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**Exploring the Impact of the Extranet on
IFA-Insurer communication and Relationships**

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Abstract

A recent series of scandals hitting the UK financial industry has had a negative impact on consumer confidence in UK insurance companies. After assuming its powers and responsibility under the Financial Services and Market Act 2000, the Financial Services Authority (FSA) becomes the single statutory regulator directly responsible for the regulation of deposit taking, insurance and investment business. Strong legislation was introduced to maintain IFAs' independence, prohibiting insurance companies from exerting or persuading more IFAs to promote their products. Fighting to survive in an increasingly competitive market, several insurance companies have adopted the extranet to improve their communication and relationships with IFAs. Whilst channel relationship literature insists on the important role of communication in the supplier-distributor relationship, the emerging role of the extranet and how it reshapes IFA-insurer communication and relationships has hardly been explored. Accordingly, the research problem investigated in this thesis is: *How has the extranet impacted on communication and relationships between the insurer and independent financial advisors (IFAs) in the UK?*

The research problem was investigated in two stages. In Stage 1, face-to-face interviews were carried out to help identify 5 research issues.

RI 1: How does the extranet facilitate insurer-IFA communication?

RI 2: How does the extranet impact on the use of other communication media?

RI 3: How does the extranet facilitate the insurer-IFA relationship?

RI 4: Impact of the extranet on communication, trust, commitment, co-operation, and conflict – How does this facilitate the quality of relationship between insurers and IFAs?

RI 5: Does the perceived impact of the extranet on commitment have the strongest impact on the quality of the insurer-IFA relationship?

In Stage 2, a mail survey of UK independent financial advisors was conducted to explore the research issues. In answering the research issues, this thesis' findings make the following contributions.

Firstly, this research found that the extranet has a positive impact on insurer-IFA communication in general. However, it is still not conclusive that the extranet increases two-way communication between them. Secondly, this research found that it is highly likely that the extranet will decrease the use of certain modes of communication especially, the facsimile and the telephone. Thirdly, this research found that the extranet improves certain aspects of trust. In terms of commitment, although the extranet increases the IFAs' willingness to maintain their relationship with the insurer, it does not have a strong impact on the IFAs' commitment to the insurer. Concerning the co-operation construct, it is still inconclusive whether the communication enhanced by the extranet leads to better co-operation between the insurer and IFAs. Likewise, it is still not conclusive if the extranet-enhanced communication results in less conflict between the insurer and IFAs. Nevertheless, it is clear that the extranet does not intensify existing disagreements between them. Overall, the IFAs felt that the extranet-enhanced communication increased the quality of their relationship with the insurer. Next, this research found that the perceived impact of the extranet on relationship quality is positively related to the perceived impact of the extranet on trust, commitment, and co-operation and negatively related to the perceived impact of the extranet on conflict and disagreement. Indeed, insurers need to be aware that to enhance the quality of their relationship with the IFA, they need to maintain and increase the IFAs' trust in, and commitment to them. At the same time, they should also try to facilitate co-operation and effectively solve conflicts between them and the IFAs. This research found that the extranet has the potential to help the insurer achieve these goals if it is implemented appropriately and effectively. Finally, the findings also suggest that commitment has the strongest effect on the perceived quality of relationship.

Author's Declaration

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

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

Sign

Date 14 October 2004

Related Publications

Phairor, K., and Hanmer-Lloyd, S., 2000. Improving channel relationship management through the use of extranets as a means of communication. *4th July Academy of Marketing Doctoral Colloquium*. Derby, 96-101.

Phairor, K., and Hanmer-Lloyd, S., 2001. Exploring the impact of extranets on supplier-distributor relationships: some tentative models. *2nd -4th July Academy of Marketing Conference*. Cardiff.

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Conference Presentations

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List of Abbreviation

DF	Degree of Freedom
H	Hypothesis
IFA	Independent Financial Advisor
IOS	Inter-Organisational Information System
p	Probability estimate
RI	Research issues
SPSS	Statistical Package for the Social Science
WWW	World Wide Web
α	Alpha
β	Beta
χ^2	Chi-squared
r	Correlation coefficient
r^2	Coefficient of determination

CHAPTER ONE: INTRODUCTION

1.1 Introduction

The purpose of this chapter is to introduce the objectives and scope of the research, followed by an outline of the research method, and finally, an overview of the structure of the thesis.

1.2 Research Background

A recent series of scandals hitting the UK financial industry has caused serious doubts among British investors. For example, 60% of people with endowment mortgages may face shortfalls. There have also been reports of mis-selling of split capital investment trusts, leaving some investors with the loss of almost 98% of their original investment. Further, the providers of pension annuities, particularly insurance companies, have been criticised for underestimating the impact of the ageing population on pensions and their miss-pricing of the longevity and long-term investment risk which can pose a threat to firms' solvency. Accordingly, major UK insurance firms may struggle to meet their obligations to policy holders (Intranet Journal, 2003).

On 1 December 2001, the Financial Services Authority (FSA) assumed its powers and responsibility under the Financial Services and Market Act 2000. They are now the single statutory regulator directly responsible for the regulation of deposit taking, insurance and investment business. They also assume certain new responsibilities, for example, in relation to market abuse, promoting public understanding of the financial system and reducing financial crime (Financial Services Authority, 2003).

In the financial industry, products – made up solely of service components – are normally sold directly or through intermediaries. These intermediaries are predominantly the independent financial advisers (IFAs). IFAs are a group of

insurance and investment advisers that are defined as independent of any insurance company under the terms of the Financial Services Act 1986 (Sekhon and Kennington, 2001). They are expected to find for their clients the best deal for whichever type of insurance they desire. There are approximately 36,000 IFAs across the UK.

In a competitive financial service industry, it has become evident to insurance companies that developing and maintaining relationships with independent distributors is incredibly important. According to the Financial Service Authority (FSA), there has been a decline in use of direct sales forces. Many insurance companies dispensed with their sales forces (e.g. Prudential, Abbey Life, Sun Life of Canada). On the contrary, the IFAs have increased their market share. IFAs' share of new individual business is up from 47% in 1996 to 54% in 2000 and gross retail sales through IFAs is up from £4.7 billion in 1995 to £22.5 billion in 2000 (Financial Services Authority, 2003). Indeed, the IFAs remain the dominant route through which life and pensions new business is sold (64% in volume).

In fact, there has never been a stronger hold upon financial product channel sales than recently for the IFAs. Mainly avoiding the problems highlighted in the mis-selling scandals, they are seen as trustworthy by their customers. This is further supported by the strong legislation and the acts of the Financial Services Authority (FSA) to maintain the IFAs' independence, prohibiting insurance companies from exerting or persuading more IFAs to promote their products. This limits to some degree the control that insurers may try to apply to the industry. As a result, a huge amount of insurers' business is at risk to a channel whose independence is the basis of all commercial behaviour. Nevertheless, insurance companies that build stronger relationships with their IFAs - deliver quality information, innovative products and strong support from their account teams for example – may be able to reduce the channel risk and improve the loyalty levels and ultimately their sales performance.

Subject to a potentially bewildering number of rapid technological advances, some insurance companies have adopted an extranet to improve their communication and enhance their relationship with the IFAs. The financial services industry is characterised by a number of business requirements that can be cost-effectively met with an extranet. For example, it is a highly regulated industry, requiring that transactions and communications be closely tracked and documented. Everything from opening a new account to advertising requires specific procedures and must be rigorously monitored. A by-product of this regulated environment is that practitioners must routinely deal with mountains of paper forms and documents. At the same time, day-to-day operations depend on the timely distribution of massive amounts of quickly changing information to a geographically dispersed channel. The drivers of regulatory mandates, global opportunity and competition stress paper-based processes to the breaking point. The extranet can serve the financial service industry as a communication tool, distribution network and transaction tracking mechanism. Importantly, it can be deployed quickly at costs far lower than other communications systems, such as dedicated lines (Intranet Journal, 2003).

