Work experience and the generation of new business ideas among entrepreneurs: An integrated learning framework. *International Journal of Entrepreneurial Behaviour & Research*, 18(1), 48-74.

- Gallenberger, W., Gaufer, A., Datz, P., & Neubert, T. (2000). Erfordert der demographische Wandel vermehrte berufliche Weiterbildung älterer Arbeitnehmer? In S. Kraft (Ed.), *Kompendium Weiterbildung: Aspekte und Perspektiven betrieblicher Personal- und Organisationsentwicklung*. Opladen: Leske + Budrich Verlag.
- Gartner, W. B., & Birley, S. (2002). Introduction to the special issue on qualitative methods in entrepreneurship research. *Journal of Business Venturing*, 17(5), 387-395.
- George, A. (1999). The manager as trainer. In A. Landale (Ed.), *Gower Handbook of Training and Development* (3 ed.). Hampshire: Gower Publishing Ltd.
- Gerhold, C., & Trenker, K. (1990). Rückblick 1790 bis 1965 - Geschichte der Berufsbildung Retrieved 17th February, 2008, from <http://www2.vol.at/lbs1/Chronik.html>
- Gibb, A. A. (1993). The enterprise culture and education: Understanding enterprise education and its links with small business, entrepreneurship and wider educational goals. *International Small Business Journal*, 11(3), 11-34.
- Gibb, A. A. (1997). Small firms training and competitiveness: building upon the small business as a learning organisation. *International Small Business Journal*, 15(3), 13-29.
- Gibb, A. A., & Davies, L. G. (1990). In pursuit of frameworks for the development of growth models of the small business. *International Small Business Journal* 9(1), 15-31.
- Gill, J., & Johnson, P. (2002). *Research Methods for Managers* (3 ed.). London: SAGE Publications.
- Gioia, D. A., & Pitre, E. (1990). Multiparadigm perspectives on theory building. *Academy of Management Review*, 15(4), 584-602.
- Giorgi, A. (1997). The theory, practice, and evaluation of the phenomenological method as a qualitative research procedure. *Journal of Phenomenological Psychology*, 28(2), 235-260.
- Gladwell, M. (2000). *The Tipping Point: How little things can make a big difference*. Bosten: Little Brown.

- Gonon, P., Hotz, H. P., Weil, M., & Schäfli, A. (2005). *KMU und die Rolle der Weiterbildung: Eine empirische Studie zu Kooperationen und Strategien in der Schweiz*. Bern: h.e.p. verlag ag.
- Gooty, J., Connelly, S., Griffith, J., & Gupta, A. (2010). Leadership, affect and emotions: A state of the science review. *The Leadership Quarterly*, 21(6), 979-1004.
- Goswami, R. M., McMahan, G. C., & Wright, P. M. (2006). Toward an understanding of strategic human resource management in entrepreneurial firms: Opportunities for research and action. In J. W. Tansky & R. L. Heneman (Eds.), *Human resource strategies for the high growth entrepreneurial firm* (pp. 13-50). Greenwich: Information Age Publishing, Inc. .
- Government of Liechtenstein (1811). Allgemeines bürgerliches Gesetzbuch (ABGB). Retrieved 19th June 2010, from Parliament of Liechtenstein [http://www.gesetze.li/get\\_pdf.jsp?PDF=1003001.pdf](http://www.gesetze.li/get_pdf.jsp?PDF=1003001.pdf)
- Grant, R. M. (1996). Prospering in Dynamically-competitive Environments: Organizational Capability as Knowledge Integration. *Organization Science*, 7(4), 375-387.
- Gray, C., & Lawless, N. (2000). Innovation in the distance development of SME management skills. Retrieved 04.11.2009, from EURODL: <http://www.eurodl.org/materials/contrib/2000/gray.html>
- Greiner, L. (1972). Evolution and revolution as organisations grow. *Harvard Business Review*, 61(May-June), 30-50.
- Gries, T., & Naude, W. (2008). Entrepreneurship and Regional Economic Growth. World Institute for Development Economics Research.
- Grix, J. (2001). *Demystifying postgraduate research: From MA to PhD*. Birmingham: Birmingham University Press.
- Grix, J. (2002). Introducing Students to the Generic Terminology of Social Research. *Politics*, 22(3), 12.
- Grollmann, P., & Rauner, F. (2007). Exploring innovative apprenticeship: quality and costs. *Education + Training*, 49(6), 431-446.

- Gruber, E., Mandl, I., & Oberholzner, T. (2008). *Learning at the workplace*. Thessaloniki: European Centre for the Development of Vocational Training (Cedefop).
- Grundy, L. K., & Welsch, H. P. (2001). The ambitious entrepreneur: High growth strategies of women-owned enterprises. *Journal of Business Venturing* 16(5), 453-470.
- Guile, D., & Okumoto, K. (2008). Developing vocational practice in the jewellery sector through the incubation of a new "project-object" *International Journal of Educational Research*, 47(4), 252-260.
- Güldenbergh, S. (2008). *Der Beitrag des Wissensmanagements zur Innovationsfähigkeit von Unternehmen*. Paper presented at the Lerntec 2008.
- Güldenbergh, S., & North, K. (2008). *Produktive Wissensarbeit(er): Antworten auf die Management-Herausforderungen des 21. Jahrhunderts*. Wiesbaden: Gabler.
- Gupta, A. K., Smith, K. G., & Shalley, C. E. (2006). The interplay between exploration and exploitation. *Academy of Management Journal*, 49(4), 693-706.
- Gupta, V., MacMillan, I. C., & Surie, G. (2004). Entrepreneurial leadership: developing and measuring a cross-cultural construct. *Journal of Business Venturing*, 19(2), 241-260.
- Hamilton, E. (2006). Entrepreneurial learning in family business. Lancaster University Management School.
- Hamilton, E. (2013). *Entrepreneurship across generations: Narrative, gender and learning in family business*. Cheltenham Edward Elgar Publishing Limited.
- Handy, C., Gow, I., Gordon, C., Randlesome, C., & Moloney, M. (1987). *The Making of Managers*. London: National Economic Development Office.
- Hanks, S. H., Watschon, C. J., Jansen, E., & Chandler, G. N. (1993). Tightening the life-cycle construct: A taxonomic study of growth stage configurations in high-technology organizations. *Entrepreneurship: Theory and Practice*, 18(2), 5-30.
- Hannan, M. T., Burton, D., & Baron, J. N. (1996). Inertia and Change in the Early Years: Employment Relations in Young, High Technology Firms. *Industrial and Corporate Change*, 5, 503-535.

- Harteis, C., & Billett, S. (2008). The workplace as learning environment: Introduction. *International Journal of Educational Research*, 47(4), 209-212.
- Härtel, P. (2009). *Education and training within the process of lifelong learning*. Paper presented at the Keeping on Track Conference
- Hayes, R. H., & Wheelwright, S. C. (1984). *Restoring our competitive edge: Competing through manufacturing*. Chichester: John Wiley & Sons, Inc.
- Hayton, J. C. (2003). Strategic Human Capital Management in SMEs: An empirical study of entrepreneurial performance. *Human Resource Management*, 42(4), 375-391.
- Hayton, J. C. (2005). Competing in the new economy: the effect of intellectual capital on corporate entrepreneurship in high-technology new ventures. *R&D Management*, 35(2), 137-155.
- Hayton, J. C. (2006). Human capital management practices and performance in small and medium sized enterprises. In J. W. Tansky & R. L. Heneman (Eds.), *Human resource strategies for high growth entrepreneurial firm* (pp. 51-68). Greenwich: Information Age Publishing.
- Heneman, H. G., & Berkley, R. A. (1999). Applicant attraction practices and outcomes among small businesses. *Journal of Small Business Management*, 37(1), 53-74.
- Hennink, M., Hutter, I., & Bailey, A. (2011). *Qualitative Research Methods*. London: SAGE Publications Ltd.
- Henry, N., & Chatzichristou, S. (2014). *Final report on indicators on entrepreneurial learning and competence*. Brussels: DG Education and Culture.
- Herzberg, M., Scherer, R., & Schnell, K. D. (2010). *Der Europäische Verflechtungsraum Bodensee: Ein MORO Projekt*. Ravensburg.
- Hicks, D., & Hegde, D. (2005). Highly innovative small firms in the markets for technology. *Research Policy*, 34, 703-716.
- Higgins, D. (2009). Engaging the small firm in learning: Practice based theorising on complex knowledge. *Journal of European Industrial Training*, 33(1), 81-96.

- Higgins, D., & Aspinall, C. (2011). Learning to learn: a case for developing small firm owner/managers. *Journal of Small Business and Enterprise Development*, 18(1), 43-57.
- Higgins, D., Mirza, M., & Drozynska, A. (2013). Power, politics & learning: a social enactment of the SME owner/manager. *Journal of Small Business and Enterprise Development*, 20(3), 470-483.
- Hill, J., & McGowan, P. (1999). Small business and enterprise development: questions about research methodology. *International Journal of Entrepreneurial Behaviour & Research*, 5(1), 5-18.
- Hill, J., Nancarrow, C., & Wright, L. T. (2002). Lifecycles and crisis points in SMEs: a case approach. *Marketing Intelligence & Planning*, 20(6), 361-369.
- Hill, R., & Steward, J. (2000). Human resource development in small organizations. *Journal of European Industrial Training*, 24(2-4), 105-117.
- Hoffman, N. (2011). *Schooling in the workplace: How six of the World's best vocational education systems prepare young people for jobs and life*. Cambridge, Massachusetts: Harvard Education Press.
- Holtbrügge, D. (2005). *Personalmanagement* (2 ed.). Berlin: Springer-Verlag GmbH.
- Husserl, E. (1970). *The crisis of European sciences and transcendental phenomenology*. Northwestern University Press.
- Jack, S., Hyman, J., & Osborne, F. (2006). Small entrepreneurial ventures culture, change and impact on HRM: A critical review. *Human Resource Management Review*, 16, 456-466.
- Jayawarna, D., Macpherson, A., & Wilson, A. (2006). Managers' perceptions of management development needs in manufacturing SMEs. *Education + Training*, 48(8-9), 666-681.
- Jayawarna, D., Macpherson, A., & Wilson, A. (2007). Training commitment and performance in manufacturing SMEs: Incidence, intensity and approaches. *Journal of Small Business and Enterprise Development*, 14(2), 321-338.

- Johanson, U. (2005). A human resource perspective on intellectual capital. In B. Marr (Ed.), *Perspectives on intellectual capital: Multidisciplinary insights into management, measurement, and reporting* (pp. 96-105). Oxford: Elsevier Butterworth-Heinemann.
- Johnson, G., Merlin, L., & Whittington, R. (2003). Towards an Activity-Based View - Guest editors' Introduction. *Journal of Management Studies*, 40(1), 3-22.
- Johnson, P., & Duberley, J. (2000). *Understanding Management Research: An Introduction to Epistemology*. London: SAGE Publications Ltd.
- Johnson, S. (2002). Lifelong learning and SMEs: issues for research policy. *Journal of Small Business and Enterprise Development*, 9(3), 285-295.
- Jones, O., Macpherson, A., & Thorpe, R. (2010). Learning in owner-managed small firms: Mediating artefacts and strategic space. *Entrepreneurship & Regional Development*, 22(7-8), 649-673.
- Jones, O., Macpherson, A., Thorpe, R., & Ghecham, A. (2007). The evolution of business knowledge in SMEs: conceptualizing strategic space. *Strategic Change*, 16, 281-294.
- Jones, P., Beynon, M., Pickernell, D., & Packham, G. (2013). Evaluating the impact of different training methods on SME business performance. *Environment and Planning C: Government and Policy*, 31(1), 56-81.
- Jones, P., Simmons, G., Beynon-Davies, P., & Pickernell, D. (2014). An exploration of the attitudes and strategic responses of sole-proprietor micro-enterprises in adopting information and communication technology. *International Small Business Journal*, 32(3), 285-306.
- Kailer, N., & Heyse, V. (2007). Kompetenzentwicklung und -management in kleinen und mittleren Unternehmen. In V. Heyse & J. Erpenbeck (Eds.), *Kompetenzmanagement: Methoden, Vorgehen, KODE(R) und KODE(R)X im Praxistest* (pp. 333). Münster: Waxmann Verlag GmbH.
- Kailer, N., & Stockinger, A. (2008). *Kompetenzentwicklung in Jungunternehmen und Kleinbetrieben: Problemfelder, Gestaltungsformen, Rolle der externen Bildungspartner*. Wien: Institut für Bildungsforschung der Wirtschaft.
- Kaplan, R. S., & Norton, D. P. (1992). The Balanced Scorecard - Measures that drive performance. *Harvard Business Review*, 70(1), 71-79.

- Kaplan, R. S., & Norton, D. P. (2004). The strategy map: guide to aligning intangible assets. *Strategy and Leadership*, 32(5), 10-17.
- Kautonen, T. (2008). Understanding the older entrepreneur: Comparing third age and prime age entrepreneurs in Finland. *International Journal of Business Science & Applied Management*, 3(3), 3-13.
- Kautonen, T., Down, S., & South, L. (2008). Enterprise support for older entrepreneurs: the case of PRIME in the UK. *International Journal of Entrepreneurial Behaviour & Research*, 14(2), 85-101.
- Keeley, B., & Love, P. (2010). *From crisis to recovery: The causes, course and consequences of the great recession*. Paris: OECD.
- Kelliher, F., & Henderson, J. B. (2006). A learning framework for the small business environment. *Journal of European Industrial Training*, 30(7), 512-528.
- Kelliher, F., & Reinl, L. (2009). "A resource-based view of micro-firm management practice". *Journal of Small Business and Enterprise Development*, 16(3), 521-532.
- Kempster, S., & Cope, J. (2010). Learning to lead in the entrepreneurial context. *International Journal of Entrepreneurial Behaviour & Research*, 16(1), 5-34.
- Kets de Vries, M. F. R. (1993). The dynamics of family controlled firms: The good and the bad news. *Organizational Dynamics*, 21(3), 59 -71.
- Kets de Vries, M. F. R., & Carlock, R. S. (2010). *Family Business on the Couch: A Psychological Perspective*. Chichester: John Wiley & Sons.
- Kirkwood, J. (2007). Igniting the entrepreneurial spirit: Is the role parents play gendered? *International Journal of Entrepreneurial Behaviour & Research*, 13(1), 39-59.
- Kitching, J., & Blackburn, R. (2002). *The nature of training and motivation to train in small firms*: Small Business Research Centre, Kingston University, London.
- Klaas, B., McClendon, J., & Gaaney, T. W. (2000). Managing HR in the small and medium enterprise: The impact of professional employer organizations. *Entrepreneurship: Theory & Practice*, 25(1), 107-124.

- KMU-Zentrum (2008). Businessplan Wettbewerb Retrieved 12th January, 2008, from <http://www.kmu-zentrum.li>
- Knowles, M. S., Holton III, E. F., & Swanson, R. A. (2005). *The Adult Learner: The Definitive Classic in Adult Education and Human Resource Development* (6 ed.). London: Elsevier Butterworth-Heinemann.
- Kolb, D. A. (1984). *Experiential Learning: Experience as the Source of Learning and Development*. Englewood Cliffs, NJ: Prentice Hall.
- Korunka, C., Frank, H., Lueger, M., & Mugler, J. (2003). The Entrepreneurial Personality in the Context of Resources, Environment, and the Startup Process - A Configurational Approach. *Entrepreneurship: Theory and Practice*, 28(1), 23-42.
- Kotler, P., & Armstrong, G. (2011). *Principles of Marketing* (14 ed.). Essex: Prentice Hall International.
- Kristof, A. L. (1996). Person-Organisation Fit: An integrative Review of its Conceptualizations, Measurement, and Implications. *Personnel Psychology*, 49(1-49).
- Laforet, S. (2013). Innovation characteristics of young and old family-owned businesses. *Journal of Small Business and Enterprise Development*, 20(1), 204-224.
- Lans, T., Biemans, H., Verstegen, J., & Mulder, M. (2008). The Influence of the Work Environment on Entrepreneurial Learning of Small-business Owners. *Management Learning*, 39(5), 597-613.
- Lasch, F., Le Roy, F., & Yami, S. (2007). Critical growth factors of ICT start-ups. *Management Decision*, 45(1), 62-75.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge: Cambridge University Press.
- Lavie, D., Stettner, U., & Tushman, M. L. (2010). Exploration and exploitation within and across organizations. *The Academy of Management Annals*, 4(1), 109-155.

- Le Breton-Miller, I., Miller, D., & Steier, L. P. (2004). Toward an Integrative Model of Effective FOB Succession. *Entrepreneurship: Theory and Practice*, 28(4), 305-328.
- Lehtinen, E. (2008). Discussion: Bridging the individual and social in workplace learning and motivation. *International Journal of Educational Research*, 47, 261-263.
- Leitner, K. H. (1998). *Beyond the hype: Current trends in management and organisation theory and their relevance for SMEs*. Paper presented at the Proceedings of 28th European Small Business Seminar.
- Leney, T. (2004). *Achieving the Lisbon goal: The contribution of VET*. London: QCA.
- Lepak, D. P., & Snell, S. A. (1999). The Human Resource Architecture: Toward a Theory of Human Capital Allocation and Development. *Academy of Management Review*, 24(1), 31-48.
- Lester, L. L., & Parnell, J. A. (2008). Firm size and environmental scanning pursuits across organizational life cycle stages. *Journal of Small Business and Enterprise Development*, 15(3), 540-554.
- Lichtenstein, B. B. (2000). Self-organised transitions: A pattern amid the chaos of transformative change. *Academy of Management Executive*, 14(4), 128-141.
- Lichtenstein, B. B., Dooley, K. J., & Lumpkin, G. T. (2006). Measuring emergence in the dynamics of new venture creation. *Journal of Business Venturing*, 21(2), 153-175.
- Lindgren, M., & Packendorff, J. (2009). Social constructionism and entrepreneurship. *International Journal of Entrepreneurial Behaviour & Research*, 15(1), 22-47.
- Littunen, H., & Niittykangas, H. (2010). The rapid growth of young firms during various stages of entrepreneurship. *Journal of Small Business and Enterprise Development*, 17(1), 8-31.
- Livingstone, D. W. (2001a). Worker Control as the Missing Link: Relations Between Paid/Unpaid Work and Work-related learning. *Journal of Workplace Learning*, 13(1), 308-317.