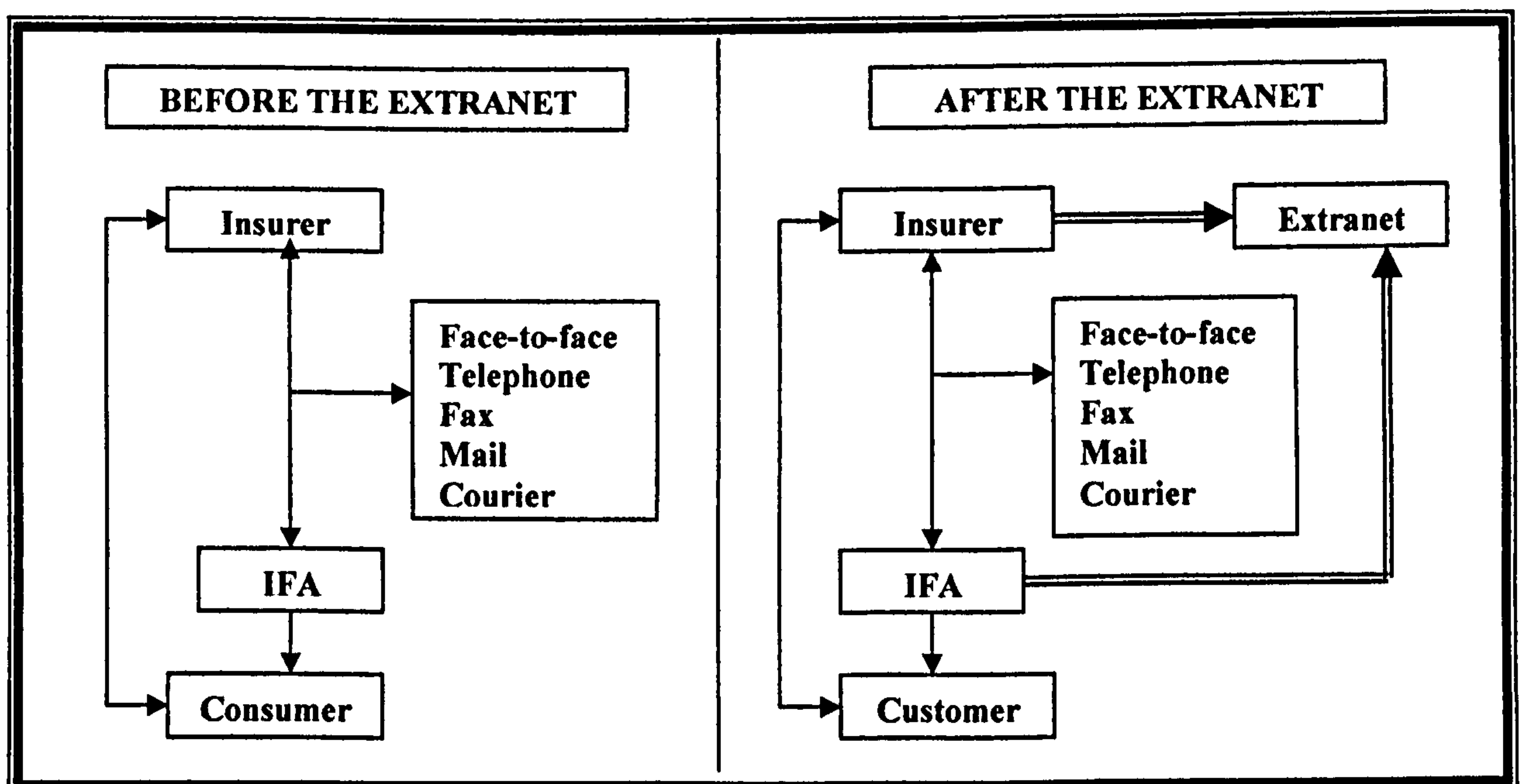
In addition, it is also claimed that extranets give financial services companies - especially the early adopters - a competitive advantage by providing a differentiator. This claim is based on the notion that most segments of financial services competitors are essentially selling the same products. The edge that any one company has over another consists primarily of the services it provides to its channel members. Extranets allow a company to provide higher levels of service with 24-hour, location-independent support. It is also expected that the extranet can transfer the management of IFAs directly towards the business units of the insurer e.g. marketing, legal, pension or claims. This should enable the IFAs to have stronger communication within each of the departments and, ultimately, lead to a better relationship (Intranet Journal, 2003).

Despite increasing speculation regarding the extranet's potential, a lot still remains to be understood about the actual impact of the extranet on the IFA-insurer communication and relationships. Whilst channel relationship literature

insists on the important role of communication in the supplier-distributor relationship, the emerging role of the extranet and how it reshapes IFA-insurer communication and relationships has hardly been explored. Further, channel relationship literature has not yet addressed if the extranet can enhance relationship quality by improving the trust, commitment, co-operation, and decreasing conflict. If it can, it is still unknown what relational construct – trust, commitment, co-operation or conflict, improved by the extranet is the most important factor for relationship quality. The emphasis of this research discussed above is illustrated in Figure 1.1

FIGURE 1.1

The focus of this research



1.3 Definition of Extranet

Having received worldwide attention, several definitions have been given for extranets. The extranet is any network connected to another network for the purpose of sharing information and data. It is created when two businesses connect their respective intranets for business communication and transactions (Hannon, 1998). The extranet is typically behind a firewall, and closed to the public, but it is open to the selected partners. It is a specialised branch of E-

commerce by which corporations share information with business partners, distributors, or customers (Winkleman, 1998). Although there is still some confusion over the exact definition of an extranet, the most commonly accepted definition seems to be networks using the Internet communication protocols to electronically link business partners to one another. This linkage is usually accomplished by companies allowing their channel members to access certain areas of their intranet” (Vlosky et al., 2000). There are, however, alternative views of the extranet other than the technical. For example, from the business point of view, research firm ActivMedia defines the extranet as an Internet Protocol (IP) network used for maintaining ongoing business relationships while enabling privacy, security, and customised communication (Bort, 1998a). In terms of databases, an extranet is the pool of business information that is accessed by the company and its selected partners (Bayles, 1997).

1.4 Research Problem

This research focuses on the emerging role of the extranet in UK financial service industry. Accordingly, the problem driving this research is:

How has the extranet impacted on communication and relationships between the insurer and independent financial advisors (IFAs) in the UK?

Although it is evident that trust, commitment, co-operation and conflict are key factors in channel relationship, the literature provides little assistance on how to solve the research problem. Thus, a theoretical framework is developed in chapter 2 from the literature and exploratory in-depth interviews to establish research issues to guide data collection and analysis (See Figure 1.2).

1.5 Research Issues (RI)

RI 1: How does the extranet facilitate the insurer-IFA communication?

Despite the increasing importance of the extranet, there is no extant empirical research examining how an extranet affects channel communication. In fact, little work has been done to explore the impact of the extranet in distribution channels (See Vlosky et al., 2000 for exception). There is virtually no empirical research examining the impact of the extranet on insurer-IFA communication in particular. Nevertheless, it has been speculated that the extranet can facilitate communication between insurers and IFAs. As discussed in the previous sections, the literature identifies several dimensions of communication (i.e. Mohr and Nevin, 1990; Mohr and Sohi, 1995). This research has chosen three key aspects of communication that may be affected by the extranet – information sharing, information quality, and communication flows (frequency and two-way communication). The results obtained from exploratory in-depth interviews also suggest that the extranet can increase communication quality, information accessibility, and speed of communication and decrease of information overload. Thus, the impact of the extranet on insurer-IFA communication is measured in terms of the impact of the extranet on these aspects as seen from the IFA's perspective.

RI 2: How does the extranet impact on the use of other communication media?

Further, the results obtained from the exploratory in-depth interviews suggest that the extranet may decrease the use of certain communication media. As the decrease and increase of certain modes of communication, particularly face-to-face, may have an impact on insurer-IFA relationship (Huber, 1990), the impact of the extranet on the use of other communication media is measured from and IFA's perspective.

RI 3: How does the extranet facilitate the insurer-IFA relationship?

Although the extranet has been linked positively to relationships (see Vlosky et al., 2000), there is no empirical research examining how the extranet impacts on trust, commitment, co-operation, conflict, and overall relationship quality between insurers and independent financial advisors. In this research, the impact of the extranet on the insurer-IFA relationship is measured in terms of the impact of the extranet on IFAs' trust and commitment, and the impact of the extranet on co-operation, and conflict between the insurer and IFAs as seen from IFA's perspective.

Further, the literature suggests that if communication is improved, then trust, commitment, and co-operation are likely to be improved while conflict and disagreement are likely to decrease (Anderson, 1992; Gultinan et al., 1980; Morgan and Hunt, 1994; Stern et al., 1996). Hence this research will also examine how the impact of the extranet on communication is associated with the impact on trust, commitment, co-operation, and conflict.

RI 4: Impact of the extranet on communication, trust, commitment, co-operation, and conflict – How does this facilitate the quality of relationship between insurers and IFAs?

Although the literature strongly suggests that communication, trust, commitment, co-operation, and conflict are key attributes of relationship quality (Anderson, 1992; Gultinan et al., 1980; Morgan and Hunt, 1994; Stern et al., 1996); it has not been confirmed empirically prior to the work in this thesis, if the impact of the extranet on these relational constructs impacts the quality of relationship between insurers and IFAs.

RI 5: Does the perceived impact of the extranet on commitment have the strongest impact on the quality of the insurer-IFA relationship?

This study also aims to find out what relational construct impacted by the extranet contributes the most to the increase of relational quality. The results will give the industry an understanding of what is the most important relational construct that it should try to enhance via the use of the extranet to increase overall relationship quality.

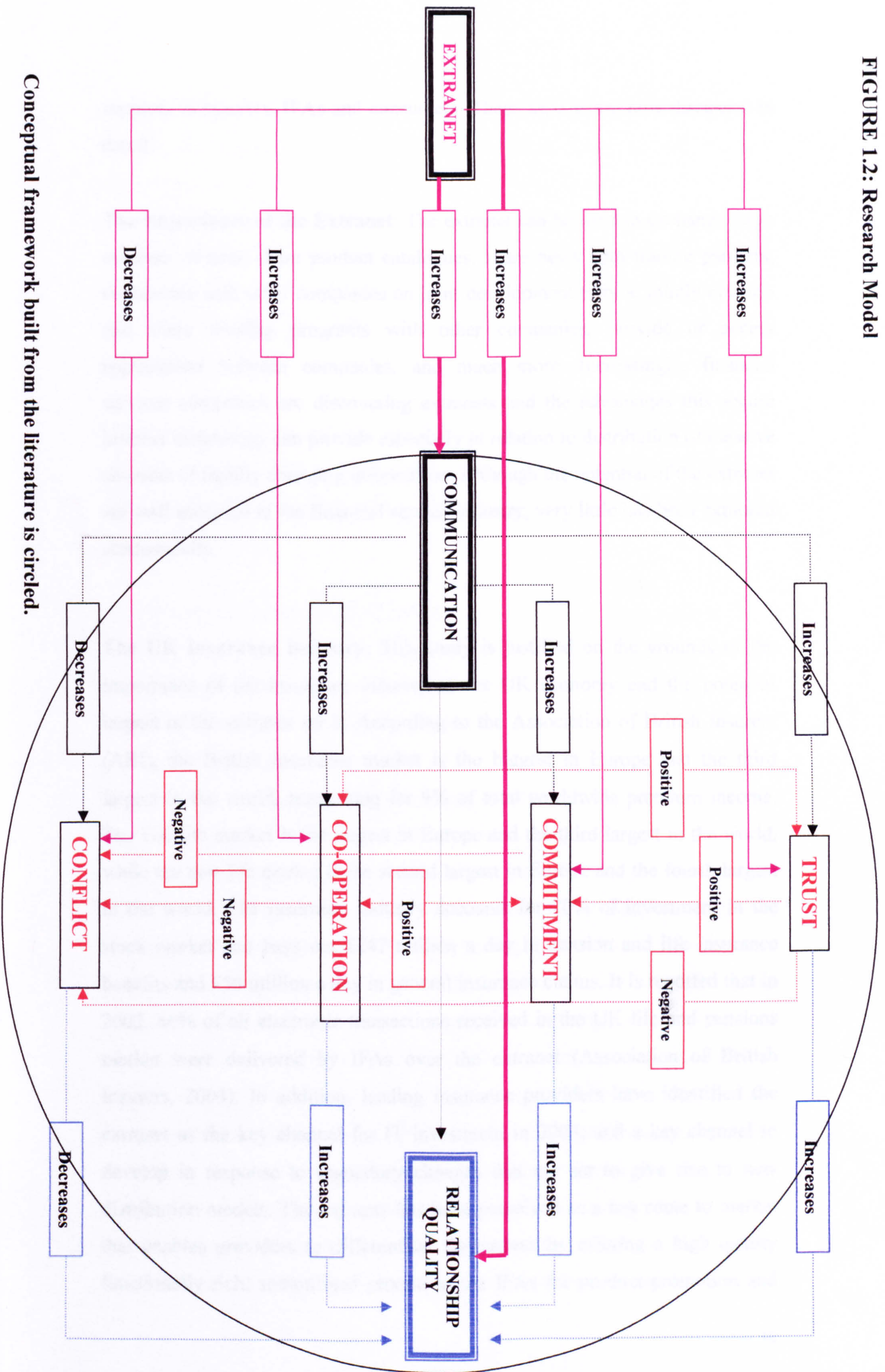
Commitment is considered the most developed state of a relationship, and an essential ingredient in successful long-term relationships (Gundlach et al., 1995) including relationships in financial services, the subject of this research (Moriarty et al, 1983). Nevertheless, it has not been empirically confirmed whether the impact of the extranet on commitment will have the most profound impact on insurer-IFA relationships.

The above five research issues identified from the literature and the in-depth interviews are used to form research propositions and hypotheses to direct data collection and analysis to answer the research questions posed.

1.6 Justification of this Research

The impact of the extranet on Insurer-IFA communication and relationship deserves serious academic attention for several reasons. First, the extranet is an important emerging and fast moving technology with the potential to enhance business-to-business communications. Secondly, as building a good relationship with IFAs has rapidly become a source of competitive advantage in the pursuit of financial industry levels of profit, insurance companies may find that the extranet can assist channel relationship marketing in improving their relationship with the IFAs. Finally, the UK insurance industry makes an enormous contribution to the economy, provides cost-effective support for millions of individuals and companies, and the extranet is expected to provide

FIGURE 1.2: Research Model



Conceptual framework built from the literature is circled.

supports to insurers, IFAs and consumers. These aspects are now discussed in detail.

The Importance of the Extranet: The extranet can be used to exchange large volumes of data, share product catalogues, share news with trading partners, collaborate with other companies on joint development efforts, jointly develop and share training programs with other companies, provide or access applications between companies, and much more. Increasingly, financial services companies are discovering extranets and the advantages this secure Internet technology can provide especially in relation to distribution of massive amounts of rapidly changing information. Although the potential of the extranet are well accepted in the financial service industry, very little has been explored academically.

The UK Insurance Industry: This study is justified on the grounds of the importance of the insurance industry to the UK economy and the potential impact of the extranet on it. According to the Association of British Insurers (ABI), the British insurance market is the biggest in Europe and the third largest in the world, accounting for 9% of total worldwide premium income. The UK life market is the largest in Europe and the third largest in the world, while the non-life market is the second largest in Europe and the fourth largest in the world. The insurance industry accounts for 20% of investment in the stock market and pays out £247 million a day in pension and life insurance benefits and £50 million a day in general insurance claims. It is reported that in 2002, 46% of all electronic transactions received in the UK life and pensions market were delivered by IFAs over the extranet (Association of British Insurers, 2003). In addition, leading insurance providers have identified the extranet as the key channel for IT investment in 2003, and a key channel to develop in response to regulatory changes that are set to give rise to new distribution models. The extranet has been perceived as a key route to market that enables providers to differentiate themselves by offering a high quality functionally rich, streamlined service to the IFAs for product promotion and

purchase. Services offered include specific insurance provider quotations and applications which are essential to the insurers in acquiring new business (Focus Solution Group, 2002)

Channel Relationship Marketing: This research provides an insight into the role of the extranet in channel relationship marketing – i.e. whether the extranet facilitates or hinders the implementation of channel relationship marketing in the insurance industry.

Indeed, this is an important question that an answer can be obtained from an in-depth study. Accordingly, this research can be justified on the grounds that it fills the gap about how the extranet impacts on the Insurer-IFA communication and relationship.

1.7 Overview of Research Methodology

This section provides an overview of the research methodology. This issue is discussed in detail in chapter 3.

Originally, it was planned that a longitudinal study would be carried out to explore the impact of the extranet on distributor-supplier communication and relationships over the period of time. This type of study would allow the researcher to monitor the changes in the samples' perceptions when they became more familiar with the extranet. Several firms who had just launched their extranet had shown an initial interest in this longitudinal study but all pulled out later. For example, a global oil company was interested in participating in this study; initially agreeing to the researcher interviewing their distributors and monitoring their perceptions over the period of one year. However, after waiting six months for permission to begin, this company pulled out. Next, an international photocopying company was enthusiastic about sending the researcher's survey questionnaires to their distributors across Europe. After four months of waiting, the company decided not to take the project further. Finally, the researcher was approached by an international

software company. The company expressed their interest in taking on this research and suggested that contact was made with their marketing director. Unfortunately, despite several telephone calls the person did not reply. Time was running out and the researcher realised that relying on a third party's help might cause a serious delay in the production of the research. After a discussion with the researcher's PhD supervisor, the research methodologies were reshaped.

Consequently, this research adopts two methods in collecting data for analysis. In the first stage, a qualitative technique – in-depth face-to-face interviews – was used to explore the main issues, perception, and feeling (See Appendix I). Face-to-face in-depth interviews are appropriate for this stage of the research to obtain perceptions on the impact of the extranet on business-to-business communications and relationships, because this issue was quite recent and very little research was available at the time when the data was first collected. The preliminary data provided a tentative understanding of the research problem and input for stage two of this study.

In stage two, explanatory research was carried out, aiming to provide evidence of cause and effect relationship (Aaker and Day, 1990). Data collection was carried out by a mail survey of 1,760 IFAs. Chapter 3 discusses the suitability, validity and reliability of the mail survey method. The sampling and ethical issues are also discussed. Finally, the data obtained from the mail survey was analysed using descriptive statistics, chi-squared test of independence, correlation analysis and regression analysis with SPSS version 10.0 for Windows.

1.8 Definitions

This section defines key terms relevant to this research to establish positions taken in the thesis and put boundaries around the findings (Perry, 1998). The following definitions are in alphabetical order:

Channel Member: In this study, channel member refers to a company or individual involved in selling and distributing the company's products.

Channel Relationship: Channel relationship refers to the relationship between suppliers and distributors.

Extranet: The research focuses on the extranet network connecting the UK IFAs to the UK insurers' intranets in a highly secure environment.

Independent Financial Advisor (IFA): IFAs are insurance and investment advisers defined as independent of any insurance company under the terms of the Financial Services Act 1986. This research focuses on UK IFAs only.

Insurance Company/Insurer: An insurance company/insurer includes any insurance provider delivering any insurance products in the UK.