- Livingstone, D. W. (2001b). Adults' Informal Learning: Definitions, Findings, Gaps and Future Research. *Wall Working Paper* Retrieved 18 May, 2009, from <https://tspace.library.utoronto.ca/bitstream/1807/2735/2/21adultsinformallearning.pdf>
- Livingstone, D. W., & Raykov, M. (2008). Worker's Power and Intentional Learning among Non-managerial Workers: A 2004 Benchmark Survey. *Relations Industrielles/Industrial Relations* 63(1), 30-56.
- MacBeath, J. (2011). *Evaluation of the Children's University™ 2010: Third Report to the CU Trust January 2011*: University of Cambridge: Faculty of Education.
- Macpherson, A., & Holt, R. (2007). Knowledge, learning and small firm growth: A systematic review of the evidence. *Research Policy*, 36(2), 172-192.
- Macpherson, A., & Jayawarna, D. (2007). Training approaches in manufacturing SMEs: Measuring the influence of ownership, structure and markets. *Education + Training*, 49(8/9), 698-719.
- Macpherson, A., Jones, O., Zhang, M., & Wilson, A. (2003). Re-conceptualising learning spaces: developing capabilities in a high-tech small firm. *Journal of Workplace Learning*, 15(6), 259-270.
- Madsen, E. L. (2007). The significance of sustained entrepreneurial orientation on performance of firms – A longitudinal analysis. *Entrepreneurship & Regional Development*, 19, 185-204.
- Malcolm, J., Hodkinson, P., & Colley, H. (2003). The interrelationships between informal and formal learning. *Journal of Workplace Learning*, 15(7/8), 313-318.
- Man, T. W. Y. (2012). Developing a behaviour-centred model of entrepreneurial learning. *Journal of Small Business and Enterprise Development*, 19(3), 549-566.
- March, J. G. (1991). Exploration and exploitation in organisational learning. *Organization Science*, 2(1), 71-87.
- Marlow, S. (2006). Human resource management in smaller firms: A contradiction in terms? *Human Resource Management Review*, 16(4), 467-477.
- Marshall, A. (1907). *Elements of economics of industry: Being the first volume of elements of economics*. London: Macmillan and Co. Ltd.

- Marsick, V. J. (1990). Introduction. In V. J. Marsick (Ed.), *Learning in the workplace*. London: Croom Helm Ltd.
- Marsick, V. J. (2009). Toward a unifying framework of support informal learning theory, research and practice. *Journal of Workplace Learning*, 21(4), 265-275.
- Marsick, V. J., Volpe, M., & Watkins, K. E. (1999). Theory and Practice of Informal Learning in the Knowledge Era. *Advances in Developing Human Resources*, 1(3), 80-95.
- Marsick, V. J., & Watkins, K. E. (1990). Approaches to studying learning in the workplace. In V. J. Marsick (Ed.), *Learning in the workplace* (pp. 171-198). London: Routledge.
- Marsick, V. J., & Watkins, K. E. (2001). Informal and incidental learning. In S. B. Merriam (Ed.), *The New Update on Adult Learning Theory: New Directions for Adult and Continuing Education* (Vol. 89, pp. 25-34). New York: Jossey-Bass.
- Masdonati, J., Lamamra, N., & Jordan, M. (2010). Vocational education and training attrition and the school-to-work transition. *Education + Training*, 52(5), 404-414.
- Masurel, E., & van Montfort, K. (2006). Life Cycle Characteristics of Small Professional Service Firms. *Journal of Small Business Management*, 44(3), 461-473.
- Matlay, H. (1999a). Vocational education and training in Britain: a small business perspective. *Education + Training*, 41(1), 6-13.
- Matlay, H. (1999b). Employee relations in small firms: A micro-business perspective. *Employee Relations*, 21(3), 285-295.
- Matlay, H. (2000). Organisational learning in small learning organisations: an empirical overview. *Education + Training*, 42(4-5), 202-210.
- Matlay, H. (2002). Training and HRM strategies in family and non-family owned small businesses: a comparative approach. *Education + Training*, 44(8-9), 357-369.
- Matlay, H. (2004). Contemporary training initiatives in Britain: a small business perspective. *Journal of Small Business and Enterprise Development*, 11(4), 504-513.

- Matlay, H. (2005). Researching entrepreneurship and education, Part 1: what is entrepreneurship and does it matter? *Education + Training*, 47(8/9), 665-677.
- Matlay, H. (2008a). The impact of entrepreneurship education on entrepreneurial outcomes. *Journal of Small Business and Enterprise Development*, 15(2), 382-396.
- Matlay, H. (2008b). Vocational education and training in SMEs: The role of education + training in promoting quality research. *Education + Training*, 50(1), 67-70.
- Matthews, J. H., & Candy, P. C. (1999). New dimensions in the dynamics of learning and knowledge. In D. Boud & J. Garrick (Eds.), *Understanding Learning at Work* (pp. 47-64). London: Routledge.
- Matthews, P. (1999). Workplace learning: developing an holistic model. *The Learning Organization*, 6(1), 18-29.
- Maxwell, J. A. (2004). *Qualitative Research Design: An Interactive Approach* (2 ed.). London: SAGE Publications.
- May, T. (2001). *Social research: Issues, methods and process* (3 ed.). Buckingham: Open University Press.
- May, T. (2011). *Social research: Issues, methods and process* (4 ed.). Berkshire: Open University Press.
- Mazzarol, T. (2003). A model of small business HR growth management. *International Journal of Entrepreneurial Behaviour & Research*, 9(1), 27-49.
- Mc Kee, A., & Eraut, M. (2011). Introduction. In A. Mc Kee & M. Eraut (Eds.), *Learning Trajectories, Innovation and Identity for Professional Development*. London: Springer.
- McCarthy Gallagher, J., & Reid, D. K. (2002). *The learning theory of Piaget & Inhelder*. Lincoln: iUniverse.
- McGivney, V. (1999). *Informal learning in the community: a trigger for change and development*. Leicester: National Institute of Adult Continuing Education.
- Medel-Añonuevo, C., Hazoumê, M. L., & Mauch, W. (2001). *Revisiting Lifelong Learning for the 21<sup>st</sup> Century*. Hamburg: UNESCO.

- Merki, C. M. (2007). *Wirtschaftswunder Liechtenstein: Die rasche Modernisierung einer kleinen Volkswirtschaft im 20. Jahrhundert*. Vaduz: Verlag des Historischen Vereins für das Fürstentum Liechtenstein.
- Merriam, S. B. (2009). *Qualitative Research: A Guide to Design and Implementation*. San Francisco: Jossey-Bass.
- Miles, M. B., & Huberman, M. A. (1994). *Qualitative Data Analysis: An Expanded Sourcebook* (2 ed.). London: SAGE Publications.
- Miller, D. (1990). Organizational Configurations: Cohesion, Change, and Prediction. *Human Relations*, 43(8), 771-789.
- Mincer, J. (1958). Investment in Human Capital and Personal Income Distribution *Journal of Political Economy*, 66(4), 281-302.
- Minniti, M., & Bygrave, W. D. (2001). A Dynamic Model of Entrepreneurial Learning. *Entrepreneurship: Theory and Practice*, 25(3), 5-16.
- Mintzberg, H., Ahlstrand, B., & Lampel, J. (1998). *Strategy Safari: A guided tour through the wilds of strategic management*. New York: The Free Press.
- Mitchell, R. J., Hart, T. A., Valcea, S., & Townsend, D. M. (2009). Becoming the Boss: Discretion and Postsuccession Success in Family Firms. *Entrepreneurship: Theory and Practice*, 33(6), 1201-1218.
- Mitchell, R. J., & Shepherd, D. (2010). To thine own self be true: Images of self, images of opportunity, and entrepreneurial action. *Journal of Business Venturing*, 25(1), 138-154.
- Molian, D. (2012). *Entrepreneurial Value Creation: are European Business Schools Playing their Full Part?* Paper presented at the 2012 EFMD Entrepreneurship Conference.
- Mueller, S., & Anderson, A. R. (2014). Understanding the entrepreneurial learning process and its impact on students' personal development: A European perspective. *The International Journal of Management Education*, 12(3), 500-511.
- Mumford, A. (1994). Four approaches to learning from experience. *The Learning Organization*, 1(1), 4-10.

- Mumford, A. (1999). Learning styles and the learning organization. In A. Landale (Ed.), *Gower handbook of training and development* (3<sup>rd</sup> ed.). Hampshire: Gower Publishing Ltd.
- Neergaard, H., & Ulhøi, J. P. (2007). *Handbook of Qualitative Research Methods in Entrepreneurship*. Cheltenham: Edward Elgar Publishing Limited.
- Nonaka, I. (1994). A dynamic theory of organizational knowledge creation. *Organisation Science*, 5(1), 14-37.
- Nonaka, I. (2005). A dynamic theory of organizational knowledge creation. In I. Nonaka (Ed.), *Knowledge management: Critical perspectives on business and management* (pp. 153-194). Oxford: Routledge.
- Nonaka, I., & Takeuchi, H. (1995). *The knowledge creating company: How Japanese companies create the dynamics of innovation*. Oxford: Oxford University Press.
- Nonaka, I., Toyama, R., & Konno, N. (2000). SECI, Ba and Leadership: a unified model of dynamic knowledge creation. *Long Range Planning*, 33(1), 5-34.
- Nordqvist, M., & Melin, L. (2010). Entrepreneurial families and family firms. *Entrepreneurship & Regional Development*, 22(3-4), 211-239.
- O'Dwyer, M., Gilmore, A., & Carson, D. (2011). Strategic alliances as an element of innovative marketing in SMEs. *Journal of Strategic Marketing*, 19(1), 91-104.
- O'Dwyer, M., & Ryan, E. (2000). Management development issues for owners/managers of micro-enterprises. *Journal of European Industrial Training*, 24(6/7), 345-353.
- O'Gorman, C. (2001). The sustainability of growth in small and medium sized enterprises. *International Journal of Entrepreneurial Behaviour & Research*, 7(2), 60-75.
- Oberholzer, T., & Dorr, A. (2008). *Weiterbildung in Unternehmen: Schwerpunkt KMU*. Wien: Austrian Institute for SME Research.
- OECD (1973). *Recurrent education: a strategy for lifelong learning*. Paris: OECD.

- Office of Economic Affairs (2011). *Bildungsstatistik*. Vaduz: Liechtensteinische Landesverwaltung, Statistics Division.
- Office of Economic Affairs (2012). *Liechtenstein in Figures: Persons Employed by Economic Sector in 2010*. Vaduz: Liechtensteinische Landesverwaltung, Statistics Division.
- Office of National Statistics (2012). *Characteristics of young unemployed people, 2012*.
- OPET (2007). *Vocational Education and Training Research in Switzerland*.
- Örtenblad, A. (2004). The learning organization: towards an integrated model. *The Learning Organization*, 11(2), 129-144.
- Pardo-del-Val, M. (2009). Succession in family firms from a multistaged perspective. *International Entrepreneurship Management Journal*, 5(2), 165-179.
- Pasanen, M., & Laukkanen, T. (2006). Team-managed growing SMEs: a distinct species? *Management Research News*, 29(11), 684-700.
- Patton, D., & Marlow, S. (2002). The determinants of management training within smaller firms in the UK. What role does strategy play? *Journal of Small Business and Enterprise Development*, 9(3), 260-270.
- Patton, M. Q. (2002). *Qualitative Research & Evaluation Methods* (3<sup>rd</sup> ed.). London: SAGE Publications, Inc.
- Pedler, M., & Burgoyne, J. (2008). Action Learning In P. Reason & H. Bradbury (Eds.), *The SAGE Handbook of Action Research: Participative Inquiry and Practice* (2<sup>nd</sup> ed.). London: SAGE Publications Ltd.
- Penn, D. W., Ang'wa, W., Forster, R., Heydon, G., & Richardson, S. J. (1998). Learning in smaller organisations. *The Learning Organization*, 5(3), 128-137.
- Penrose, E. T. (1995). *The theory of the growth of the firm* (3 ed.). Oxford: Oxford University Press.
- Phelps, R., Adams, R., & Bessant, J. (2007). Life cycles of growing organizations: A review with implications for knowledge and learning. *International Journal of Management Reviews*, 9(1), 1-30.

- Piaget, J., & Inhelder, B. (1969). *The psychology of the child*: Basic Books
- Pickernell, D., Packham, G., Jones, P., Miller, C., & Thomas, B. (2010). Graduate entrepreneurs are different: they access more resources? *International Journal of Entrepreneurial Behaviour & Research*, 17(2), 183-202.
- Pittaway, L., Holt, R., & Broad, J. (2014). Synthesising knowledge in entrepreneurship research - the role of systematic literature reviews. In E. Chell & M. Karatas-Ozkan (Eds.), *Handbook of Research on Small Business and Entrepreneurship* (pp. 83-105). Cheltenham: Edward Elgar Pub
- Politis, D. (2008). The process of entrepreneurial learning: A conceptual framework. In R. T. Harrison & C. M. Leitch (Eds.), *Entrepreneurial Learning: Conceptual frameworks and applications*. Oxford: Routledge.
- Politis, D., & Gabrielsson, J. (2009). Entrepreneurs' attitudes towards failure: An experiential learning approach. *International Journal of Entrepreneurial Behaviour & Research*, 15(4), 364-383.
- Prahalad, C. K., & Hamel, G. (1990). The Core Competence of the Corporation. *Harvard Business Review*(May-June), 79-91.
- Psacharopoulos, G., & Woodhall, M. (1997). *Education for Development: An Analysis of Investment Choice*. New York: Oxford University Press.
- Rae, D. (2000). Understanding entrepreneurial learning: a question of how? *International Journal of Entrepreneurial Behaviour & Research*, 6(3), 145-159.
- Rae, D. (2006). Entrepreneurial Learning: A Conceptual Framework for Technology-based Enterprise. *Technology Analysis & Strategic Management*, 18(1), 39-56.
- Rae, D. (2012). Action learning in new creative ventures. *International Journal of Entrepreneurial Behaviour & Research*, 18(5), 603-623.
- Rae, D. (2015). *Opportunity-centred entrepreneurship* (2 ed.). London: Palgrave.
- Rae, D., & Carswell, M. (2001). Towards a conceptual understanding of entrepreneurial learning. *Journal of Small Business and Enterprise Development*, 8(2), 150-158.

- Rae, D., & Woodier-Harris, N. R. (2013). How does enterprise and entrepreneurship education influence postgraduate students' career intentions in the New Era economy? *Education + Training*, 55(8/9).
- Raelin, J. A. (2008). *Work-Based Learning: Bridging knowledge and action in the workplace*. San Francisco: Jossey-Bass.
- Reuber, A. R., & Fischer, E. (2005). The Company You Keep: How Young Firms in Different Competitive Contexts Signal Reputation through Their Customers. *Entrepreneurship: Theory & Practice*, 29(1), 57-78.
- Revans, R. (1998). *ABC of Action Learning: Empowering managers to act and to learn from action* (3 ed.). London: Lemos&Crane.
- Robbins, D. K., Pantuosco, L. J., Parker, D. F., & Fuller, B. K. (2000). An empirical assessment of the contribution of small business employment to U.S. state economic performance. *Small Business Economics*, 15, 293-302.
- Robson, C. (2002). *Real World Research* (2 ed.). Oxford: Blackwell Publishing Ltd.
- Rogoff, E. G., & Heck, R. K. Z. (2003). Evolving research in entrepreneurship and family business: recognizing family as the oxygen that feeds the fire of entrepreneurship. *Journal of Business Venturing*, 18(5), 559-566.
- Rollag, K., Parise, S., & Cross, R. (2005). Getting New Hires Up to Speed Quickly. *MIT Sloan management Review*, 46(2), 34-41.
- Roos, G., Pike, S., & Fernström, L. (2005). *Managing intellectual capital in practice*. Oxford: Butterworth Heinemann.
- Roos, G., & Roos, J. (1997). Measuring your company's intellectual performance. *Long Range Planning*, 30(3), 413-426.
- Rosen, S. (1972). Learning and Experience in the Labor Market *The Journal of Human Resources*, 7(3), 326-342.
- Roure, J. (2000). Ten myths about entrepreneurs. In S. Birley & D. Muzyka (Eds.), *Mastering Entrepreneurship: your single source guide to become a master of entrepreneurship* (pp. 432). London: FT Press.