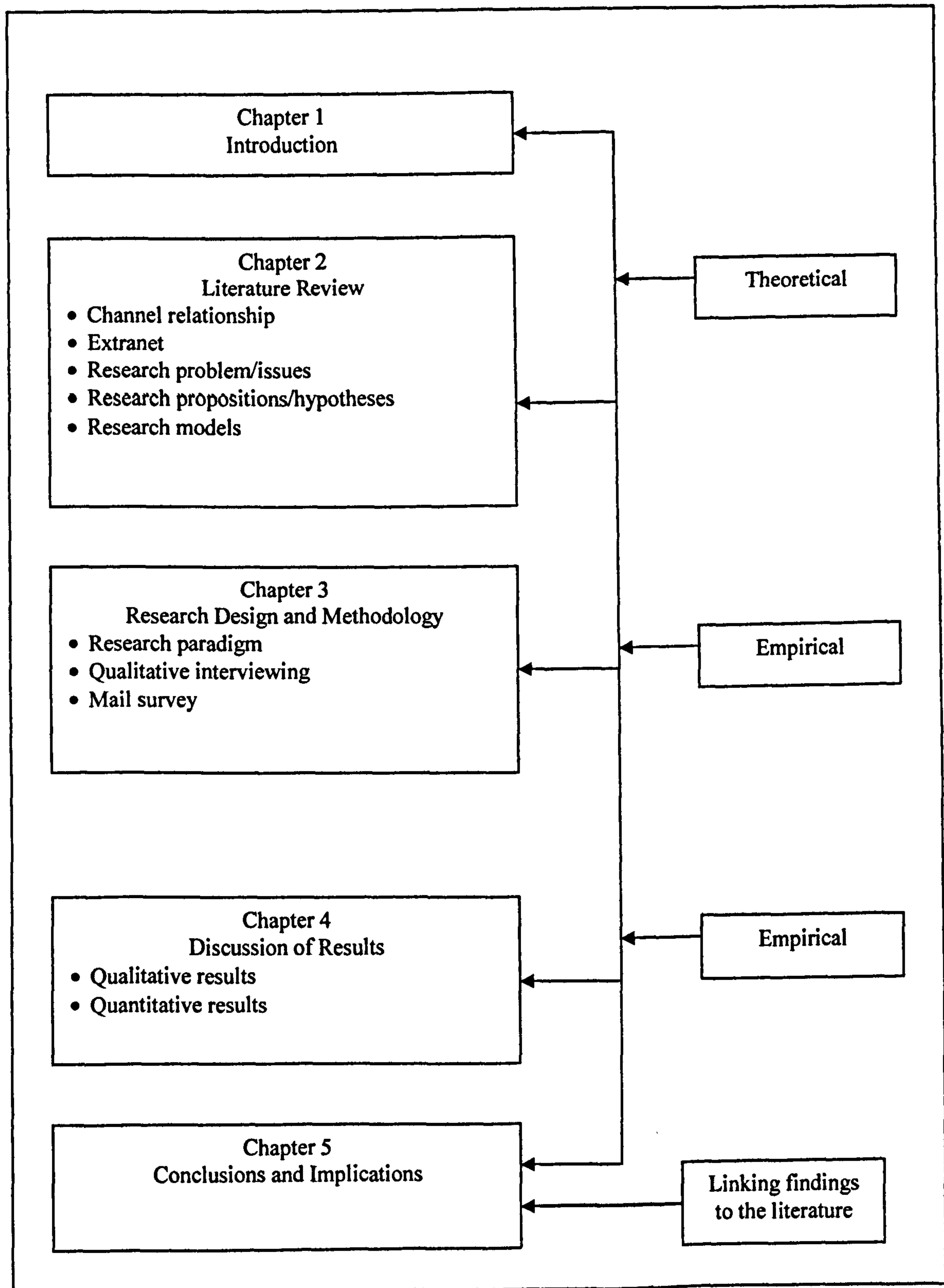
1.9 Structure of this Research

This research consists of five chapters. Figure 1.3 illustrates the structure of this thesis. Chapter 1 explains the background of this thesis, discusses the research problem, research issues, and the methodology employed, defines key terms and outlines the rest of the thesis.

Chapter 2 synthesises the literature – channel relationship and extranet – and the results obtained from face-to-face in-depth interviews to develop the research issues, propositions and hypotheses. From this synthesis, a theoretical framework and research models are developed for quantitative analysis.

Chapter 3 discusses and justifies the methodologies used in this research – both qualitative and quantitative. First, research paradigms are discussed to justify the in-depth interviewing and mail survey methods employed in this research. Secondly, in-depth interviewing is discussed and justified as an appropriate

FIGURE 1.3
Structure of the Research



method for obtaining preliminary data from both distributors and suppliers about their perceived impact of the extranet on channel communication, channel relationships and other issues they consider important. Thirdly, mail surveys are discussed and justified as an appropriate method for collecting the data to test the research propositions, hypotheses and models developed in chapter 2. In addition, this chapter also discusses the concepts and operational definitions of variables used in the models, mail survey design, questionnaire design, sampling design, measurement issues, and validity, reliability, and error issues.

Chapter 4 reports and discusses the results of both in-depth interviewing and mail survey. For quantitative analysis, descriptive statistics and chi-squared tests of independence are first calculated. Then correlation analysis is carried out. Finally, both simple regression and multiple regression analysis are used to test the models developed in chapter 2.

Chapter 5 discusses the conclusions drawn from the results reported in chapter 4. In relation to the research issues, propositions, and hypotheses, this chapter highlights the issues that are both similar and contrasting to the existing literature and discusses new views emerging from this research. In addition, theoretical and managerial contributions are also discussed as well as areas for further research.

1.10 Summary

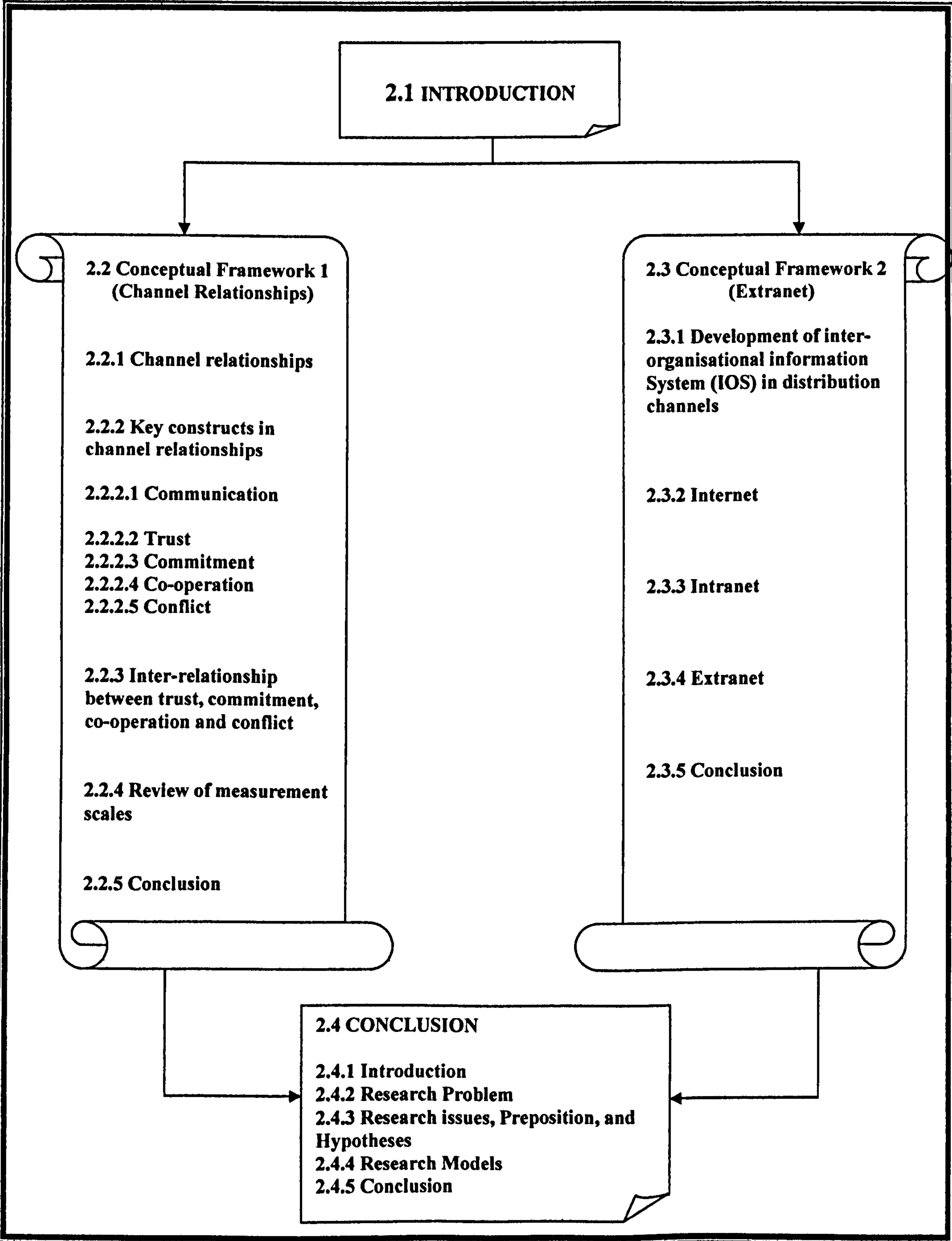
This chapter has laid the blueprint for the thesis. First, it explained the background of this research. Secondly, it discussed and justifies the research problem, research issues and the research methodology. Finally, it outlined the thesis, and defined certain terms. On these foundations, the thesis can proceed with the review of literature in chapter 2.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The purpose of this chapter is to build a conceptual framework of this research and to develop research issues, research propositions, research hypotheses and research models for data collection and analysis. Accordingly, this chapter is organised into four sections as shown in Figure 2.1. Following the introduction, the two background theories of channel relationships and extranets are reviewed. Section 2.2 analyses the important role of relationships in distribution channels and examines the key attributes of channel relationships in order to provide an understanding of the development and interpretation of current studies. Section 2.3 explores the development of interactive communication technologies, namely, the Internet, the World Wide Web (WWW), intranet and extranet, and discusses the potential impact of the extranet on communication and relationships in distribution channels. Finally, section 2.4 concludes the chapter.