- Rubenson, G. C., & Gupta, A. K. (1992). Replacing the founder: Exploring the myth of the entrepreneur's disease *Business Horizons*, 35(6), 53-57.
- Rubenson, G. C., & Gupta, A. K. (1996). The initial succession: A contingency model of founder tenure. *Entrepreneurship: Theory and Practice*, 21(2), 21-35.
- Rutherford, M. W., Buller, P. F., & McMullen, P. R. (2003). Human resource management problems over the life cycle of small to medium-sized firms. *Human Resource Management*, 42(4), 321-335.
- Sarantakos, S. (1998). *Social Research* (2 ed.). London: MacMillan Press Ltd.
- Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research Methods for Business Students* (5 ed.). Essex: Pearson Education.
- Saunders, M., Lewis, P., & Thornhill, A. (2012). *Research Methods for Business Students* (6 ed.). Essex: Pearson Education Limited.
- Saunders, M. N. K., Gray, D. E., & Goregaokar, H. (2014). SME innovation and learning: the role of networks and crisis events. *European Journal of Training and Development*, 38(1/2), 136-149.
- Saurwein, K. (2008). *Wirtschaftsakteure im Alpenrheintal*. Universität Innsbruck, Innsbruck.
- Sayer, A. (2000). *Realism and Social Science*. London: SAGE Publications Ltd.
- SBA (2009). Table of Small Business Size Standards, Retrieved 24th November, 2009, from <http://www.sba.gov/contractingopportunities/officials/size/index.html>
- Schein, E. H. (2004). *Organizational culture and leadership* (3 ed.). San Francisco: Wiley & Sons.
- Scherer, P., & Gutjahr, M. (2012). Die Bodenseeregion - Eine Wachstumsregion im Verborgenen. In A. Kauffmann & M. T. W. Rosenfeld (Eds.), *Städte und Regionen im Standortwettbewerb: Neue Tendenzen, Auswirkungen und Folgerungen für die Politik*. Hannover: Verlag der ARL.
- Schiersmann, C. (2007). *Berufliche Weiterbildung*. Wiesbaden: Springer-Verlag.

- Schlosser, H. D. (2005). Humankapital "Unwort des Jahres 2004" Retrieved 31st August, 2009, from [http://www.hr-online.de/website/rubriken/nachrichten/index.jsp?rubrik=5710&key=standard\\_document\\_4001044](http://www.hr-online.de/website/rubriken/nachrichten/index.jsp?rubrik=5710&key=standard_document_4001044)
- Schmude, J., Heuman, S., & Wagner, K. (2009). *Vom Studenten zum Unternehmer: Welche Universität bietet die besten Chancen?* München: Ludwig-Maximilians-Universität München.
- Schneeberger, A., & Nowak, S. (2008). *Lehrlingsausbildung im Überblick: Strukturdaten und Ergebnisse europäischer Erhebungen*. Wien: Institut für Bildungsforschung der Wirtschaft.
- Schultz, T. W. (1961). Investment in Human Capital. *American Economic Review*, 51(1), 1-17.
- Scott, M., & Bruce, R. (1987). Five Stages of Growth in Small Business. *Long Range Planning*, 20(3), 45-52.
- Scott, M., & Rosa, P. (1996). Has firm level analysis reached its limits? Time for a rethink? *International Small Business Journal*, 14(4), 81-89.
- Scribner, S., & Cole, M. (1973). Cognitive consequences of formal and informal education. *Science*, 182, 553-559.
- Senge, P. M. (1990). *The Fifth Discipline: The art and practice of the learning organisation*. London: Random House.
- Serenko, A., Bontis, N., & Hardie, T. (2007). Organizational size and knowledge flow: a proposed theoretical link. *Journal of Intellectual Capital*, 8(4), 610-627.
- Shane, S. A. (2008). *The illusions of entrepreneurship: the costly myths that entrepreneurs, investors, and policy makers live by*. London: Yale University Press.
- Shane, S. A., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review*, 25(1), 217-226.
- Sharma, P., Chrisman, J. J., Pablo, A. L., & Chua, J. H. (2001). Determinants of Initial Satisfaction with the Succession Process in Family Firms: A Conceptual Model. *Entrepreneurship Theory and Practice*, 25 (Spring), 17-35.

- Shepherd, D. A., Wiklund, J., & Haynie, J. M. (2009). Moving forward: Balancing the financial and emotional costs of business failure. *Journal of Business Venturing*, 24(2), 134-148.
- Silver, M. (1991). *Competent to manage: Approaches to management training and development*. London: Routledge.
- Silverman, D. (2011). *Interpreting Qualitative Data* (4 ed.). London: Sage Publications Ltd.
- Simons, P. R. J., & Ruijters, M. C. P. (2008). Varieties of work related learning. *International Journal of Educational Research*, 47(4), 241-251.
- Skandia (2009). *Skandia Liv: Annual report 2008*. Stockholm.
- Smith, J. A., Flowers, P., & Larkin, M. (2009). *Interpretative Phenomenological Analysis: Theory, Method and Research*. London: Sage Publications Ltd.
- Sohler, S. A., & Watts, G. (2012). *Learning to grow: Owner-manager learning in start-up and family firms*. Paper presented at the European Foundation for Management Development (EFMD). Maastricht.
- Solow, R. M. (1956). A Contribution to the Theory of Economic Growth. *Quarterly Journal of Economics*, 70, 65-94.
- Statistik Schweiz (2010). Marktwirtschaftliche Unternehmen und Beschäftigte nach Grössenklassen. *Unternehmen - Indikatoren* Retrieved 28th August, 2010, from <http://www.bfs.admin.ch/bfs/portal/de/index/themen/06/02/blank/key/01/groesse.html>
- Stewart, T. A. (1997). *Intellectual Capital: The new wealth of organizations*. New York: Doubleday.
- Stokes, D., & Wilson, N. (2006). *Small business management & entrepreneurship* (5 ed.). London: Thomson Learning.
- Storey, D. J. (1994). *Understanding the Small Business Sector*. London: Routledge.
- Storey, D. J., & Cressy, R. (1996). *Small business risk: A firm bank perspective*. Coventry: Warwick Business School.

- Storey, D. J., Keasey, D., Watson, R., & Wynarczyk, P. (1987). *The performance of small firms: Profits, jobs and failures*. New Hampshire: Croom Helm.
- Strauss, A., & Corbin, J. (1998). *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory* (2 ed.). London: SAGE Publications Ltd.
- Stuart, F. (1997). A time for reflection: learning about organisational learning. *The Learning Organization*, 4(4), 168-179.
- Subramaniam, M., & Youndt, M. A. (2005). The influence of intellectual capital on the types of innovative capabilities. *Academy of Management Journal*, 48(3), 450-463.
- Sveiby, K. E. (1997). *The new organizational wealth: managing & measuring knowledge-based assets*. San Francisco: Berrett-Koehler Publishers, Inc.
- Swart, J. (2006). Intellectual capital: disentangling an enigmatic concept. *Journal of Intellectual Capital*, 7(2), 136-159.
- Swiercz, P. M., & Lydon, S. R. (2002). Entrepreneurial leadership in high-tech firms: a field study. *Leadership & Organizational Development Journal*, 23(7), 380-389.
- Tannenbaum, R., & Schmidt, W. H. (1973). How to choose a leadership pattern. *Harvard Business Review*, 51(3), 162-180.
- Taylor, D. W., & Thorpe, R. (2004). Entrepreneurial learning: a process of co-participation. *Journal of Small Business and Enterprise Development*, 11(2), 203-211.
- Taylor, S. (2002). *The employee retention handbook*. London: Chartered Institute of Personnel & Development.
- Taylor, S. (2006). Acquaintance, meritocracy and critical realism: Researching recruitment and selection processes in smaller and growth organizations. *Human Resource Management Review*, 16(4), 478-489.
- Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509-533.

- Tessaring, M., & Wannan, J. (2004). *Cedefop synthesis of the Maastricht Study: Vocational education and training - key to future*. Thessaloniki: European Centre for the Development of Vocational Training.
- Tether, B. S., & Storey, D. J. (1998). Smaller firms and Europe's high technology sectors: a framework for analysis and some statistical evidence. *Research Policy*, 26(1998), 947-971.
- Thomson, C. J., Locander, W. B., & Pollio, H. R. (1989). Putting consumer experience back into consumer research: The philosophy and method of existential phenomenology. *Journal of Consumer Research*, 16(2), 133-146.
- Thorpe, R., Holt, R., Macpherson, A., & Pittaway, L. (2005). Using knowledge within small and medium-sized firms: A systematic review of the evidence. *International Journal of Management Reviews*, 7(4), 257-281.
- Tissot, P. (2004). *Terminology of vocational training policy. A multilingual glossary for an enlarged Europe*. Thessaloniki: Office for Official Publications of the European Communities.
- Tödting, F., & Wanzenböck, H. (2003). Regional differences in structural characteristics of start-ups. *Entrepreneurship & Regional Development*, 15(4), 351-370.
- Tornikoski, E. T., & Newbert, S. L. (2007). Exploring the determinants of organizational emergence: A legitimacy perspective. *Journal of Business Venturing*, 22(2), 311-335.
- Ucbasaran, D., Westhead, P., & Wright, M. (2008). Opportunity identification and pursuit: Does an entrepreneur's human capital matter? *Small Business Economics*, 30(2), 153-157.
- Ucbasaran, D., Westhead, P., & Wright, M. (2009). The extent and nature of opportunity identification by experienced entrepreneurs. *Journal of Business Venturing*, 24(2), 99-115.
- University of Gloucestershire (2008). *Research Ethics: A Handbook of Principles and Procedures*.
- University of St. Gallen (2009). Research platform Alexandria, Retrieved 14th February, 2009, from <https://www.alexandria.unisg.ch>

- van Driel, H., & James, N. (2004). *Development of Skills within companies: thematic monitoring theme 2*. Zoetermeer: EIM Business & Policy Research.
- van Praag, M. (2006). Entrepreneurship and human capital. In M. van Praag (Eds.) Available from <http://www1.fee.uva.nl/pp/bin/129fulltext.pdf>
- Venkataraman, S., & Van de Ven, A. H. (1998). Hostile environmental jolts, transaction set, and new business *Journal of Business Venturing*, 13(3), 231-255.
- Venohr, B., & Meyer, K. E. (2007). The German miracle keeps running: How Germany's hidden champions stay ahead in the global economy, Working Papers (Vol. 30). Berlin: Institute of Management, Berlin School of Economics (FHW Berlin).
- Vince, R. (2002). The impact of emotion on organizational learning. *Human Resource Development International*, 5(1), 73-85.
- Vince, R., & Gabriel, Y. (2011). Organizations, learning, and emotions. In M. Easterbay-Smith & M. A. Lyles (Eds.), *Handbook of organizational learning & knowledge management* (2 ed., pp. 331-348). Chichester: Wiley & Sons.
- Warren, L. (2004). A Systemic Approach to Entrepreneurial Learning: An Exploration Using Storytelling. *System Research an Behavioral Science*, 21(1), 3-16.
- Weinberg, J., & Li, W. (2003). Firm-specific learning and the investment behavior of large and small firms. *International Economic Review*, 44(2), 599-625.
- Wenger, E. (1998). Communities of practice: Learning as a social system. *Systems Thinker*, 9(5), 1-10.
- Wenger, E. (1999). *Communities of Practice: Learning, Meaning, and Identity*. Cambridge: Cambridge University Press.
- Wenger, E. (2004). Knowledge management as a doughnut: Shaping your knowledge strategy through communities of practice. *Ivey Business Journal*, 68(3), 1-8.
- Wenger, E. (2009). Communities of practice: a brief introduction, Retrieved 3rd August, 2009, from <http://www.ewenger.com/theory>

- Wenger, E., McDermott, R., & Snyder, W. M. (2002). *A Guide To Managing Knowledge: Cultivating Communities of Practice*. Boston: Harvard Business School Press.
- Westhead, P. (1998). Factors associated with the provision of job-related formal training by employers. *International Journal of Entrepreneurial Behaviour & Research*, 4(3), 187-216.
- Westhead, P., & Storey, D. J. (1996). Management training and small firm performance: Why is the link so weak? . *International Small Business Journal*, 14(4), 13-24.
- Westphalen, S. A. (1999). *Reporting on Human Capital: Objectives and trends*. Paper presented at the International Symposium, Measuring and reporting Intellectual Capital: Experience, issues, and prospects, Amsterdam
- Wiklund, J., Patzelt, H., & Shepherd, D. (2009). Building an integrative model of small business growth. *Small Business Economics*, 32(4), 351-374.
- Wiklund, J., & Shepherd, D. (2003). Research Notes and Commentaries: Knowledge-based resources, entrepreneurial orientation, and the performance of small and medium sized businesses. *Strategic Management Journal*, 24, 1307-1314.
- Williams, K., Cutler, T., Williams, J., & Haslamk, C. (1987). The end of mass production? *Economy and Society*, 16(3), 405-439.
- Williamson, I. O. (2000). Employer legitimacy and recruitment success in small business. *Entrepreneurship: Theory and Practice*, 25(1), 27-42.
- Wilson, J. P. (2000). Citius. Altius. Fortius. Peritius: The Skill Olympics and skill competitions *Industrial and Commercial Training* 32(6), 201-208.
- Wirtschaftskammer Vorarlberg (2012). *Betriebsgrößen in der gewerblichen Wirtschaft nach der Beschäftigtenzahl per Ende Jänner 2012*. Feldkirch: Wirtschaftskammer Vorarlberg.
- Wojewoda, M. (2007). *Kinder-Unis - Was bringen sie uns wirklich?: Arbeit über die Geschichte, den Vergleich und die Evaluation von Kinder-Unis*: Grin Verlag.
- Wong, W. L. P., & Radcliffe, D. F. (2000). The Tacit Nature of Design Knowledge. *Technology Analysis & Strategic Management*, 12(4), 493-512.

- WorldSkills (2010). *WorldSkills International: History 1950-2010*: WorldSkills International.
- Wright, P. M., & Boswell, W. R. (2002). Desegregating HRM: A Review and Synthesis of Micro and Macro Human Resource Management Research. *Journal of Management*, 28(3), 247-276.
- Wynarczyk, P., Watson, R., Storey, D. J., Short, H., & Keasey, K. (1993). *Managerial Labour Markets in Small and Medium sized Enterprises*. London: Routledge.
- Yin, R. K. (2002). *Case Study Research: Design and methods* (3 ed.). London: Sage Publications Ltd.
- Yolles, M. (2004). Implications for Beer's ontological system/metastem dichotomy. *Kybernetes*, 33(3/4), 726-764.
- Yukl, G., & Fu, P. P. (1999). Determinants of delegation and consultation by managers. *Journal of Organizational Behaviour*, 20(2), 219-232.
- Zahra, S. A., & Hayton, J. C. (2005). Organizational life-cycle transitions and their consequences for the governance of entrepreneurial firms: an analysis of start-up and adolescent high-technology new ventures. In I. Filatotchev & M. Wright (Eds.), *Corporate governance in the new global economy*. Cheltenham: Edward Elgar.
- Zahra, S. A., Neubaum, D. O., & Larrañeta, B. (2007). Knowledge sharing and technological capabilities: The moderating role of family involvement. *Journal of Business Research*, 60(10), 1070-1079.
- Zhang, J., & Hamilton, E. (2009). A process model of small business owner-managers' learning in peer networks. *Education + Training*, 51(8/9), 607-623.
- Zhang, M., Macpherson, A., & Oswald, J. (2006). Conceptualizing the Learning Process in SMEs: Improving Innovation through External Orientation. *International Small Business Journal*, 24(3), 299-323.

## APPENDIX A:

### SUCCESS STORY OF PRACTICE IN THE WORKPLACE

#### **Worldskills<sup>28</sup> a community of learning in the workplace**

The story shows the different levels of learning which are related to the central topic of the owner-manager learning when starting and developing a firm. This includes the steps of learning about a firm-based topic, critical reflection on the topic to become an expert and finally the crucial knowledge transfer to the employees, which includes the phases of becoming a trainer within this topic. The story characterises the phases of learning and the related roles in the learning environment of a small family firm.

The success story of learning starts a year before the author, Stefan,<sup>29</sup> completed his compulsory education in 1983. In July of that year, he completed a taster week as mechanic within a small family firm, in Schaan, Liechtenstein. After various theoretical and practical tests, the owner-manager agreed to take the Stefan on board for an apprenticeship the following year, although he had at that time only trained one apprentice, who was his son. The apprenticeship officially started on the 1 May 1984. Each of the following four years of the apprenticeship was a valuable year of learning, particularly in the workplace. This was a family business in the true sense of the term. Besides the owner-manager, the workforce was comprised of his son, son-in-law and wife as well as a friend of the son, two labourers and Stefan as apprentice.

#### **Competition as learning source and human capital development**

When Stefan recalls the days of his apprenticeship, he says: “The most powerful learning experience was when a new labourer was hired and I, the apprentice, was placed in charge of the important task of showing and training him the core operations of the machine, the characteristics of the different materials and tools as well as how

---

<sup>28</sup> The term WorldSkills and Skills Olympics is used interchangeably as the new label of WorldSkills has been used since the year 2001.

<sup>29</sup> The story is based on the author's experience as an apprentice mechanic in a small family firm in Liechtenstein operating within the technology industry sector, and as participant, expert and official delegate of WorldSkills Liechtenstein during the period from 1989 to today. The first name of the author is used in the story.

to read the drawings. None of my classmates in larger firms was given such a responsible task during their apprenticeship.”

In return, Stefan learned a lot about the culture and social behaviour of people from the Balkans because all of the four labourers inducted by Stefan came from there. The learning in the family firm was quite different from the learning in the larger companies where colleagues completed their apprenticeships. Instead of a training camp for a team-building process or a training week for the final exam, Stefan received intensive training in the workplace. He was confronted at the very beginning with the fact that all the products manufactured were real customer orders and never training pieces. Moreover, the training consisted mainly of technically based discussions. The theory was important, but more decisive was the holistic understanding and the feeling for the handling and production of the high-tech products. Even more importantly, the owner-manager and all the employees taught Stefan how to improvise even when there is only a small chance of being successful. The lesson was to try out all your ideas before you give up.

In the last year of Stefan’s apprenticeship, an employee showed him an article about the International Skills Olympics – now known as WorldSkills<sup>30</sup>. This article described how a participant from the Liechtenstein team from a first-class hotel in Vaduz won the gold medal in the category of chef at the WorldSkills in Sydney in 1988. The employee who showed the article to Stefan complained that such an opportunity would never be open him. Firstly, the mechanical sector at the WorldSkills is totally dominated by competitors from Japan, Taiwan and Korea. Secondly, the learning he obtained from this small family firm during the apprenticeship would never be enough.

### **Small firms and networking with engineering companies**

Nonetheless, a few months later Stefan received a letter from the national organisation of WorldSkills in Liechtenstein. The letter was an invitation to the forthcoming WorldSkills competition in Birmingham (UK) in the autumn of 1989. Stefan was on the one hand happy about this unique opportunity but on the other hand unsure as he remembered the words of the employee. However, he discussed

---

<sup>30</sup> More details about WorldSkills are available at [www.worldskills.org](http://www.worldskills.org)

the opportunity with his boss and the training supervisor at the new employer. Both of them agreed to support his participation in the WorldSkills competition as soon as the national nomination was fixed. Three ambitious candidates competed to qualify nationally for the category instrument making. The other two candidates had completed their apprenticeships at the top-ranked and large companies in Liechtenstein. The winner out of these three can compete against contestants from the Asian countries who have dominated the profession of instrument making.

After the three exhausting days of the national competition, the national WorldSkills expert was surprised at the excellent results of the qualification. Both of Stefan's competitors exceeded the qualification limit of 80 points, achieving 81 and 84 points respectively. With his workpiece, Stefan achieved 95 points out of 100 and was then nominated for the challenging six-month training period, alongside regular working life, in preparation for the Skills Olympics competition in Birmingham (Wilson, 2000).

The training consisted of producing several complex workpieces with an extreme accuracy of less than 0.01 millimetre and employing sophisticated functions. The training took place at the workshops of Balzers AG and Apparatebau Verling AG which turned out to be an excellent and especially useful network of large and small companies. This cooperation showed a specific CoP in terms of the preparation for WorldSkills. Besides the technical training, social skills and teamwork were the focus of a training session with the whole delegation for Birmingham over one weekend in a mountain chalet. To cope with the enormous stress during the competition, all team members received lessons in autogenic training.

Finally, the competition was opened with a grandiose ceremony at the Exhibition Centre in Birmingham. Stefan described these four days as the most instructive in his life. He recalled all the tips he had learned during his apprenticeship at the family firm and intensive training period. After 22 working hours over a period of four days, all the workpieces were collected and subsequently evaluated by an international jury of experts in the trade of instrument making. The days leading up to the prize ceremony were filled with tension. The ceremony was opened by the Prime Minister, Margaret Thatcher, who also presented the awards. Stefan could not believe that he had won

the bronze medal behind unbeatable competitors from Japan and Korea. Moreover, he also won the gold<sup>31</sup> medal for the ranking of best of nation. These two medals were the only ones for the nine-person competition team from Liechtenstein in the year 1989. This moment of success remains unforgettable and was achieved thanks to the different but holistic training acquired in a small family firm and perfect collaboration within a network of small and large companies in Liechtenstein during the training period.

### **From learner to trainer**

The success at the WorldSkills competition became an accelerator for the author's professional career. Stefan was promoted to design engineer. Simultaneously, he started studying mechanical engineering at the University of Applied Sciences in Vaduz in 1990. Over a period of nine semesters, he initially shared the classroom each evening with 33 and finally 11 students at the end of the course. The course was a tough performance test and the lesson gained at the family firm of never giving up before you have taken advantage of all your ideas was helpful. In 1995, Stefan received another letter from the organisation WorldSkills during the final exam period in the ninth semester and just before the dissertation. The organisation asked him to become a member of 'WorldSkills Liechtenstein' and to take over the function as an expert in the trade of instrument making. Although there was no extra time left for this function alongside a full-time job and the final exam, he nonetheless accepted. This almost blind acceptance was another lesson from the owner-manager of the family firm. He always said: "Never refuse a change which is in line with your ideas."

Marco, the candidate for the WorldSkills competition in Lyon 1995, had already been nominated. However, there is always a long and hard training path to follow from nomination to readiness for the Skill Olympics competition. The first point which Stefan prepared was a basis of mutual trust. The training was based on improvement of technical skills, but the focus was on communicating what can happen during the

---

<sup>31</sup> Unfortunately, the organiser of the WorldSkills competition in Birmingham did not have enough gold medals. The best of nation medal was therefore handed over in silver with the symbolic value of a gold medal by the Prime Minister Margaret Thatcher.

competition and developing the ability to react to a huge range of unforeseen events. This experience made Stefan realise for the first time the synergies between the dialogues with his trainer, the owner-manager of the family business, and the dialogues with Marco. While skills and experience are important, a calm reaction to the environment is vital for success. Marco strengthened his self-confidence, made good progress in dealing with uncertainty and was thrilled at the opportunity to compete in Lyon.

The initial competition week in Lyon was a tremendous source of learning for Stefan in the role as expert. At the beginning of the WorldSkills competition, Stefan found it a challenge to push through his ideas. This was particularly difficult as the other experts were twice his age and had much more experience. Moreover, they came from other cultures such as Japan, Korea and Taiwan where seniority has an important status. The tasks of an expert at the WorldSkills competition are quite different from those of a competitor and consequently offer immeasurable opportunities for learning on the job. Communication and coordination with the senior experts who come from nearly twenty different countries around the world plays a central role.

The most painful learning as an expert is when you realise that your candidate is about to commit an error and you cannot warn him because this is not allowed<sup>32</sup>. It is precisely the knowledge required to recognise an imminent error that distinguishes an expert from a candidate.

Another realisation is that each of the almost fifty winners of the competition in their respective professions certainly shows the best performance, but never a perfect one. Marco, Stefan's protégé, won joint gold medal with the Japanese competitor in this Asian-dominated category of instrument maker. Teamwork, mutual trust, confidence in your own strengths and openness are the core competencies required to be successful not only at WorldSkills. The performance of participants from Liechtenstein

---

<sup>32</sup> This regulation was eliminated in the year 2005.

in the trades toolmaker, instrument maker and polymechanics<sup>33</sup> according to company size since initial participation in 1968 is summarised in Table A-1.

**Table A-1:  
Number of participants and medal table from 1968 to 2013**

Trades	Number of Participants from Liechtenstein	Company size (number of employees)			Medals table (number of medals won)		
		< 49	>49<249	> 249	Gold	Silver	Bronze
Tool maker	7			7	1		1
Instrument maker <sup>34</sup>	8	1	1	6	1	1	1
Polymechanic	6			6			2

Source: Author

### From trainer to the leader of WorldSkills

The success at the WorldSkills competition has been an accelerator for the author. In 2010, Stefan was appointed as Director and Official Delegate of WorldSkills Liechtenstein by the Minister of Education and the Board of the Agency of International Education Affairs. The initial learning steps as competitor and expert were followed by the third step from expert to delegation leader of the ‘WorldSkills team of Liechtenstein’ for the competitions in London 2011, Leipzig 2013 and forthcoming in São Paulo 2015. The WorldSkills competition in Leipzig has been the largest since establishment of the competition, whereas the WorldSkills competition in London 2011 was the second in the United Kingdom after 1989 in Birmingham. The

<sup>33</sup> Polymechanics are skilled at work techniques such as drilling, thread cutting, turning, milling, grinding, assembling, adjusting, measuring, checking and start-up. They plan their work based on construction blueprints and bills of materials. Polymechanics decide what kind of production process and what kind of machines should be used to produce certain parts.

<sup>34</sup> Since 1968, Liechtenstein has participated in the WorldSkills competition 25 times. During the last forty years the trades in the mechanical sector have changed in line with the needs of industry. Marco and Stefan won two out of six medals in these trades for Liechtenstein. So far, the family firm in which Stefan completed his apprenticeship is the only small firm of less than 10 employees to have sent a competitor in this category to the WorldSkills competition.

vocational training sector in the United Kingdom has made remarkable progress since first hosting the competition in Birmingham. The UK Skills team finished the competition in London in the excellent 11<sup>th</sup> position out of 48 participating countries.

## APPENDIX B: PROFILES OF THE SIX CASE STUDY COMPANIES

### **Case A: Prototyping**

The owner-managers, two brothers, have insights into several companies as instrument maker, experienced CNC programmer as well as service engineer in the thin-film branch. Equipped with their market knowledge of the available tools and software, they began to think about the processes applied in these firms in the Rhine Valley region and developed solutions aimed at improving them. It was against this background that they then took the decision to start their own business. *“As both have a strong commitment to self-employment without knowing why”* states one of the owner-managers.

The company was founded in 1992 as a “garage start-up”. The trigger to start a business was the owners’ dissatisfaction with the inadequate 3D technology for milling machines, particularly in small production companies in the Rhine Valley. Their vision was to develop and adapt products which are not on the market to enhance the productivity of local firms. Their initial product was a sensor to control the blanking pressure of modern 3D milling machines. They invested all their private money, but unfortunately without any success. During the first three years, the owner-managers launched different products within the CAD/CAM business. Each of these attempts was an evolution of the previous one and provided a unique field of learning for them. During this time, the owner-managers deepened their knowledge within the fields of relationship management in respect of former employers, international market trends and the technology demands of local firms. The owner-managers identified a common issue in all these attempts: *“We nonetheless fought and acquired the links with large firms. We were too early on the market with this technology for small firms. However, the cash flow with this business idea was zero. A review of the outcomes over the first three years led to the decision to go back to the roots in the thin films business.”*

A critical time of learning was during the next R&D revolution in the firm. Based on the thin film and vacuum casting technology, the new technology of stereolithography was developed in the USA. This technology provided the

perfect fit for the expertise of the owner-managers and their company strategy. The only problem was the investment of approximately €900,000 for one machine.

The lack of turnover resulted in the banks rejecting any credit request, despite the fact that a detailed business plan was presented. One of the owner-managers recalls this event: *“My brother and I had lengthy discussions about this injustice. We have the know-how, but not the money.”* They maintained a healthy business and boosted turnover with orders for prototypes within their division of vacuum casting. The increased orders enabled them to increase market share and turnover as well as building up their reputation as prototype supplier.

They managed it to obtain debt capital from the bank based on the firm’s growth and good performance. This debt capital paved the way for the brothers to utilise their expertise in mechanical engineering and thin film coating along with their knowledge of the market. The foundation had been laid for construction of their own stereolithography machine. The debt capital provided the trigger for the firm’s growth strategy and was also important for the family. *“My family was relieved to distinguish between private and firm capital”* said the owner-manager.

Entry into the stereolithography market challenged the owner-managers in several ways. The construction of a machine of this kind calls for specialised knowledge of laser technology, software and optics. The owner-managers had sufficient knowledge to build the machine but not the resources to cover this project. The solution to this challenge was to cooperate with other small firms in the Rhine Valley, which in turn kick-started the next evolution of the owner-managers. The owner-manager recalled the process of selecting suitable firms as an ambitious project. He stresses: *“First of all, we had to learn how to deal with the prospect of competitors acquiring our know-how. Once we had built up trust within the network of small firms, ideas were exchanged freely.”*

At the same time, the firm has grown into a business with more than twenty employees. The owner-managers decided to restructure the firm into units. The owner-manager recalls: *“It is still not possible to be responsible for everything. You*

*cannot run the firm by issuing personal instructions. As I am a technician, I jumped into new fields such as marketing, market research and new product opportunities.”*

It was noted that the owner-managers had experienced a process of several learning events. Firstly, they concentrated on the products, then on the development of high-tech machines and accompanying equipment such as software and chemical materials which have been patented. At the same time they invested a lot of time in optimising relationship with their customers and developing new business fields and markets for prototypes. One area which deserves particular mention is the medical model sector.

The owner-manager recalls: *“The main idea was for the model builders and competitors to order the prototypes from us. In other words, the competitors outsource the process of modelling to us. An initial argument is that we were not interested in their clients. The second argument is that we use better, patented material which is more appropriate for prototypes. The third argument is that customers can purchase the parts at a more favourable price and obtain a shorter delivery time as we operate larger and more machines. They can take advantage of all these arguments and can optimise their value chain.”*

Despite this open communication channel to competitors, the approach did not work at the beginning. An analysis of the situation raised the question: What do the customers (in our case the competitors) actually need? The owner-manager stated: *“Our insight was that the customer needs competencies and our prices.”* The firm therefore developed an online service for customers and competitors, enabling them to calculate a complete prototype. This was unique in the market. This effort helped to win trust and arouse the customer’s curiosity.

The interplay between market demands, own capabilities of the owner-managers and the challenges of growth has been a source of learning for both managers. The continuous combination of reflection and action between the two brothers and the market led to several technical innovations for new, larger stereolithography machines and products as well as the creativity for cooperation, networks and new business models. Consequently, the firm launched the expansion of a new 1200 sqm production hall as the next step towards growth. The learning of the owner-managers

is closely linked to their active development of new machines, markets and business models.

### **Case B: Mechanical engineering services**

Based on his intensive market analysis, the owner-manager was convinced that the existing business models in the mechanical production sector were outdated. He identified old structures among firms of this kind with up to 20 employees within the industry. The key insights of his analysis showed him that *“The owner-manager of a mechanical engineering firm is focused on production.”* A gap existed in that nobody was providing a service for customers beyond the production. He founded his own firm in Widnau in 2003 to close this gap. The owner-manager has a wide and in-depth knowledge and experience in the field of mechanical engineering as well as an Executive MBA degree. The remarkable differentiation of the company is the well-developed branding process of services and the positioning of the company itself. The applied business model covers a full service within the industry from customer advice and production to the packaging and not just for the production. The business model is focused on a clear vision of becoming market leader. This approach and the HE level are not commonly found in small firms up to 20 employees in the sector. Interestingly, the applied benchmark is not the mechanical engineering field but the plastics industry. Over the last sixty years, firms in the plastics sector have seen significant development in the Rhine Valley. The largest firm has a headcount of around 10,000 employees.

The owner-manager summarises the initial steps in his new role: *“Life as an owner-manager means bearing a high risk for oneself, the business and for the customer. At the same time, the growth of the firm is an incentive for taking the step of becoming an owner-manager. The underlying conditions faced by an employee or are quite different from those of an employer. It is not the role but the weight of risk that differs along with the time to make decisions and consequently the pressure on the shoulders of the owner-manager.”* One such decision was hiring the first employee. The owner-manager underlines the fact that employing someone meant a shift in responsibility. At the beginning, there is huge pressure to ensure the firm’s survival. Later, that pressure shifts to your responsibility towards your employee(s).

The number of orders and the growth of the firm were in line with strategy during the first three years. This prosperous development motivated the first employee's wish to become a managing partner in the firm. The owner-manager was not prepared for such a strategic step at the start of the third year in business. The firm was too young. The decision to refuse this request led to the worst critical event for the owner-manager. At a very busy time with full order books, both of the firm's employees handed in their notice. The owner-manager underlines his learning: *"I have learned to be a better listener and to address problems much earlier."* The owner-manager had a good network of mechanical production firms which enabled him to defuse the situation of full order books and a lack of internal resources.

Nevertheless, one major task during the months that followed was the recruitment of new employees. As the labour market had dried out, it was a challenge to recruit employees who fitted in with the firm's philosophy. The team-building process was a consequence of the critical event that happened with the first team.

The owner-manager now familiarises employees with specific company and customer knowledge as soon as they join the firm. Furthermore, each Thursday the whole team meets for one hour to exchange views on production, delivery issues and internal topics. The owner-manager stresses: *"Knowledge transfer is central to our performance. It is only with this explicit company knowledge that we can differentiate ourselves from our competitors."* The owner-manager devotes approximately half an hour per day to this knowledge transfer. He believes in encouraging and motivating employees.

Despite the obstacles of the two employees mentioned above, the firm has seen huge growth which is reflected in the number of employees and machines. In 2005, the owner-manager had one employee and two machines; today the firm employs a team of six people and has four machines. This growth influences the product portfolio and customer base as well as the positioning in the market. The owner-manager says: *"The growth process shapes the profile of the owner-manager as well as the profile of the employees. Today, we are more than a team of six employees – in terms of know-how, the whole is greater than the sum of its parts."*

The dynamic of the firm is reflected on the one hand in the growth itself and on the other hand in the constant shaping of the firm's culture and business philosophy. While employees are given great encouragement, a high level of commitment is expected from them. The pace of growth is still fast and knowledge exchange on a high level, but staff resources remain limited. The time is ripe to take the pressure of the daily work routine away from the owner-manager. Therefore the owner-manager is now seeking a managing partner. Interestingly, the initial employee who triggered the crisis in the early days of the firm applied for the job. The owner-manager and the applicant had a long and tough discussion and in the end the ex-employee was appointed as managing partner of the firm.

At the same time, the owner-manager knows that this person will take the pressure off his shoulders and enable him to deal with more strategic issues for the next growth phases.

### **Case C: Exhibition stand design and consulting**

In the late nineties, three people independently founded their own businesses focusing on exhibition stand design in the region of the Rhine Valley. At the beginning, the three owner-managers had a weak cooperation network which was based on individual contacts and orders. This initial approach of cooperation between the three firms was not in line with market requirements. In particular, customers did not want three business partners for one product. The feedback from customers and the experience gained led to the foundation of a firm dedicated to exhibitions & consulting in Hohenems in the year 2001. The merger to form one company clustered the advantages and significantly strengthened the position in the market.

Although the merged firm is young, each owner-manager has had his own learning history and experience. In comparison with other start-ups, the founding process was more an amalgamation process. The integration of the three firms raised questions about the management team and its responsibilities. From a very early stage, the three board members developed a common business strategy and marketing concept with a clearly defined target of becoming market leader in the Austrian province of Vorarlberg. The strategic and operative tasks were assigned to the board members based on their respective capabilities and core competences. The success of this

approach is emphasised by the owner-manager: *“Our ability to provide customised complete solutions encompassing the development of a concept, consultancy, production and assembly of the stand at the trade fair plus post-exhibition service has caused our business to skyrocket.”*

The other side of the coin with fast growth was very high demands in terms of production capacity, while at the same time communication became more complex between the management team, customers and employees. The management team was pushed into new functions. The situation was handled with a high degree of flexibility and commitment on the part of all employees. Nevertheless, the speed of growth challenged the capabilities of the management team. Core competencies were neglected as each board member took on new functions and was required to focus on new skills.