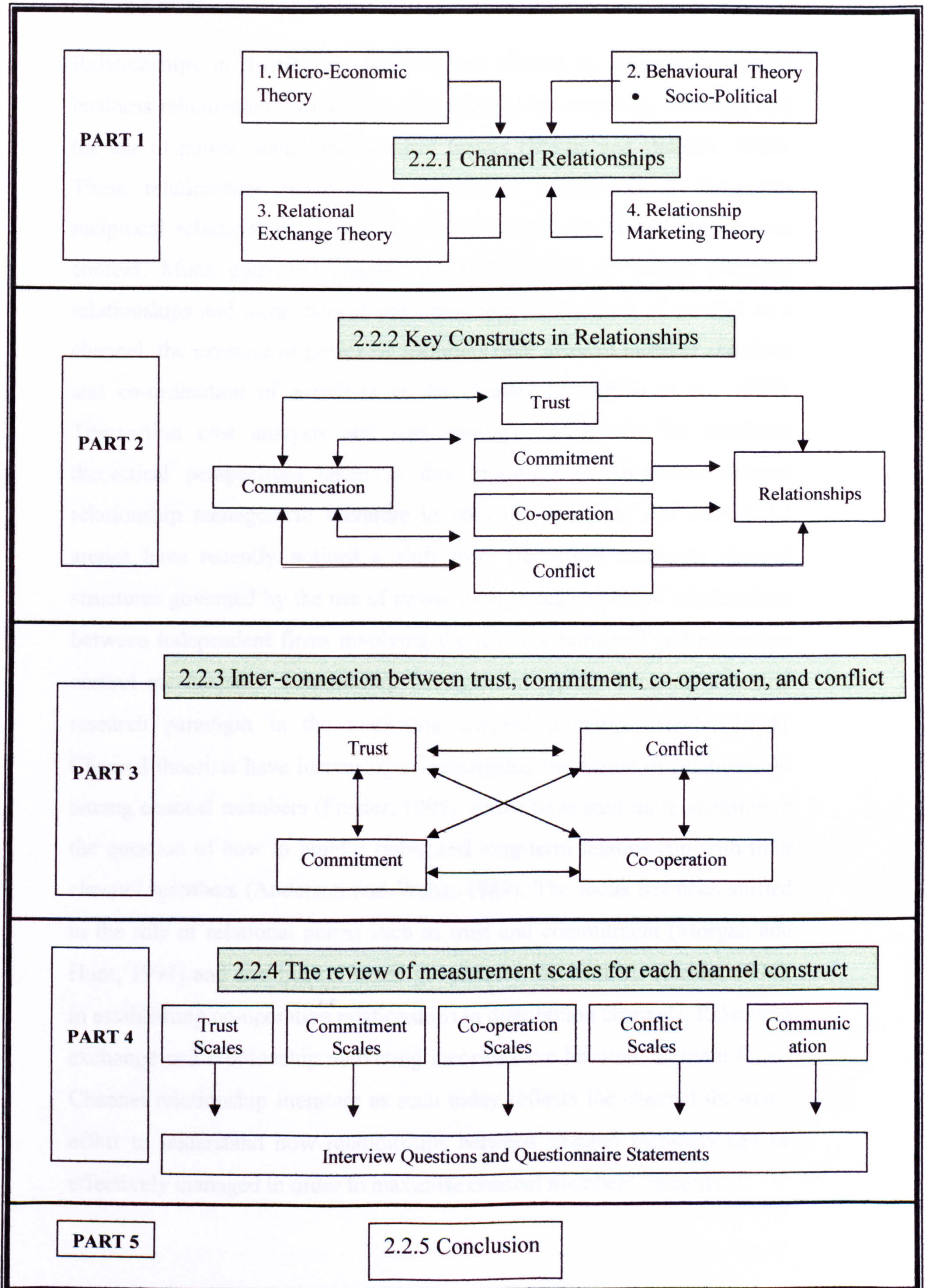
FIGURE 2.1
Structure of Chapter Two



2.2. Conceptual Framework 1: Channel Relationships

The purpose of this section is to explore the role of relationship in distribution channels, and key attributes of a successful relationship as described in marketing literature. The section is divided into five parts, including a conclusion as illustrated in Figure 2.2. The first part (2.2.1) reviews relationships in channel marketing literature and the theoretical contributions made by various schools of thought such as micro-economic; socio-political; relational exchange and relationship marketing. The second part (2.2.2) analyses key constructs in channel relationships, namely, trust; commitment; co-operation; conflict and communication. In this part, the potential links between communication and other relational constructs (trust, commitment, co-operation, and conflict) are also explored. The third part (2.2.3) examines the relationships between relational constructs. The fourth part (2.2.4) reviews the means for measuring communication and other relational constructs. Conclusions are drawn in the final part of this section (2.2.5).

FIGURE 2.2
Outline of Channel Relationship Literature



2.2.1 CHANNEL RELATIONSHIP

Relationships

Relationships in distribution channels are viewed as inter-organisational business relationships, which are characterised by economic exchange and the use of power, social and political factors (Möller and Halinen, 2000). These relationships range from market-like transactions to long-term reciprocal relationships, depending on the complexity within the channel context. Much empirical channel research focuses on factors affecting relationships and intra-channel processes such as the level of conflict in a channel, the exercise of power by suppliers over channel member activities and co-ordination of activities in the channel (Anderson et al., 1987). Transaction cost analysis and socio-political theory are the dominant theoretical perspectives taken in this investigation. However, channel relationship management literature in both the academic and managerial arenas have recently noticed a shift from traditional corporate channel structures governed by the use of power to the management of relationships between independent firms involving the use of contractual and normative control mechanisms. Relationship management rapidly becomes a central research paradigm in the marketing channel literature (Heide, 1994). Channel theorists have increasingly investigated the nature of relationships among channel members (Frazier, 1999). Firms have paid more attention to the question of how to build a stable and long-term relationship with their channel members (Anderson and Weitz, 1989). The focus has been shifted to the role of relational norms such as trust and commitment (Morgan and Hunt, 1994) and non-market based governance mechanisms (Heide, 1994), in establishing co-operative relationships in distribution channels. Relational exchange and relationship marketing theories have become the main focus. Channel relationship literature as seen today reflects the channel theorists' effort to understand how relationships between channel members can be effectively managed in order to maximise channel members' benefits.

Development of Channel Relationships

The growing interest in business-to-business relationship in marketing channels has started since the late sixties; however, the emphasis in the frameworks and theories focusing on dyadic relationships between channel members did not start until the late 1970s (Young and Wilkinson, 1989). Research focusing on channel relationships is often inspired by, for example, micro-economic theory (e.g. Heide and John, 1992), socio-political theory (e.g. Gattorna, 1978), relational exchange theory (e.g. Dwyer et al., 1987), and relationship marketing theory (e.g. Weitz and Jap, 1995). There has also been a number of studies that try to combine the economic, political and social aspects of channels (Möller and Halinen, 2000). In order to understand the concept of channel relationships, this section will start with the review of major research streams, namely, micro-economic, behavioural, relational exchange, and relationship marketing.

1. Micro-Economic

Micro-economic theory underpins most of the theoretical work carried out in the area of vertical marketing networks (Gattorna, 1978). In fact, the micro-economic approach draws on elements of institutional and functional theories as well as neo-classical economics in explaining the manner in which marketing functions are allocated to different institutions (Heide, 1994). It is dominated by economic theorists who worked in the marketing channel area at that time. The economic approach assumes that the primary goal of a channel structure is to achieve maximum operational efficiency at minimum costs. Channel intermediaries are perceived as a source of external economies for manufacturers because they may perform the delegated activities at a lower cost per unit than their suppliers. Individual firms are viewed simply as production units engaged in different functions. Although the notion of cost minimisation/efficiency maximisation is essential to successful channels design, there are also some other non-economic issues which are fundamental to the development of a coherent and realistic channel model such as inter-channel relationship, channel organisation, political issues, etc (Gattorna, 1978). Subsequently, several

microeconomic models have been criticised for failing to account for the processes that characterise relationships between channel members (Heide, 1994).

The major theoretical perspective developed in economics that plays a significant role in channel research is *transaction cost analysis*. The theory addresses a set of control and co-ordinating actions affecting channel relationships. However, it focuses on one firm making a decision to maximise its profits rather than two firms working together to maximise the profits generated by the relationship as well as their individual profits (Weitz and Jap, 1995).

- *Transaction cost analysis (TCA)*: Its primary subject matter is the design of efficient governance mechanisms for supporting exchange. The theory suggests that certain exchange characteristics may cause transaction difficulties and different governance mechanisms have different cost-minimising properties (Zajac and Olsen 1993). Consequently, firms try to organise their exchange relationships to minimise transaction costs that arise when it is difficult to value the goods or services exchanged. TCA theory, however, ignores interdependencies between organisations and takes the perspective of minimising transaction costs incurred by a single firm, not the costs incurred by both firms in the transaction (Zajac and Olsen 1993). The major contribution of TCA theory to channel relationship management is the use of idiosyncratic investment to commit the channel members to maintain the relationship. However, channel research has identified additional factors that serve to preserve relationships such as trust and commitment (Morgan and Hunt, 1994; Anderson and Weitz, 1989; 1992).