This constant adaptation of management team tasks was unconsciously transferred to the employees, as the owner manager reveals: *“All employees are given a high degree of freedom to perform their delegated tasks efficiently and effectively.”* This freedom for dealing with the delegated tasks turned out to be a burden to some employees.

The continuous growth of the firm forced the management team to relocate the firm twice: once in 2004 and again in 2008. The company expanded from a team of three founders and a secretary in 2001 to 49 employees at the end of 2008. The relocation made contacts with customers and suppliers easier, and communication was improved between the different departments, in particular construction and production. The growth of the business led to a corresponding expansion in the functions of marketing, HRM, production and R&D as well as greater demands on their resources.

After the relocation, the management team was concerned about the significant shifts in tasks and the increasingly weak link to the business strategy as well more demanding financial, tax and controlling issues. A full-time financial controller was therefore recruited to oversee all the financial processes within the firm. Initially, the financial controller identified several cost-saving topics, e.g. material costs had been grossly underestimated and the situation with several suppliers was aggravating the

problem. The learning effects from the financial perspective have been impressive and are central to the firm's increased profitability.

Implementation of the identified costs savings led to the introduction of a restructuring process. Financial requirements diverged considerably from the prevailing practical situation. For years, key employees had enjoyed the autonomy to buy the material from their preferred supplier. The restructuring process focused on profitability and considered neither the company culture nor the responsibility of each key employee. The owner-manager stresses: *"This restructuring process eroded our organisation and culture but raised our profit."*

For the management team, it was important to take a decision regarding these different perspectives: on the one hand regarding the competencies of key employees and on the other from the financial point of view. In comparison with the firm's growth, its structures are backward in development. The owner-manager underlines: *"It is important for us as a small and motivated team to find a middle way between the hard financial figures and soft factors which are decided somewhere between gut, head and heart."*

The change process in the firm is almost completed but there are still some discussions and challenges to resolve. In a small firm, the owner-manager knows the history of each employee and a lot about their private lives. If the business is to prosper, however, the focus has to be on putting the firm on track and may involve not taking these relationships into consideration. The owner-manager reveals: *"The change process completely changed my role and reputation within the firm. Rather than being the kind owner, I became the tough CEO."* This different perception is a tough learning process, too.

The following cases D to E are family businesses in the second generation following the three start-up companies of the cases A to C.

### **Case D: Plastics research and development**

The firm was founded in 1962 by the father of the owner-managers. The core businesses are injection moulding and toolmaking for regional and international customers. The father started the firm from scratch while remaining employed. One of

the brothers joined the company in 1976 and the interviewee was recruited in 1980. At that time, the firm had twelve employees. Eight of them were employed on a part-time basis. While working for the family firm they had been faced by the patriarchal leadership style of the founder for almost two decades. In 1997, the three siblings, two brothers and their sister, took over the firm. The father retired due to illness. The interviewed owner-manager recalls that: *“There was a critical period when the founder was unwilling to relinquish the firm. Our capacity was restricted by the succession process and the difficult situation with the founder.”*

The responsibilities of the successors were clearly assigned. The sister is in charge of the accounting and staff administration. The older brother is responsible for mould construction and the younger son, the interviewee, is in charge of production, sales and financial issues.

The owner-manager reflects: *“Although my brother and I had long-standing experience with all the processes applied in production as well as in customer service, we knew little about the management tasks in the firm. Our father was dominant and was the contact for all our customers.”*

After the succession, the new owner-manager had to learn to deal with customers and external networking. This situation coincided with increased competition in the nineties. On the one hand, more local and regional firms had entered the plastics industry and on the other, Italian competitors were applying an aggressive business style. The new owner-manager team responded to the intense competition by building a new production hall. This was at the same time a symbol of the new leadership and a commitment to further growth. The young management team with little experience in terms of strategic management were confronted by several setbacks.

In 1999/2000, the firm’s largest customer sustained a major fall in profits. Long-standing customers shifted their production to China at the turn of the millennium. The loss of a key customer is a particularly critical situation for a small business as the turnover is generated with a few key customers. These were painful experiences during the firm’s expansion phase. In order to cope with this new situation, they opted for a policy of winning new customers in niche products but these are not easily

accessible. The owner-manager underlines: *“In the past, when my father headed the firm, the customers were in the region and showed high loyalty.”*

The combination of several critical events in their early role as a management team triggered the next misfortune. The owner-manager recalls: *“We were rather green and entered the new order with a short R&D phase. Despite the shortage of experience with a new material, we used it to keep to the deadline but with a fatal result. We were sued and lost the court case, which reduced our liquidity to a critical mass, and costs exceeded the planned annual turnover with this customer.”* As result of this setback, the owner-manager stresses: *“It was a painful experience for me to inform the employees about their lay-off. Every job cut concerns not just one employee but the whole firm.”*

Although he said little more about this critical case and its related learning effects, he and the management team used this case to reflect on management processes, strategic positioning and the responsibility matrix.

During the firm's next development period, the management team transferred their learning from these critical events to both the business strategy and internal staff development programmes. As the customer profiles had changed, the owner-managers looked for solutions to achieve better customer retention. One successful attempt has been to combine their internal know-how of the whole development process for mould construction with an excellent after-sales service (ASS). Their straightforward reaction during the court proceedings and the continuous cooperation with interrelated customers strengthened the firm's position as a reliable business partner. The owner-manager underlines: *“The firm has good word-of-mouth marketing and the feedback from customers motivates us to provide good service.”* Moreover, the firm expanded its long tradition of apprenticeship. The management team strongly supports apprenticeship as a recruitment policy aimed at increasing the internal stock of knowledge. The internal trainers participate in special training courses to continuously improve the quality of apprenticeships in the firm. These learning outcomes are shared within the company.

In 2005, the managers started to collaborate with a business consultant to optimise the organisation structure and communication style for internal as well as external

purposes. The results of this reflection process led to a distinct corporate culture and a participative leadership style which is based on trust. As an example, the owner-manager recalls: *“When an employee has a problem, we help them to solve the problem as quickly as possible because an employee with a problem will spend more time thinking about the problem than focusing on the job.”*

Alongside the internal knowledge exchange, the firm joined the "Vorarlberg Kunststoff Technik" network. The owner-manager appreciates the network and knowledge exchange within the branch. He sees the other firms more as supporters than competitors.

The learning events for the management team are centred on the process of succession. The resources tied up in this process limited the firm's strategic development and resulted in an operational failure. The insights allowed the management team to overcome the situation and to reorganise the firm, to introduce a different leadership style and to strengthen the internal and external knowledge exchange. Despite economic and management challenges during the last ten years, the company has doubled both turnover and employee headcount.

### **Case E: Metal construction**

The firm was founded in 1970 in a small mountain village 900 metres above sea level. This means about 450 metres above the Rhine Valley. The firm was well known for special metal fabrications. The infrastructure and access to the firm were not the best and even less so during the winter season. The son (successor) came into contact with the business quite early on. During his apprenticeship and while studying economics, he supported his father during the holidays. This early contact with the business environment was helpful for the succession process. In 1994, almost a quarter of a century after the firm's foundation, the son took over the company along with two employees.

As a business economist, he used his knowledge to redesign the reporting process, establishing clearly defined requirements for budgeting, cash flow calculation, balance sheet and income statement. The positive knock-on effect of these optimisation measures was better utilisation of the firm's capacity. As result of an

analysis of the firm structure and its competitors, the owner-managers invested into a new CAD infrastructure. This CAD application revolutionised the workflow, capacity and the firm's competitive position. The majority of competitors did not take advantage of the new CAD infrastructure.

A year after the succession, the internal organisation structure was rebuilt. On the one hand, the intensive process of analysis and review gave rise to the new business field of "steel construction" and on the other hand the number of employees was increased from two to eight. The firm launched its market entry into the new business field of steel construction in late 1995. In the following years, the firm already won orders for large projects. The owner-manager states: "The internal realisation of an optimised work flow and process was a fruitful way to become more familiar with the complexity of all management functions." Furthermore, the conditions of the new business field offered countless opportunities for learning. These range from learning about the technology of steel construction to learning about the demands of customers in this sector. At the same time, the owner-manager recognised that the firm's available manpower was inadequate for dealing with all the orders. Consequently, the work-life balance suffered over a long period of time and resulted in personnel problems.

The shortage of well-qualified workers provided the trigger to start an internal training programme for apprentices. Initially, the firm offered direct placements. Today, the firm is a member of the network "High Potentials = HIPOS". Cooperation within the HIPOS network offers a great deal for new business contacts and a platform for positioning the firm as an attractive learning environment for young people.

At the same time, the owner-manager planned a strategic relocation of the plant to overcome both the personnel issues and create space for further growth. The firm's market breakthrough as well as its reorganisation is based on this new plant. The new site offers ample space for all five business divisions of steel construction, metal construction, metalworking, stainless steel techniques and sheet metal forming. The owner-manager emphasises the significance of the move: *"It is important for the employees, the suppliers and the customers to have convenient access to the plant. One side effect of the firm's new location is that we can cover order peaks with temporary workers. Moreover, the location is attractive for hiring staff from*

*competitors and suppliers. This knowledge exchange provides fruitful insights into the market position of competing firms.”*

In 2005, the new firm and the region were faced with a natural phenomenon: a flood. The new site sustained flood damage. The local government supported an initiative for the affected firms, mainly small firms. Each firm could make use of a consultant. The interaction with the consultant was strategically fruitful for the owner-manager in terms of a new calculation model for the budget and breakeven analysis. The owner-manager states: *“It has to be possible to enter the budget data for the next business year in one evening.”* Nevertheless, the high growth of the firm steadily increased the owner-manager’s workload. For fourteen years, the owner-manager has led the firm and manages all organisational and financial tasks. The other leading positions in the firm’s structure are occupied by an industrial engineering unit and a production foreman.

Based on the current organisational structure, the owner-manager would like to reduce his workload but feels uncomfortable about delegating tasks to key employees. However, he has recognised that he is the only person in the firm who is acquiring new orders and customers. This bottleneck is aggravated by the fact that neither the technicians nor the foreman could successfully lead the firm over a longer period.

A first step towards a delegation of responsibility took place with the setting up of the business unit for sheet metal forming. Learning on the job is the preferred learning method to impart knowledge to the employees. A parallel process is the product costing analysis of larger projects with key employees of the industrial engineering unit. The next step has been to delegate small orders to the technicians along with developing calculations for customers. The owner-manager assumes that the delegation process for a deputy will take at least one year. At the same time the owner-manager underlines: *“Without my commitment, the whole system will never run properly.”*

Although there is a critical mass of knowledge held by the owner-manager, the initiated delegation processes will lead to a more sophisticated sharing of knowledge regarding organisational and strategic issues between the owner-manager and key

employees. Based on the experience of learning within all business fields and in particular in the area of finance, the owner-manager will benefit from a more balanced level of knowledge between the key employees and himself.

### **Case F: Deep-drawing and mould making**

The family business was founded in 1973. Over a decade later in 1986, the owner's elder son entered into the business as an apprentice. His brother followed him in 1996. The elder son became the successor of the firm with 18 employees in 2005. At the time, he was able to look back at the ups and downs of the company and was also well-versed in the operational processes. He stresses that: *"As a technician, I very soon reached my limits where financial matters were concerned. For that reason, I took a course in financial management."* His experience and in particular the strategic knowledge gained from the course opened up new perspectives for repositioning the company. The initial approach was to increase in-house production by expanding into a new technology. It turned out that the domestic market was too small to take advantage of the available machine capacity. Moreover, the in-house know-how was not sufficiently developed for this technology. Based on this experience, the current product portfolio, future market potential and trends were critically analysed. This reorganisation process was twofold. Firstly, the processes, technologies and the strategies to acquire these technologies were determined and secondly, the reorganised firm moved into a brand new building. Today the company offers a wide-ranging service portfolio from deep-drawing and mould making to CNC machining. The product portfolio benefits from the large number of services and includes e.g. tubs, storage tanks, splash boards, bicycle helmets, skis and precision mechanical parts. All these final products are accompanied by an intensive research and development process in cooperation with customers. Today, the firm processes around 300 tons of plastic. The export ratio is approximately 50%, with Canada and Japan as leading industrial consumers. Since the reorganisation, the company and its order volume have grown rapidly. The owner-manager and his management team are promoters of learning. The ways of learning are manifold in this growing company. The central method is workplace learning, supported by the apprenticeship. The recruitment approach for related professions is interesting. On the one hand there are only a few experts in the plastics business available in the labour market and on the

other hand the owners consciously recruit personnel from different business fields such as plumbers, roofers, etc. In a few years' time, they will increase the recruitment rate for non-plastics experts to 50%. The reason for this approach is based on new insights into a completely different way of accomplishing the same tasks.

For the owner-manager, the main challenge and learning event for the coming months is initial training for a work planner. This not only means delegating a key task but also changing the communication style with the staff. On a typical day, the owner-manager visits the factory twice a day to discuss the workflow, orders or problems.

## APPENDIX C: QUESTIONNAIRES

### Questionnaire I: 2008

#### Part I: 1 How do owner-managers experience and conceptualise problems of growth in their firms?

Theme	Key words	Examples of questions
Company story since the start-up/succession	Milestones in the firm's development Problems, course of action	What is the change in product/service portfolio? Have there been any critical moments/episodes?
Growth of the firm	Employees, turnover, product portfolio Space, relocations of the firm	What does growth mean within your firm?
Development process	Helpful support activities Handling of problems/issues	Do you react differently to problems now in comparison with when you were starting up the firm?

#### Part II: 2 How do owner-managers learn to manage growth?

Theme	Key words	Examples of questions
Time for reflection	Alone, contact person Tools Methods	Do you take time to think about the progress of the firm? Do you have any tools to help with your analysis?
Observation of market and competitors	Market trends Activities of competitors Demands of customers	Do you observe the market and competitors with a benchmark approach? Do you use any key figures, e.g. turnover, sales, customer profiles, for this purpose?
Transfer of market insights into the daily business	Meetings with employees Visits to exhibitions Time for informal chats Discussions with employees	How do you take advantage of your market knowledge? How do you transfer the insights into your business?

Time pressure	Too many tasks Volatile business (summer/winter season) Delegation and outsourcing Formalisation and systems	Do you have the feeling that the day is too short? Have you taken any actions to reduce the time pressure? Do you delegate tasks to employees?
Key figures	Figures relating to turnover, employee absence, orders, claims, customers Presentation of key figures	Do you use any key figures to observe development of the business? Why do you use these figures? Are the employees familiar with these figures?

**Part III: 3 How do owner-managers conceptualise and develop the role of HCD in their firms?**

Theme	Key words	Examples of questions
Customer profile, knowledge	Relationship, service, quality, cooperation, innovation, price	Do you know why customers come to your firm? What do they appreciate?
Customer-employee relationship	Customer profile, same contact person within the firm, Customer integration	Do employees know the preferences of your customers?
Integration of new employees	Theoretical introduction Direct start Contact person, review of the first days, month	What is the specialist knowledge within your field? How do new employees obtain this knowledge?
Skills and abilities	Selection of employees Employee training methods	What are the main skills and abilities of your employees? How do you support them to become an expert in the field?
Appreciation of employees	Blackboard, personal letter or message Appraisal system	Do you praise employees for excellent work or effort? Do you offer an appraisal system?
Key employees	Characteristics, behaviour	How would you define a key employee?

**Part III: 4 Development of a new subsidiary – voluntary basis?**

Theme	Key words	Examples of questions
Selection of employees	Selection, skills, abilities, behaviour	Which employees would you select? Why?
Knowledge drain	Gap, bottleneck, realistic	Would it be a problem for the firm? Where would be the bottleneck?

**Questionnaire II: 2010**

**Part I: How do owner-managers conceptualise the learning experience from critical episodes?**

Theme	Key words	Examples of questions
Critical episodes on the life-cycle diagram	External relationship Internal relationship Knowledge sharing and generation Owner-manager development Leading, controlling, structures Ideas, creativity, growth	<ul style="list-style-type: none"> <li>• Which are the three to five most important critical episodes for your own development?</li> <li>• Why are these important?</li> <li>• How do you describe the special nature of this event and the impact on your development?</li> <li>• What were your feelings and emotions as owner-manager during these critical episodes?</li> <li>• How do you feel about the development of your knowledge and skills? Are these ahead of or behind the firm's development?</li> </ul>
Owner-manager development	Formal learning Informal learning Future, present or past orientation	<ul style="list-style-type: none"> <li>• How do you motivate yourself to be at the cutting edge?</li> <li>• Did you take advantage of the last year to reorganise some processes, or did you introduce new organisation structures?</li> <li>• How did you deal with uncertainty?</li> <li>• Did you think about the possible outcomes (learning) before you triggered such a critical learning episode in your life-cycle diagram?</li> </ul>

**Part II: What have been the critical episodes between August 2008 and April 2010?**

Theme	Key words	Examples of questions
Critical episodes in the life-cycle diagram	External relationship Internal relationship Knowledge sharing and generation Owner-manager development Leading, controlling, structures Ideas, creativity, growth	<ul style="list-style-type: none"> <li>• What were the most critical episodes during the last 20 months?</li> <li>• What was the impact of learning?</li> <li>• Have you taken over another role or function?</li> <li>• How would you describe this event?</li> </ul>
Owner-manager development	Formal learning Informal learning	<ul style="list-style-type: none"> <li>• How do you motivate yourself to be at the cutting edge?</li> </ul>

**Part III: Questionnaire about learning styles?**

Theme	Key words	
Learning styles for coping with critical learning episode	Concrete Experience (CE) Reflective Observation (RO) Abstract Conceptualisation (AC) Active Experimentation (AE)	

## Pre-Questionnaire: February 2008

### How do owner-managers experience and conceptualise problems of growth in their firms?

1. How did you identify the fact that you could build up your own business in this niche?
2. What gave you the confidence to do so?
3. When did you first think about taking on an employee?
4. What do you remember about recruiting your first employee?
5. Did you receive assistance with the recruitment process?
6. What is the catchment area for your employees (radius in km)?
  - a. Do you take this into consideration?
  - b. Why is it important to you?
  - c. How important is identification with the service / product?
  - d. How do you now select / recruit your employees?
7. Were there times when you had too many orders? Where was the bottleneck?
8. How would you address a situation of that kind today?
9. Your firm is growing. In the initial growth phase you were able to gain a lot of experience which cannot be found in any text book. What type of problems helped or hindered you/your firm most in conjunction with growth?
  - a. Name the 5 most important areas.
    - i. Human resources: skilled workers and managers
    - ii. Experience with recruitment
    - iii. Specialist knowledge, e.g. marketing/sales
    - iv. Leadership experience
    - v. Delegation of tasks
    - vi. Lack of opportunity to exchange know-how with colleagues
    - vii. Reputation of a young enterprise
    - viii. Market presence / sales development
    - ix. Too many ideas / lack of focus
    - x. New competitor products / me too
    - xi. Finance, e.g. expansion
    - xii. Research and development (cooperation)
    - xiii. Multiplication of your business idea to include other areas?

- xiv. Bureaucracy
  - xv. Lack of support from chambers of commerce
  - xvi. Patents
- b. How did you address these problems?
  - c. Have you ever made the same mistake twice?
  - d. If you were faced with the same problems and tasks today, what would you change?
  - e. What have you learned in terms of dealing with or avoiding these difficulties?

### **How do owner-managers learn to manage growth?**

1. How much time do you spend analysing orders, enquiries and the process involved?
2. With whom do you discuss this process?
  - a. Do you discuss it with one or more employees?
  - b. Do you discuss it with someone outside your firm?
  - c. Are these sporadic or planned meetings/workshops?
  - d. Do you evaluate the results of the meetings?
3. Do you always consider these processes from the perspective of the most recent case or in the overall context of business operations?
4. How often do you talk to employees about processes, tasks or private matters?
  - a. When do you have these conversations?
  - b. How often does an employee come to you to discuss a process / a business or private matter (once a day/week/month?)
  - c. How long do you take to reply to an employee's enquiry?
5. How important is the conversation with your employees in your view?
  - a. Have you changed the frequency or the type of discussions since you first started your business?
  - b. Do you learn from your employees?
6. How do you deal with a complaint?
  - a. What measures do you adopt as a result of complaints?
  - b. Do you involve employees in this process?
  - c. Do you involve customers in this process?
  - d. Do you take the time to think about complaints and their cause?

7. Can you switch off from work when you go home or do you take your thoughts about work with you?
  - a. Are those thoughts positive?
  - b. With whom do you share these thoughts – partner, colleagues, etc.?
  - c. Do you write down your thoughts or have you actually acted upon them?
  - d. Do you regularly meet colleagues who are self-employed?
  - e. Have you joined a network, e.g. business club or chamber of commerce?
  - f. Do you meet colleagues and discuss experiences with your firm?
8. Is there are particular time when you come up with a lot of ideas/thoughts about how to grow your business?
  - a. How do you evaluate them?
  - b. Do you implement some of them?
9. Where do you get your ideas (innovations) for new fields of business and products and/or services?
10. There has been a shift in your tasks since you have been required to provide leadership for employees.
  - a. How have you learned to come to grips with these new activities?
  - b. How do you profit from the dialogue with your employees?
  - c. How can your employees profit from the change/transformation?
  - d. Do you think about how you can optimise your discussions with employees?
11. How do you react now if you receive a large contract which far exceeds your capacity limits?
12. Do you observe your closest competitors on a regular basis?

**How do owner-managers conceptualise and develop the role of HCD in their firms?**

1. When you set up your business, what were the priorities? Can you outline these briefly?
  - a. Goods inward logistics
  - b. Production
  - c. Goods outward logistics
  - d. Marketing & sales
  - e. Product development
  - f. After-sales services

*g. Corporate structure*

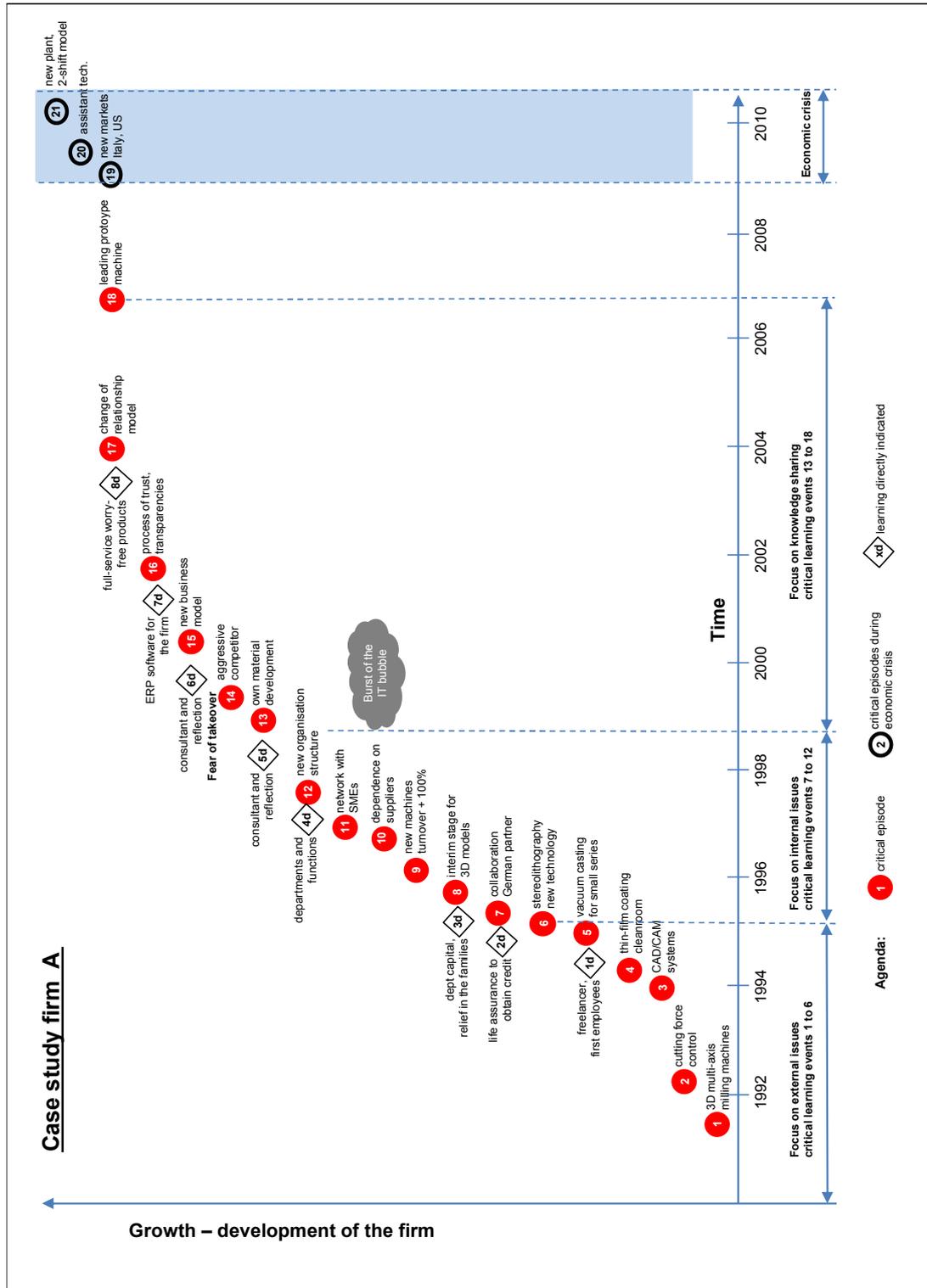
*h. Human resources*

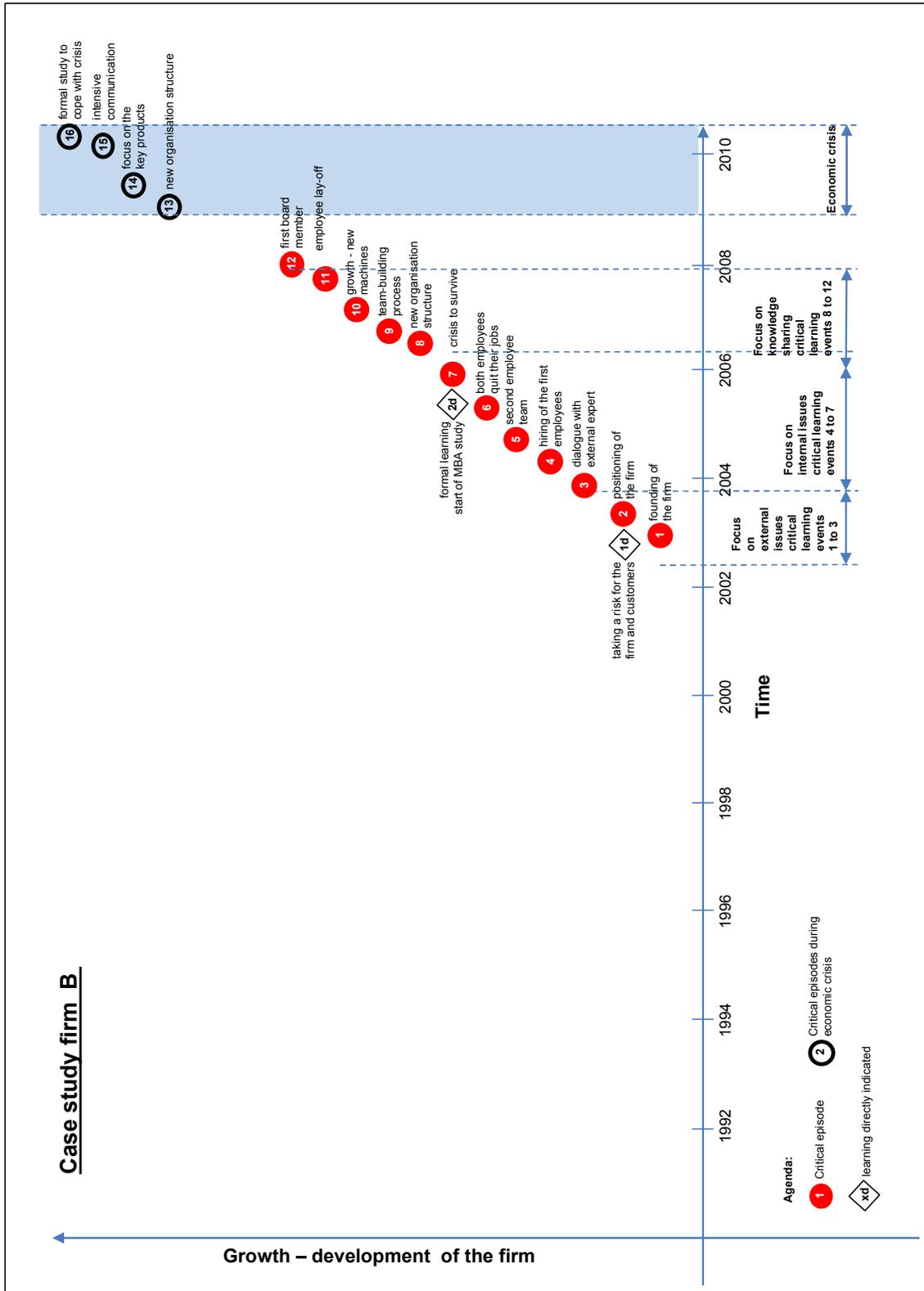
*i. Technologies*

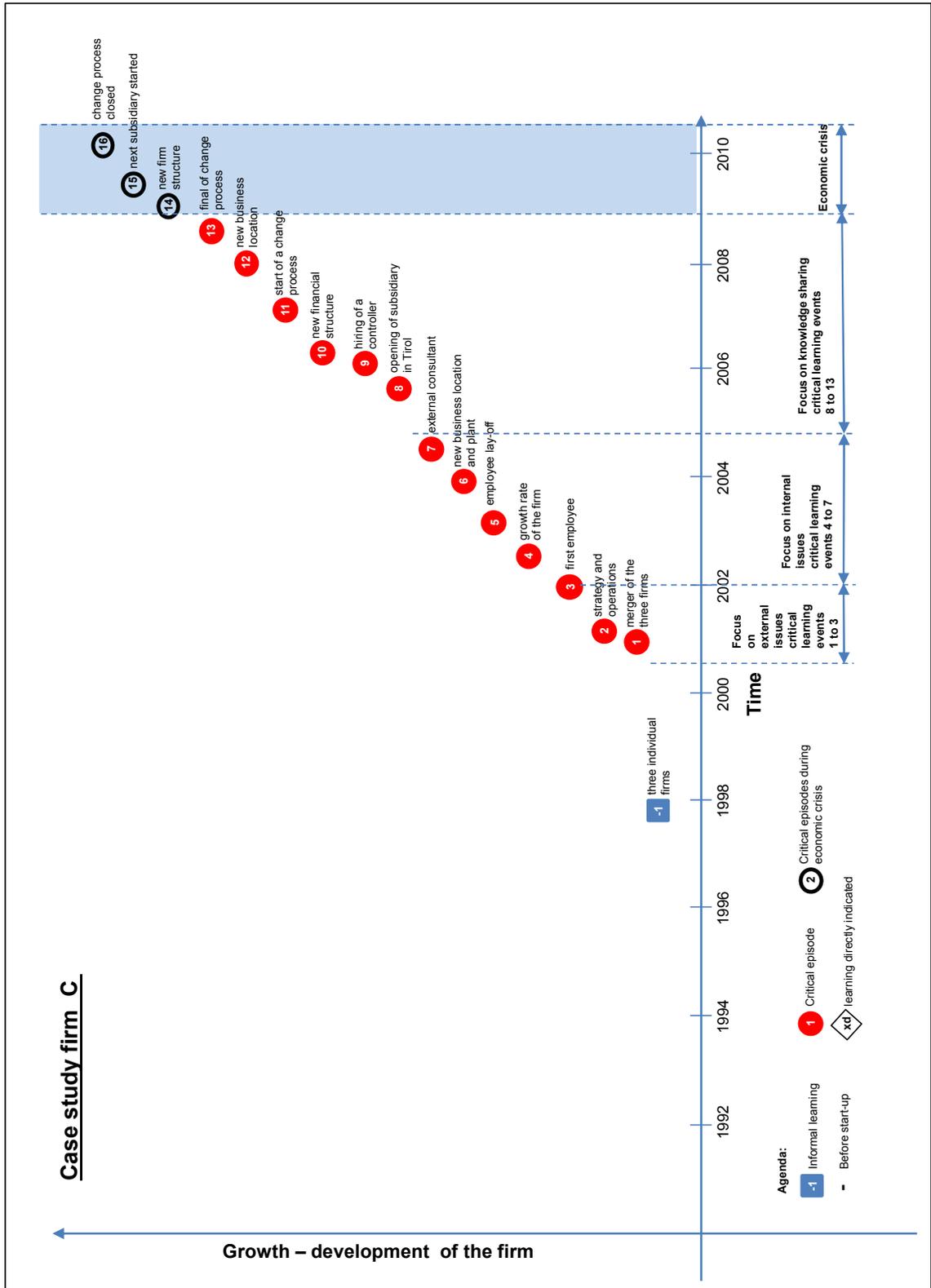
*j. Purchasing*

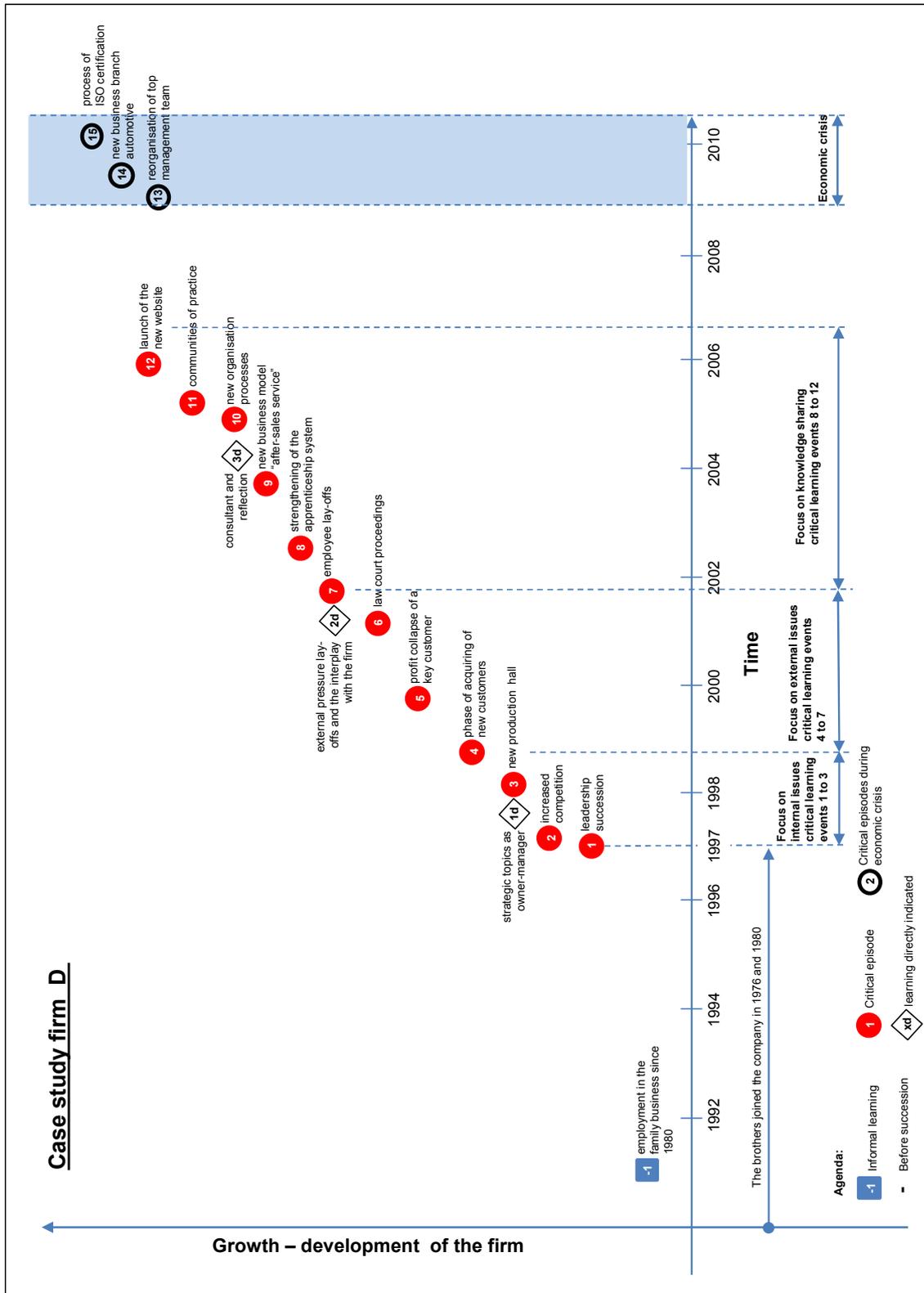
2. How did you acquire your know-how in the individual areas?
3. Which area was particularly important for you and why?
4. Have you adopted a specific method for acquiring, passing on and adding know-how?
5. Do you have an induction programme for new employees?
  - a. What form does this take?
  - b. How much time do you spend on this?
  - c. Who is introduced as part of the programme?
  - d. Do you include your key accounts?
  - e. Do you go out for a meal?
  - f. What experience have you gained from your induction programme?
6. Which aspects of the induction programme are particularly important for you and your firm?
7. How do you transfer new knowledge within your firm?
8. How do you react if one/two key employees resign?
  - a. How do you safeguard their know-how?
  - b. How do you try to retain your customer and supplier network?
9. How often do you take part in training courses?
  - a. How long do these courses last?
  - b. Is there a diploma at the end of them?