2. Behavioural School

Responding to the limitations of the former approach, behavioural theorists focus on the design of mechanisms for controlling the role performance of individual channel members (Heide, 1994). Influenced by a behavioural

system approach, marketing researchers have given more attention to behavioural interactions among channel members. Adhering to the fundamental premise of the economic approach, a behavioural theory suggests that behavioural interactions have a profound impact on channel performance and the conduct of channel members (Gattorna, 1978). According to Weitz and Wensley (1988), the behavioural approach holds that if behavioural interactions in the dyadic channel is effectively managed and co-ordinated, the effectiveness of distribution operations would be increased, leading to sustainable competitive advantages in the market place. This approach has been considered as the foundation for the concept of relationship management (Weitz and Wensley, 2988). This shift reflects the growing awareness of socio-political theory among channel researchers. The behavioural paradigms, however, are subject to criticism most commonly for focusing on behavioural phenomena in isolation from their antecedent conditions and outcome (Heide, 1994).

- **Socio-Political Behavioural Influence:** The socio-political behavioural influence is the core concept of the behavioural school. According to Achrol (1991), channel co-operation, involving complex exchange relationships among channel members, is governed by a sophisticated socio-political system. Research into the reality of socio-political influences in distribution channels has emerged as a dominating area (Andersson, 1992). In the empirical research, several studies were carried out to analyse factors affecting intra-channel processes, for example, the level of conflict in a channel (Etgar, 1979; Rosenberg and Stern, 1971); co-operation of activities in the channel (Etgar, 1976b), and the amount and type of communication in the channel (Guiltinan et al., 1980). This approach, however, used to be subject to criticism for over focusing on the concepts of power and conflict. Indeed, during the 1970s, the power construct became the focus in channel relationships with noteworthy contributions by El-Ansary and Stern (1972), Hunt and Nevin (1974), and Wilkinson (1974). In the early 1980s, the concept of power was associated with the use of coercion as opposed to rewards. This emphasis was, however, criticised as exploring sick rather than healthy relationships and distorting the understanding of how channels

function (Alderson, 1967, Young and Wilkinson, 1989). When it was revealed that the use of coercion was likely to weaken channel relationships, power seemed to lose its major strength (Andersson et al., 1996). Nevertheless, power still has an influence in channel research and is considered as a well-researched topic. Conflict is another well-researched concept in the early 1980s (e.g. Gaski, 1984). It was previously viewed as the inevitable consequence of failed coercion. The main emphasis was centred on how to get the upper hand in channel conflicts (Andersson et al., 1996). Despite the decline of the power concept, conflict still plays an important role in channel relationships. Channel theorists still seek to understand how conflict should be handled and how it can be used to enhance channel relationships (e.g. Anderson and Narus, 1990; Mohr and Spekman, 1994; Morgan and Hunt, 1994). The rich tradition of both conflict and power concepts in channel research is, indeed, evident. We now better understand how power originated and is applied; how control of the channel relationship is facilitated; and what inter-channel conflict is based upon (Frazier, 1999).

3. Relational Contracting Theory

The relational contracting theory is one of the critical areas in understanding relationships in marketing channel theory (Nevin, 1995). The theory was first introduced to the marketing literature by Dwyer et al. (1987). According to Macneil (1974), exchanges can be distinguished by the nature of the exchange relationship between parties – relational or discrete. In *discrete* exchange, individual transactions are assumed to be independent of past and future relations between channel members and establish nothing more than the transfer of ownership to a product or service. In fact, pure discrete transactions are very rare in business exchange (Macneil, 1980), because almost all channel transactions have some relational elements that can be used to co-ordinate channel activities and manage relationships between channel members (Weitz and Jap, 1995). In *relational* exchange, however, the historical and social contexts where transactions take place are counted (Dwyer et al., 1987). Both exchanges can be viewed as a

continuum. The relational structure consists of relationships toward the relational end of the continuum whereas the discrete structure includes exchanges toward the discrete end of the continuum. The relationship contractual theory has been employed by several channel theorists to explain relationship development in distribution channels (e.g. Dwyer et al., 1987; Weitz and Jap, 1995)

4. Relationship Marketing

Relationship Marketing has been perceived as a paradigm shift from transactional marketing (Palmer, 2000). There have been many attempts to define relationship marketing; however, no single definition of relationship marketing is universally accepted (Robicheaux and Coleman, 1994). Morgan and Hunt (1994) refer relationship marketing to “all marketing activities directed toward establishing, developing, and maintaining successful relational exchanges” (p.22). According to Jackson (1985), relationship marketing is “marketing oriented toward strong, lasting relationships with individual accounts” (p.2). These definitions of relationship marketing reflect the shared commonality. The objective of relationship marketing is to establish, develop, and maintain successful relational exchanges (Nevin, 1995). Relationship marketing rapidly becomes a central research paradigm in marketing channels literature (Heide, 1994). With the decline of the power concept in channel relationship research, channel theorists have shifted their focuses to co-operative aspects of relationships. Here, the concept of co-operation has re-emerged in channel literature (Andersson et al., 1996). Indeed, the importance of co-operation has long been recognised by channel theorists (e.g. Alderson, 1965); however it did not attract much attention at that time. Strongly influenced by relationship marketing theory, channel theorists have recently provided new insights about how factors such as trust and commitment can influence behaviour in channel relationships (Anderson and Weitz, 1992; Doney and Cannon, 1997; Morgan and Hunt, 1994). Emphasis has been placed on the development of longer-term channel relationships in which constructs such as trust, commitment, co-operation have received more attention (e.g., Dwyer et al., 1987; Weitz and Jap, 1995; Heide, 1994).

Channel literature has provided a better understanding about trust, commitment, and co-operation structures and their underlying determinants, such as communication (e.g. Anderson and Narus, 1990; Anderson and Weitz, 1989; 1992; Morgan and Hunt, 1994). According to Frazier (1999), relationship marketing had a profound effect on channels research, breathing new life and direction into this research area. This section has a summary of representative literature on channel relationships organised around the themes shown in Figure 2.2 (Section 2.2.1) and listed in Table 2.1.

TABLE 2.1
SUMMARY OF REPRESENTATIVE CHANNEL RELATIONSHIP LITERATURE (BOTH CONCEPTUAL AND EMPIRICAL STUDIES)

	Focus	Type of research	Authors	Key issues relevant to the research
Part 1	• Power concept	• Empirical	• Etgar (1976b)	• Channel member's power is a result of his control over some power sources, and of dependency of other channel member upon him.
	• The relationship between Power and Conflict	• Empirical	• Lusch and Brown (1982)	• Coercive sources of power tend to increase the level of intra-channel conflict.
	• Co-operation in distribution channels	• Conceptual	• Stern and Reve (1980)	• Distribution channels are viewed as political economies.
Channel Relationships	• Inter-organisational behaviour in channels	• Conceptual	• Ganesam (1994)	• Determinants of long-term orientation in buyer-seller relationship
	• The relationship between transaction cost, channel constructs and resource allocation	• Empirical	• Anderson, Lodish and Weitz (1987)	• Resource allocation decisions are influenced by normative financial variables and inter-organisational climate characterised by goal congruity, mutual trust, and good communication.
(Empirical and Conceptual works, Section 2.2.1)	• Development of buyer-seller relationships	• Conceptual	• Dwyer, Schurr and Oh (1987)	• Relationships evolve through five stages (awareness, exploration, expansion, commitment, and dissolution) from discrete transaction to relational exchange.
	• The new marketing concept	• Conceptual	• Gummeson (1987)	• New developments in services and industrial marketing concern relationship, interaction and the long-term.
	• Business-to-business relationship	• Empirical	• Naude and Holland, 1996	• Relationship marketing is crucial for business-to-business relationship.
	• The impact of relationship marketing in distribution channels	• Empirical	• Weitz and Jap (1995)	• Relationship marketing has impacts on channel structure and control mechanisms.
	• Paradigm shift in distribution channel	• Conceptual	• Andersson, Johanson and Silver (1996)	• Channel focus has been shifted from competitive to co-operation.

Table 2.1 (Continued)
SUMMARY OF REPRESENTATIVE SCHOLARLY CHANNEL RELATIONSHIP LITERATURE (BOTH CONCEPTUAL AND EMPIRICAL STUDIES)

	Focus	Type of research	Authors	Key issues relevant to the research
Part 1 Channel Relationships	<ul style="list-style-type: none"> Transaction cost analysis and relational elements 	<ul style="list-style-type: none"> Empirical 	<ul style="list-style-type: none"> Noordewier, John and Nevin (1990) 	<ul style="list-style-type: none"> Performance in terms of acquisition costs is enhanced when, under conditions of uncertainty, firms introduce more relational elements into their purchasing arrangements.
	<ul style="list-style-type: none"> Limitation of transaction cost analysis 	<ul style="list-style-type: none"> Conceptual 	<ul style="list-style-type: none"> Zajac and Olsen (1993) 	<ul style="list-style-type: none"> Transaction cost analysis is not appropriate for inter-organisational strategy.
	<ul style="list-style-type: none"> Buyer-seller relationships 	<ul style="list-style-type: none"> Empirical 	<ul style="list-style-type: none"> Palmer and Bejou (1994) 	<ul style="list-style-type: none"> Relationships seem to develop through a life cycle in which empathy and credibility are key factors.
	<ul style="list-style-type: none"> Commitment concept 	<ul style="list-style-type: none"> Empirical 	<ul style="list-style-type: none"> Gundlach, Achrol, and Mentzer (1995) 	<ul style="list-style-type: none"> Relational norms provide social safeguards so that parties are confident about commitment intentions.
	<ul style="list-style-type: none"> Trust and power concepts 	<ul style="list-style-type: none"> Empirical 	<ul style="list-style-type: none"> Kumar (1996) 	<ul style="list-style-type: none"> Trust generates greater profits while power might be self-defeating in the long run.
	<ul style="list-style-type: none"> Developing co-operative relationships 	<ul style="list-style-type: none"> Empirical 	<ul style="list-style-type: none"> Langfield-Smith and Greenwood (1998) 	<ul style="list-style-type: none"> The shift from relationships characterised by strong use of power and bargaining position, to relationships based on trust and co-operation.
	<ul style="list-style-type: none"> Trust concept 	<ul style="list-style-type: none"> Empirical 	<ul style="list-style-type: none"> Geyskens, Steenkamp, and Kumar (1998) 	<ul style="list-style-type: none"> Trust exhibits a robust relationship with other channels relationship constructs. This finding supports the notion that trust is central to relationship marketing.
	<ul style="list-style-type: none"> The roots and direction of relationship marketing 	<ul style="list-style-type: none"> Conceptual 	<ul style="list-style-type: none"> Möller and Halinen (2000) 	<ul style="list-style-type: none"> Two types of relationship theory exist: market-based (more consumer-oriented RM) and network-based (more inter-organisationally-oriented RM).
	<ul style="list-style-type: none"> Buyer-seller relationship 	<ul style="list-style-type: none"> Empirical 	<ul style="list-style-type: none"> Cannon and Perreault (1999) 	<ul style="list-style-type: none"> The industry should move away from traditional selling techniques to consultative and more recently relationship selling.
	Section 2.2.1)			