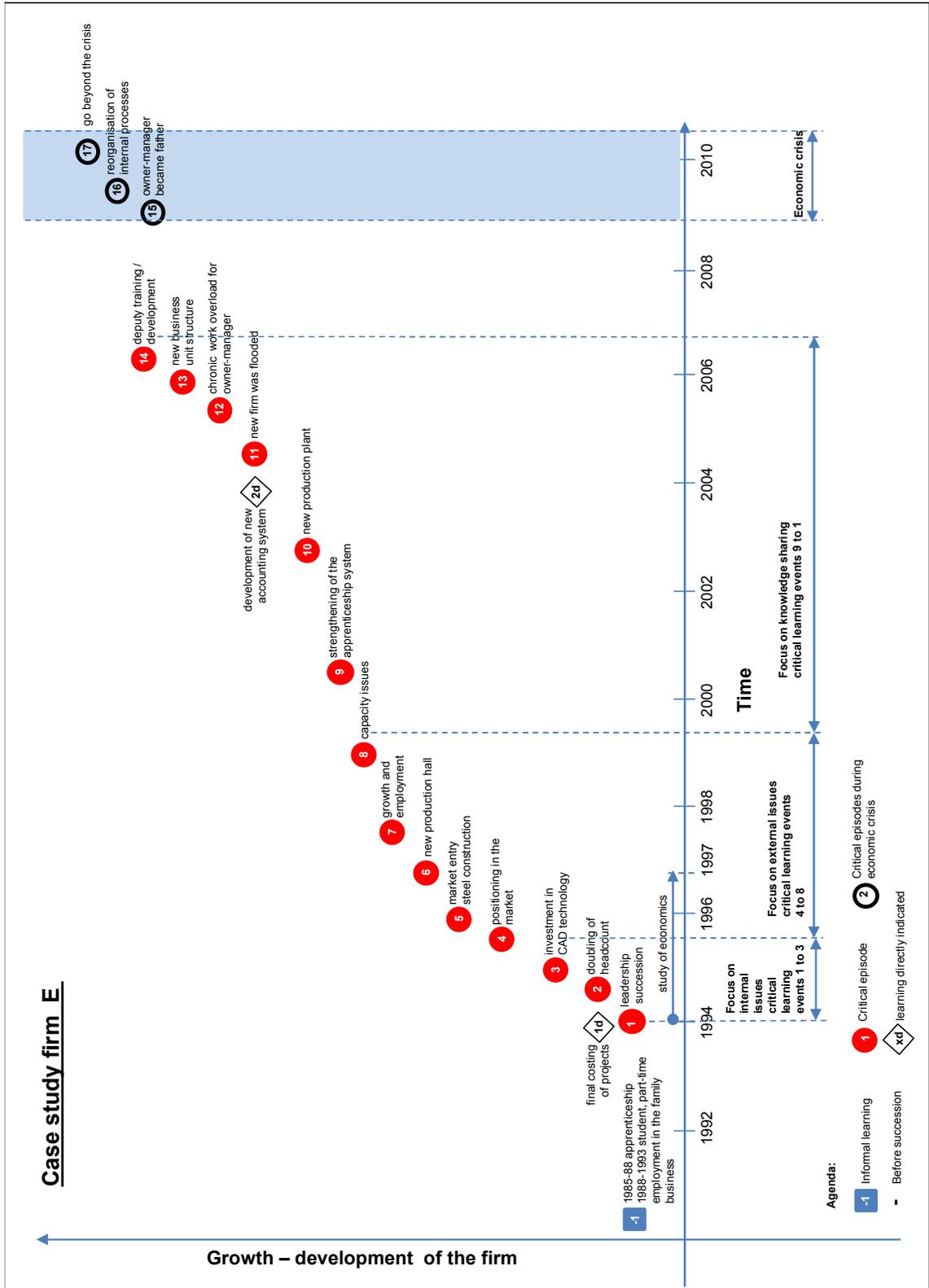
# APPENDIX D: CRITICAL LEARNING EPISODES – CHRONOLOGICAL ANALYSIS

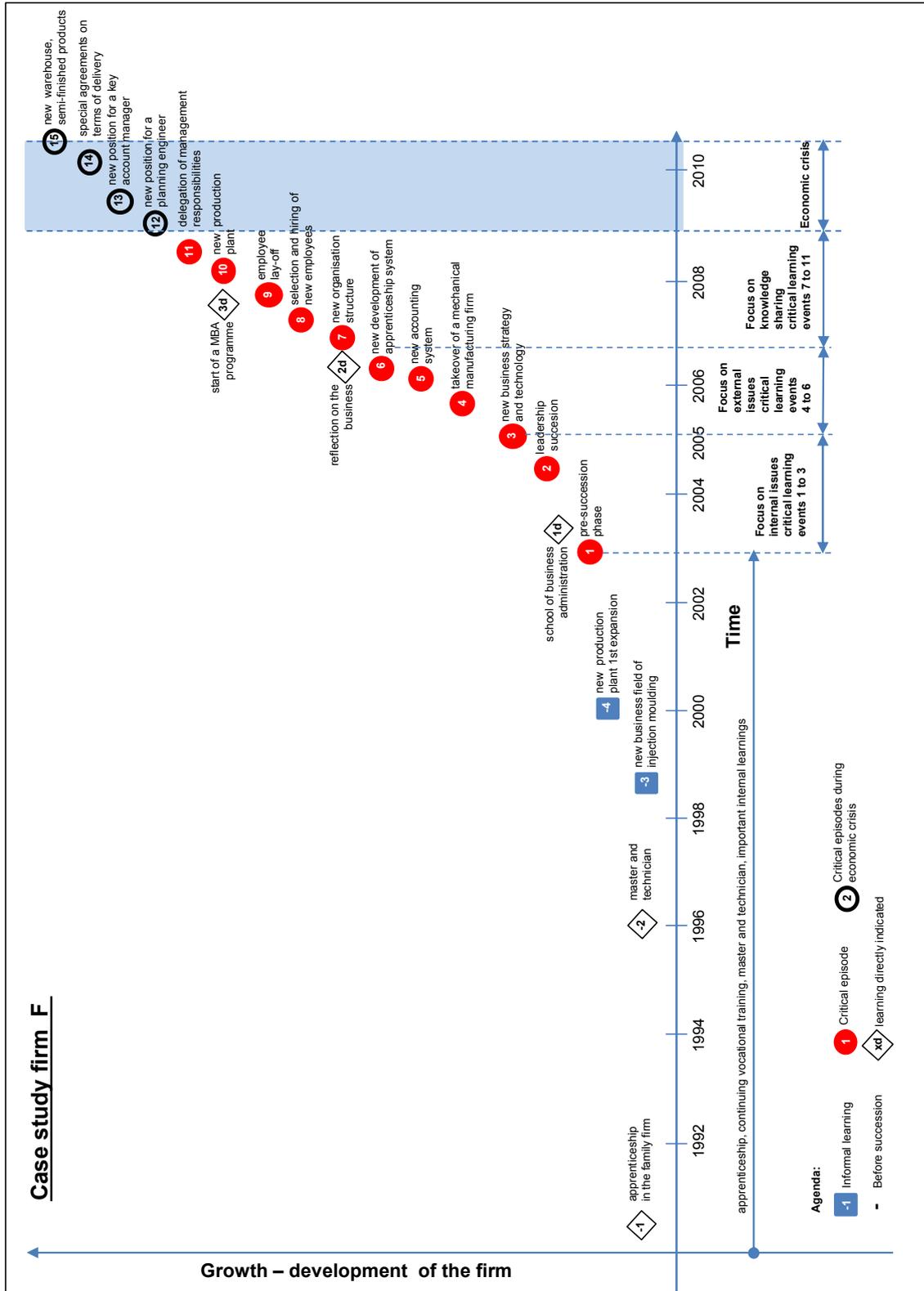






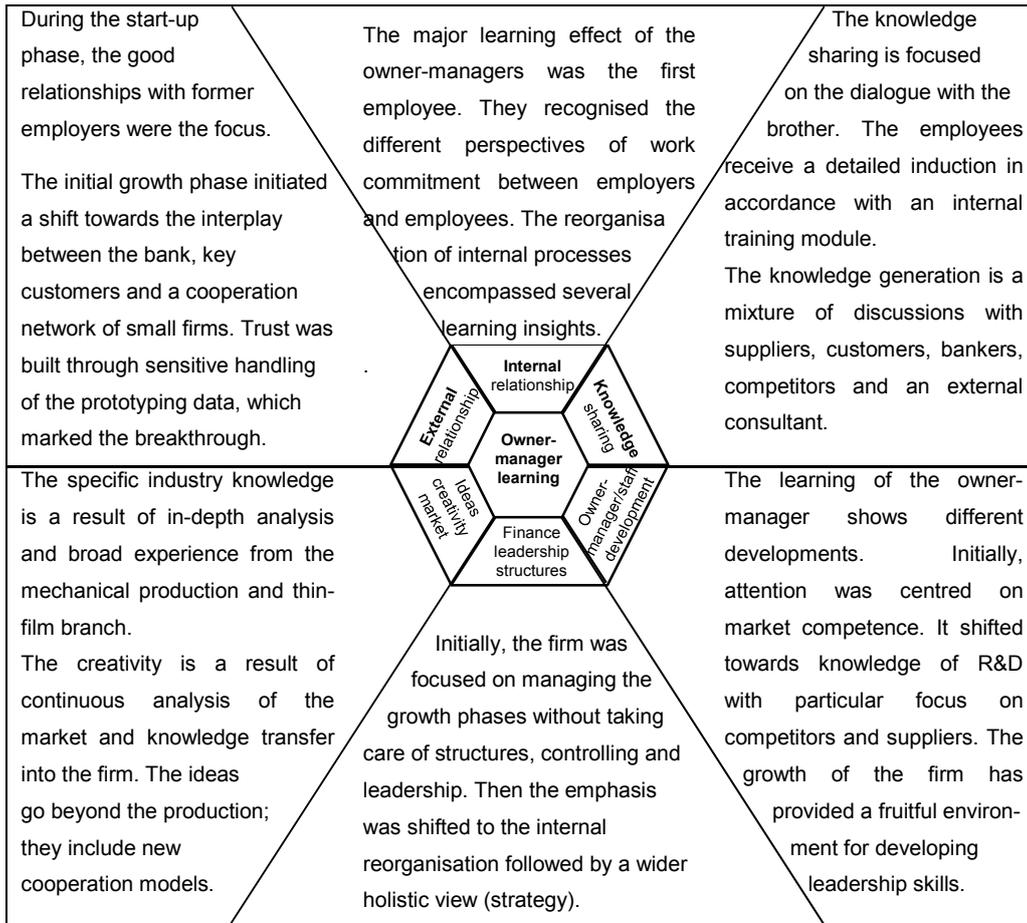




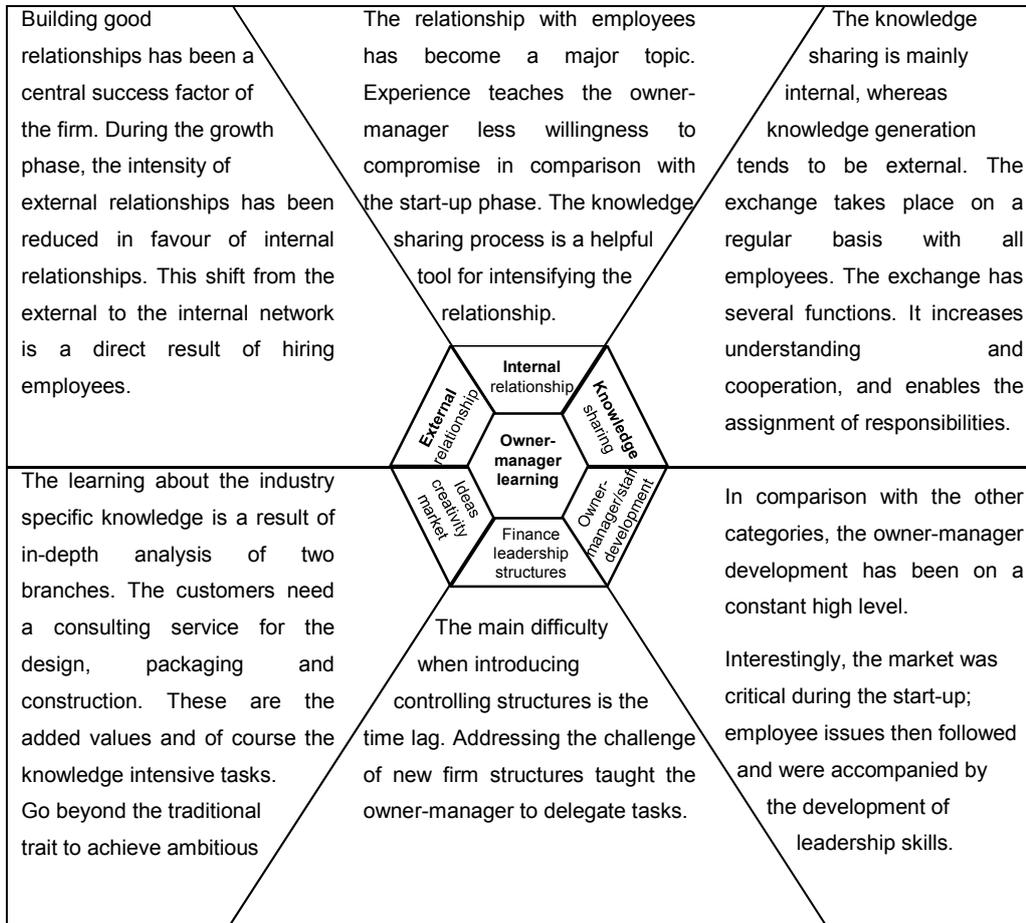


## APPENDIX E: INSIGHTS FROM THE KEY FINDINGS OF THE SAMPLE

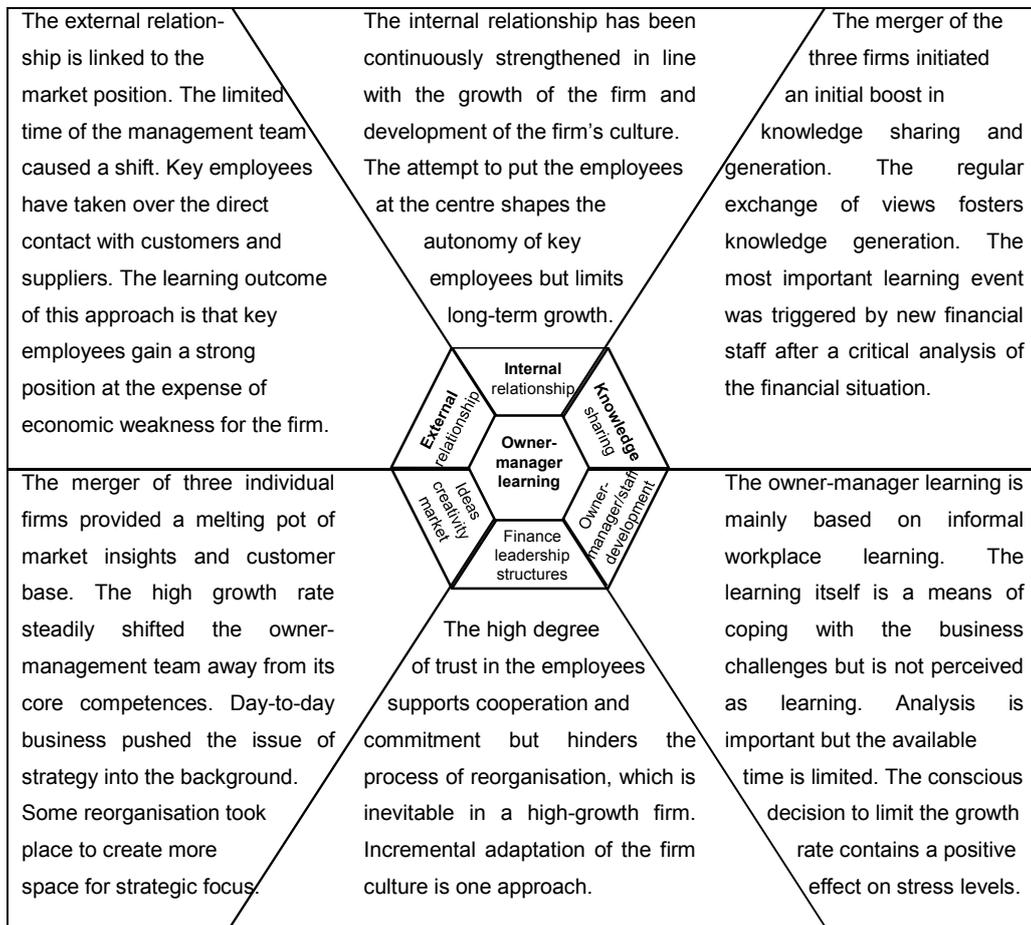
### Insights from the key findings of Firm A