2.2.2 Key Attributes of Channel Relationships

Channel relationship literature is now examined to determine the key variables that have been successful predictors of relationship performance in empirical studies. Although the focus of the research is on channel relationships, this research has also drawn upon other grounded theories, such as buyer-seller relationships, inter-firm relationships, and strategic alliances to develop a set of constructs that seem to define the outcome of a relationship (e.g. Anderson et al., 1987; Anderson and Narus, 1984; 1990; Anderson and Weitz, 1992; Heide and John, 1992). Several models have been developed, using the same variables to predict channel relationships. The summary of representative literature on key variables in channel relationships is listed in Table 2.2.

This research has focused on five relational constructs – communication, trust, commitment, co-operation and conflict. While other variables could be included, some boundaries had to be drawn, and those selected were shown previously to have theoretical and empirical support. (See Table 2.2)

TABLE 2.2
SUMMARY OF REPRESENTATIVE CHANNEL RELATIONSHIP LITERATURE WITH THE FOCUS ON ITS CONSTRUCTS

	Focus	Type of research	Authors	Relationship constructs
Part 2 Section 2.2.2	• Channel relationships	• Empirical	• Anderson and Weitz (1989)	• Stability in distribution channels can be enhanced by cultivating trust.
	• Inter-firm relationships	• Conceptual	• Young and Wilkinson (1989)	• Both trust and co-operation need to exist in inter-firm relationships.
	• Strategic alliance	• Empirical	• Spekman (1991)	• Communication, conflict resolution mechanism, co-ordination of work, joint planning, special investments, goal compatibility, and interdependence are characteristics of a strategic alliance.
Key constructs in Channel Relationships	• Channel relationships	• Empirical	• Anderson and Weitz (1992)	• Commitment is a key factor in channel relationship.
	• Paradigm shift	• Empirical	• Morgan and Hunt (1994)	• The presence of trust, commitment and co-operation is central to successful relationships.
	• Strategic partnership	• Empirical	• Mohr and Spekman (1994)	• Partnership attributes (trust, commitment, co-ordination, interdependence), communication behaviour (quality, information sharing, participation) and conflict resolution are keys to partnership success.
(Empirical and Conceptual Works)	• Buyer-seller relationships	• Conceptual	• Wilson (1995)	• Commitment, trust, co-operation, mutual goals, etc. are variables that have been used with success in modelling different relationship situations, particularly in the channels area.
	• Buyer-seller relationships	• Conceptual	• Fontenot and Wilson (1997)	• Trust, communication and conflict are common variables in the relationship.
	• Channel relationships	• Empirical	• Kim and Frazier (1997)	• Commitment is particularly important in exchange relationships.
	• Channel relationships	• Empirical	• Li and Dant (1997)	• Communication is essential to mounting appropriate controls, to co-ordinate channel activities and to make informed decisions that optimise the return on the resources invested.

Table 2.2 (Continued)
SUMMARY OF REPRESENTATIVE SCHOLARLY RELATIONSHIP LITERATURE WITH THE FOCUS ON ITS CONSTRUCTS

	Focus	Type of research	Authors	Relationship constructs
Key constructs in Channel Relationships (Empirical and Conceptual Works)	Marketing channel	• Conceptual	• Mohr and Nevin (1990)	• Communication moderates the impact of channel condition (power, structure, and climate) on channel outcomes (co-operation, satisfaction, commitment and performance).
	Buyer-seller relationships	• Empirical	• Han, Wilson and Dant (1993)	• Trust, commitment and satisfactory role performance are key component in relationships.
	Buyer-seller relationships	• Empirical	• Ganesan (1994)	• Trust is the key component of long-term relationships.
	Relationship marketing	• Empirical	• Evans and Laskin (1994)	• Communication, quality, loyalty, and satisfaction are crucial for relationships.
	Professional business service	• Empirical	• Barnes (1994)	• Trust, communication, commitment and satisfaction needs to exist in successful relationships.
	Supplier-distributor relationship	• Empirical	• Dyer and Chu (2000)	• Length of relationship, and face-to-face contact may have an impact on trust in the supplier-distributor relationship
	Inter-firm relationships	• Empirical	• Mohr, Fisher, and Nevin (1996)	• Collaborative communication may serve as a governance mode in inter-firm relationships
	Strategic alliance	• Empirical	• Smith (1997)	• Communication is the key to long-term relationship.
	Buyer-seller relationships	• Empirical	• Paun (1997)	• Communication and customisation are key components in a relationship.
	Buyer-seller relationships	• Empirical	• Selnes (1998)	• Effective communication, conflict handling, and commitment are key behaviours that channel members have to master.
	Buyer-seller relationships	• Empirical	• Doney and Cannon (1998)	• Trust encourages long-term relationships.
	Channel relationships	• Empirical	• Moorman et al. (1993)	• There are factors that can affect trust in market research relationships.

Table 2.2 (Continued)
SUMMARY OF REPRESENTATIVE SCHOLARLY RELATIONSHIP LITERATURE WITH THE FOCUS ON ITS CONSTRUCTS

	Focus	Type of research	Authors	Relationship constructs
Part 2 Section 2.2.2 Key constructs in Channel Relationships (Empirical and Conceptual Works)	• Channel relationships	• Conceptual	• Grabner and Rosenberg (1969)	• Communication is vital to the on-going management of channel relationships.
	• Service marketing	• Empirical	• Moorman, Zaltman and Deshpande (1992)	• Trust is potentially the most important behavioural factor affecting research use outcomes.
	• Organisational communication	• Conceptual	• Mohr (1992)	• Effective communication practices within and between firms is a crucial ingredient for marketing success.
	• Buyer-seller relationships	• Empirical	• Metcalf, Frear and Krishnan (1992)	• Co-operation is initiated in order to achieve efficiency, common goals, and a mutually beneficial relationship.
	• Services	• Empirical	• Shermwell, Cronin, and Bullard (1994)	• Relationships are characterised by trust and commitment.
	• Buyer-seller relationship	• Empirical	• Gundlach, Achrol and Mentzer (1995)	• Commitment is necessary in a relationship.
	• Channel relationships	• Empirical	• Mohr and Sohi (1995)	• Communication is very essential for the management of channel relationships.
	• Relationship marketing	• Conceptual	• O'Malley and Tynan (1997)	• Trust and commitment are key factors in a relationship.
	• Financial services	• Conceptual	• Alexander and Colgate (1998)	• Relationships are a series of transactions which build an awareness of a shared relationship through commitment, trust, communication, and shared value.
	• Customer relationships	• Empirical	• Garbarino and Johnson (1999)	• Satisfaction, trust and commitment have different roles in relationships.
• Market Orientation	• Empirical	• Simpson, Baker, and Sigauw (1999)	• Communication, trust, co-operative norms, shared values and dependency are important component in channel relationships.	
• Services	• Empirical	• Chaston (2000)	• Communication is vital for developing the long-term relationship.	

Table 2.2 (Continued)
SUMMARY OF REPRESENTATIVE SCHOLARLY RELATIONSHIP LITERATURE WITH THE FOCUS ON ITS CONSTRUCTS

	Focus	Type of research	Authors	Relationship constructs
Part 2	• Industrial marketing	• Empirical	• Donaldson (1996)	• Communication promotes closer relationships.
	• Channel relationships	• Empirical	• Weiss and Kurland (1997)	• Trust and commitment are crucial in channel relationships.
	• Channel relationships	• Empirical	• Geyskens, Steenkamp, Kumar (1998)	• Trust is a key variable in channel relationships, mediating the relations between antecedents and outcomes.
Section 2.2.2	• Channel partnerships	• Empirical	• Corbett, Blackburn, and Van Wassenhove (1999)	• Through the more open, frequent, and accurate exchange of information, companies can eliminate many problems.
	• Channel partnerships	• Conceptual	• Fein and Jap (1999)	• One challenge of building and maintaining relationships is conflict management.
Key constructs in Channel Relationships				
(Empirical and Conceptual Works)				

2.2.2.1 Communication

Marketing today has become more communication dependent. In fact, the vital role of communication in distribution channels has long been recognised by channel theorists (Kalafatis, 2000; De Ruyter et al., 2001; Stern and El-Ansary, 1992). It has been linked conceptually to structural issues such as the pattern of exchange relationships (e.g., Dwyer et al., 1987) and behavioural concepts such as power and conflicts (e.g., Etgar, 1979). According to Duncan and Moriarty (1998), communication plays the key role in relationship building, acting as the platform on which relationships are built. When properly done, communication is the key element that helps solve functional problems internally while closing the distance between the company and other parties.