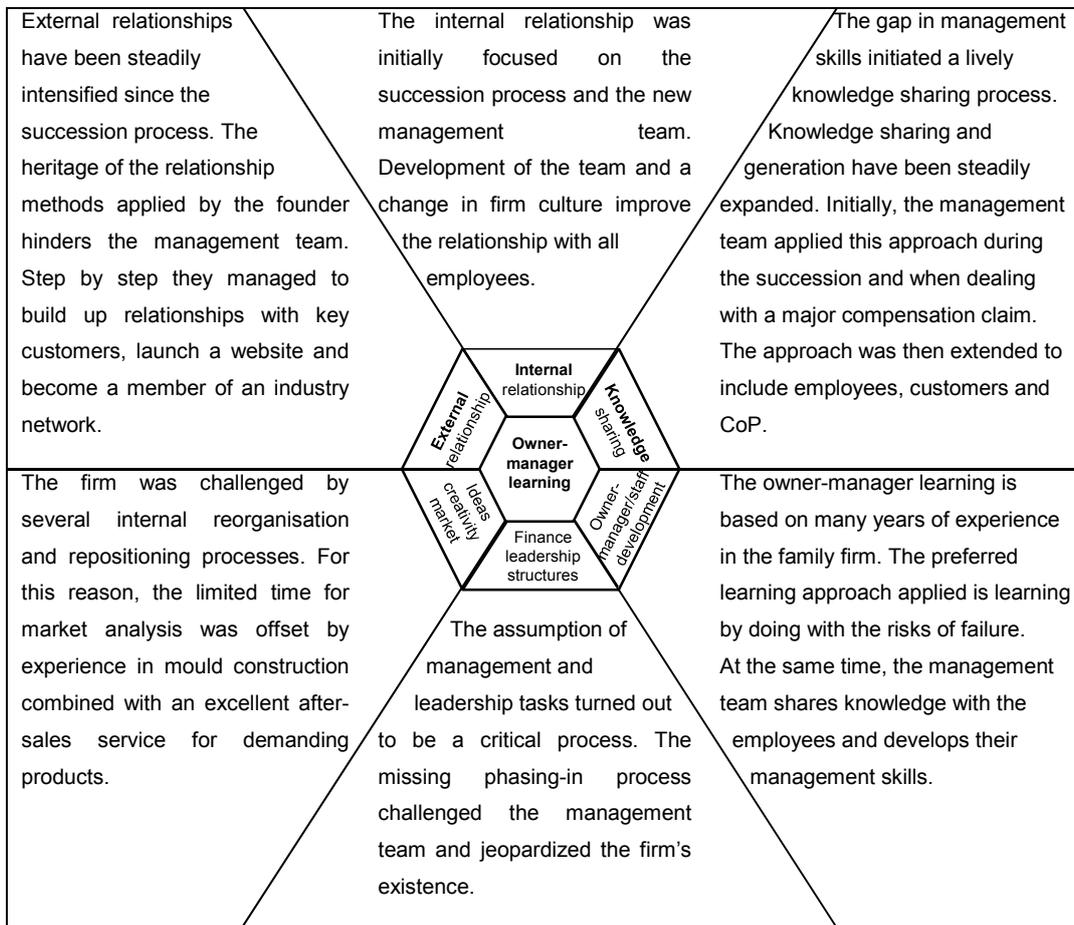
## Insights from the key findings of Firm B



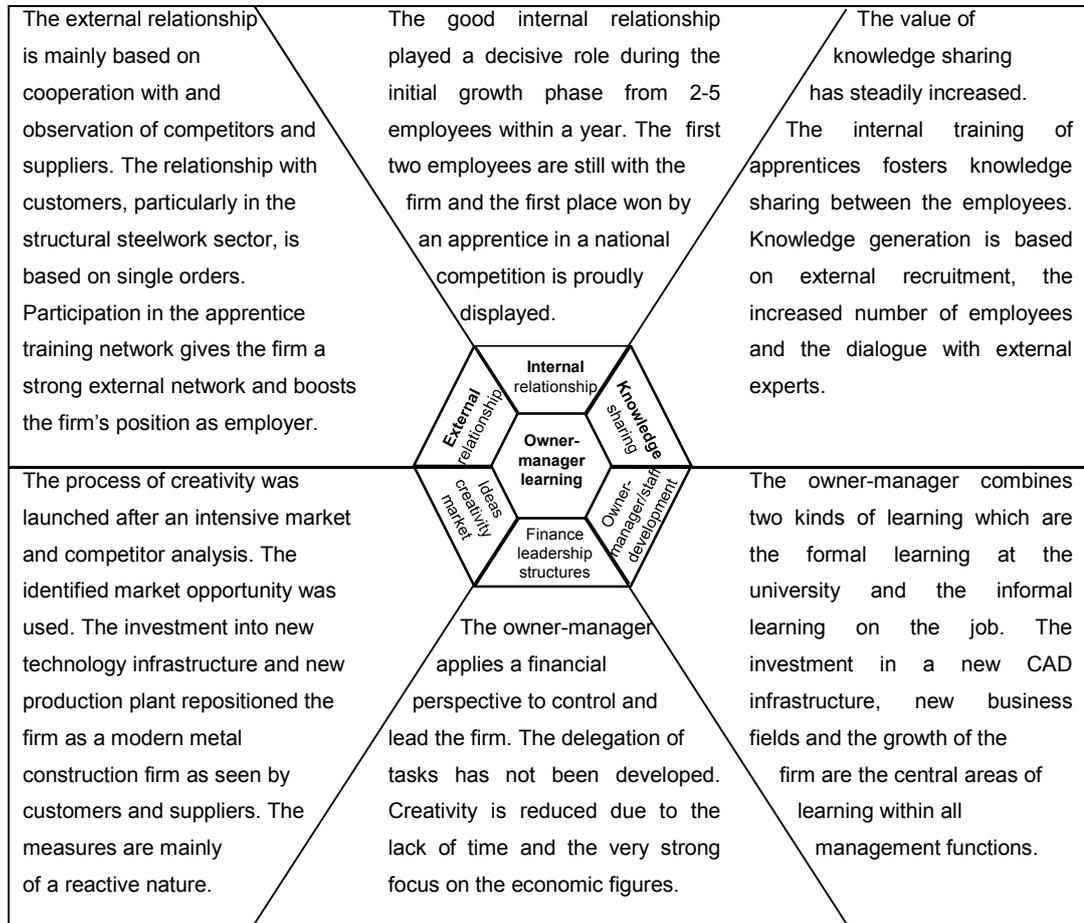
## Insights from the key findings of Firm C



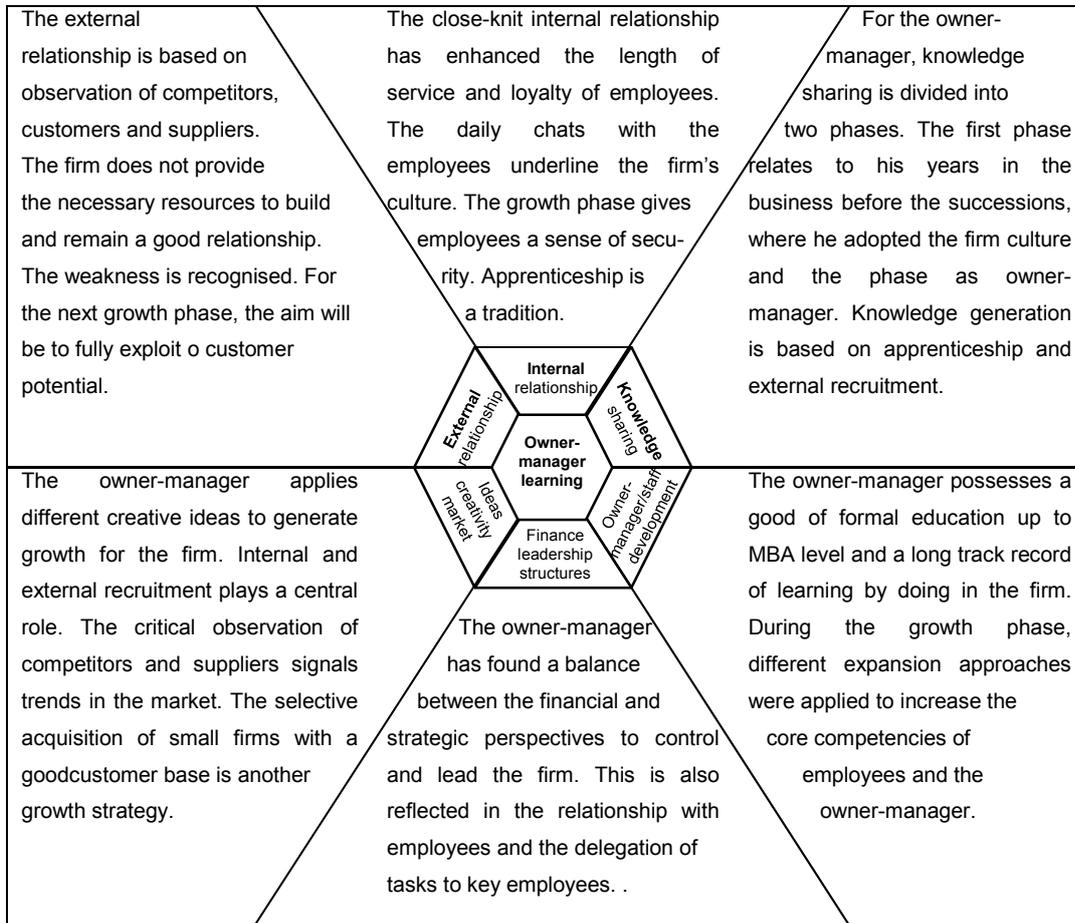
## Insights from the key findings of Firm D



## Insights from the key findings of Firm E



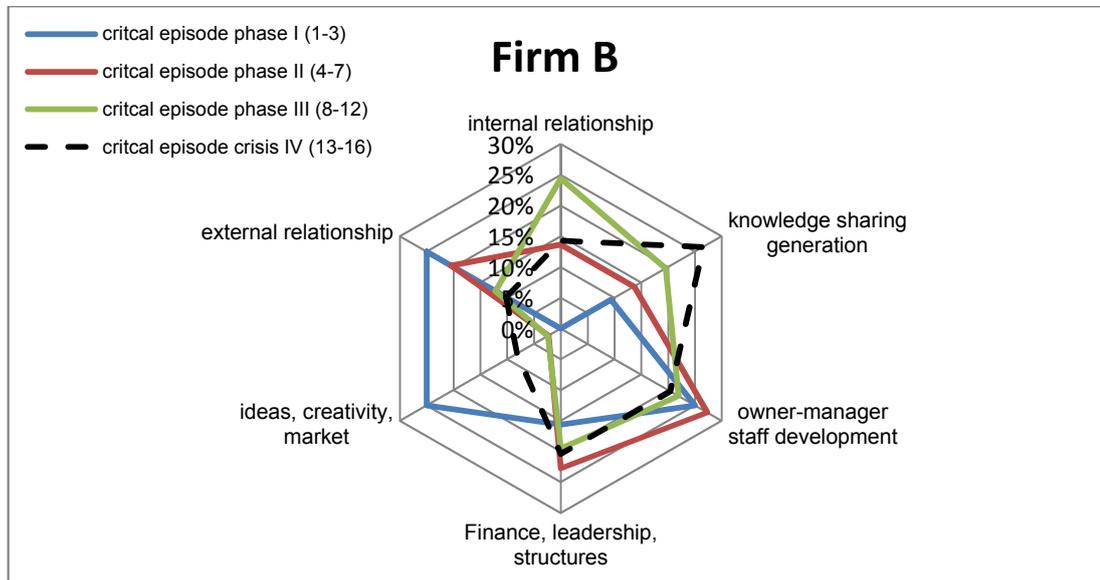
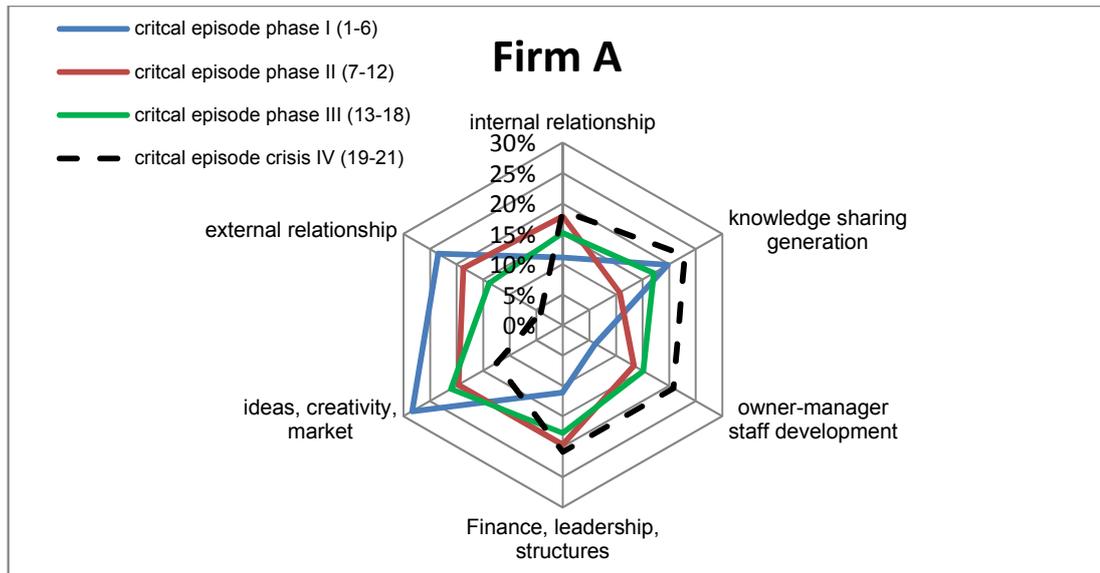
## Insights from the key findings of Firm F

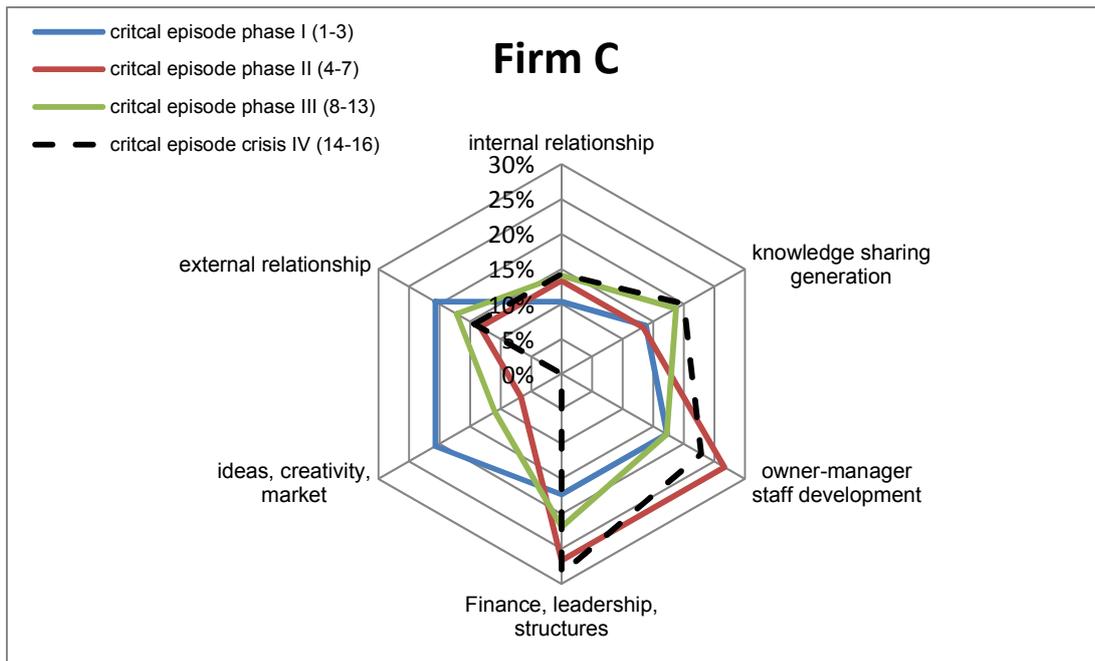


## APPENDIX F:

### LEARNING TRAJECTORIES OF THE SAMPLE

#### Start-up firms A, B and C





**Family Firms D, E and F**