Definitions of Channel Communication

In distribution channels where individuals interact and communicate on a regular basis (Weitz and Jap, 1995), channel communication has been described as “the glue that holds together a channel of distribution” (Mohr and Nevin 1990: 36), the solution to disputes, misunderstandings and role ambiguity (Etgar, 1979; Teas and Sibley, 1980), an important factor in the development of channel relationships (Mohr and Sohi, 1995), and a major key to resolve disagreements, speeding decision making and achieving a shared understanding of shared goals (Hutt et al., 2000)

Indeed, while many attempts have been made to define the role of communication in distribution channels (e.g. Anderson et al., 1987; Anderson and Weitz, 1989; 1992; Mohr et al., 1999; Mohr and Nevin, 1990; Mohr and Spekman, 1994; Morgan and Hunt, 1994; Stern et al., 1996) there seems to be few definitions in channel literature of what communication is. Duncan and Moriarty (1998) define communication as “the human activity that links people together and creates relationships”. According to Anderson and Narus (1990), communication is “the formal as well as informal sharing of meaningful and timely information between firms” (p.44). This definition

indicates the importance of certain attributes of communication such as information sharing and information quality.

Indeed, communication is a process rather than a static variable; therefore, it is one of the most difficult organisational variables to measure (Roberts and O'Reilly III, 1974).

Key Elements of Channel Communication

The operational definitions suggested by Anderson and Narus (1990) and other research suggest that three basic elements contribute a great deal to effective communication. These three elements are open information sharing, appropriate communication flows, and quality information (accurate, adequate, complete, reliable and timely). This section will examine each aspect in detail.

1. Open Information Sharing

Open information sharing is crucial for channel relationships and conventional industrial selling (Anderson and Weitz, 1989; Dwyer et al., 1987). Mohr and Spekman (1994) define information sharing as the extent to which critical, and proprietary information has been communicated to the exchange party. Kelly and Thibaut (1978) suggest that, through information sharing, exchanging parties come to understand better the outcome of their mutual behaviours. The information includes plans, programmes, expectations, goals and intelligence, which could potentially reduce decision making uncertainty (Huber, 1990). According to Heide and John (1992), information sharing defines a bilateral expectation that firms will proactively provide their partners with useful information that may affect their partners' operations. This notion suggests that the party is expected to share the information that may result in the other party's negative outcomes. Information sharing is, however, subject to various conditions. The factors that may affect information sharing are as follows:

- **Communication Media:** It is challenging for companies to develop information processing mechanisms capable of dealing with variety, uncertainty, co-ordination, and an unclear environment (Daft and Lengel, 1986). Some communication media are more suitable than the others under different situations. The nature of messages also decides which communication medium should be used. Each communication medium is different in terms of its capacity to process rich information (Daft and Lengel, 1984). There are four criteria for richness differences: the medium's capacity for immediate feedback, the ability to convey multiple cues via body language and tone of voice, the ability to tailor messages to personal circumstances, and language variety. According to Daft and Huber (1987), when tasks are non-routine and unfamiliar, managers prefer face-to-face modes of co-ordination. However, when tasks are routine, written rules and procedures are used. Thus, the inappropriate use of media in transferring the message, the lack of appropriate media, and medium malfunction may have a profound impact on the accuracy, timeliness, completeness and reliability of the information. This would eventually lead to miscommunication and conflict. Thus, it is very important that the right medium has been used at the right moment. Huber (1990) also states some mistaken impressions concerning communication media. That is, it is often mistaken that advanced information technologies are universally inferior or superior to traditional technologies. This notion may lead to medium misuse, resulting in misunderstanding, conflict and mistrust. Communication media that are well documented in marketing communication research are face-to-face, telephone, mail, fax and computer-mediated communication.

Face-to-face: Face-to-face interactions, the richest medium, have been found to lead to the development of positive feelings of attraction in various studies (Argyle, 1991). In the laboratory setting, individuals who can see and talk to each other and engage in social interaction are likely to develop a trusting and co-operative environment between them (Argyle, 1991). According to Daft and Lengel (1986), face-to-face

communication is viewed as an effective means of developing personal ties, thereby increasing trust between channel members.

Telephone: Telephone communication is less rich than face-to-face communication because of the absence of physical contact and visual cues. It relies on language content and audio cues to reach understanding. Thus, the essence of detailed and complicated information may be lost if it is transferred by this communication medium. Nevertheless, telephone communication still allows fast and immediate feedback, the use of voice tone, the use of natural language and personalised message (Huber and Daft, 1987).

Written Communication: Written communications – fax, letters, flyers, bulletins, reports – are generally lower in richness than face-to-face and telephone communication. Personally addressed documents such as letters and memoranda do not allow immediate feedback compare to face-to-face or telephone conversations. Visual cues are also limited (Huber and Daft, 1987).

Computer-mediated Communication: The advent of the Internet and communication technologies – electronic bulletin boards, list servers, electronic message and hypertext browsers (e.g. world-wide-web) and so on – provides companies with important alternatives to traditional communication channels such as face-to-face, telephone calls and postal mail (Kettinger and Groves, 1997). Electronic mail (e-mail), the most widely used computer-mediated communication technology, enables people from different companies to communicate, gather information, form teams and pass knowledge across time and place (Kettinger and Groves, 1997). It allows users to send a message across the world within a few minutes regardless of time and places. In e-mail communication, the message is mainly just text. Usual non-verbal dimensions of human communication – facial impression, appearance, personal distance, and other non-verbal cues – are largely missing (Rogers and Allbritton, 1995). In fact, electronic mail has several characteristics that are similar to telephone. For example, it has the capacity for rapid feedback and the

ability to reach a large, geographically dispersed audience. However, cues such as voice inflection are screened out and feedback will be less spontaneous than when the telephone is used (Huber and Daft, 1987). While e-mail is considered to have a relatively low degree of social presence because it lacks the verbal dimension of human communication (Rogers and Allbritton, 1995), it is a useful medium to connect channel members who do not normally have face-to-face or telephones contacts.

- **Information Overload:** While the development of new communication technologies provides the greater ease to obtain information across physical and social distance, it may also lead to problems of information overload (Rogers and Allbritton, 1995). In line with this notion, Mohr (1992) suggests that the increases in message input may result in information overload. Guetzkow (1965) observes that information overload can lead to information omission or the deletion of some aspects of messages intentionally and unintentionally and information distortion at the point of message reception.
- **Information Accessibility:** The accessibility of information is very important in distribution channels. The availability of relevant information typically improves the quality of communication and therefore increases the accuracy of decisions (O'Reilly, 1982). Further, immediate access to information can result in savings in time and money (Bayles, 1997). For example, Ford Motor Company's extranet provides Ford's 15,000 dealers world-wide access to promotional, inventory, and financial information (Vlosky et al., 2000). Ford Motor's extranet eliminates costly phone calls, faxes, travel expenses, and face-to-face meetings and the need to wait for the next business day in order to respond to a message. Indeed, in addition to promoting information sharing norms, companies need an effective communication strategy that enables authorised channel members to obtain critical information (i.e. customer information, market research) conveniently.
- **Perceptions and Attitude:** Communication is a very complex process. To communicate successfully, a sender and a receiver must understand a

message in the same way (Burgess, 1990). Communication is considered to operate on several levels simultaneously and the efficacy of the interplay between these levels will be influenced by the individual's sensitivities (DeVito, 1978). The level, to be discussed here, is the intrapersonal, occurring within the individual. This level includes a complex range of psychological issues incorporating notions of Sullivan's (1953) self system, which is the total range of an individual's experience. These are established through the interplay of their accompanying perceptions, cognition's, levels of affect, attitudes, beliefs, motivations, values and knowledge, which, acting in concert, provide a frame of reference from which an individual responds to a message. The messages that individuals receive need to be integrated with their own feelings and value system. Hence messages that cannot be harmonized with individual belief systems result in the development of certain feelings such as doubt and scepticism. According to Baguley (1994) and DiAngelo (1990), individuals tend to have pre-dispositions towards the meaning of any message. This may result from the lack of shared understanding and trust between individuals, which can lead to a wrong interpretation of received messages. It also reflects an unwillingness or inability of individuals to understand the received message, which can cause information withholding unintentionally.

- **External Factors:** There are external factors that channel members cannot control. For example, unexpected circumstances may interfere with the easy flow of data. Channel members may be distracted or disturbed by an urgent call while having a meeting and the other way round. Presentations may fail because photocopying machines self-destruct or sound systems collapse. Meeting may have to be cancelled because unexpected storms arrive. It can also be the situation that messages have been transferred to different levels, resulting in message distortion at the end of the message chain (Baguley, 1994). According to DeVito (1978), human communication uses vaguely defined symbols. People use a word thinking it has a specific meaning by a convention; but the recipient of the message may apply a different convention. Thus, any assumption about the prior knowledge on the subject matter may

result in confusions and misunderstandings. Message distortion may happen because the listener does not pay attention at a critical moment, and he misses something indispensable. In the worst case, he may not know what he missed.

2. Quality Information

Humans are social beings, so relationships form the foundation of our lives. Relationships are developed through communication, and at the same time, those relationships frame our communication with others. Information, the product of communication, is the tie that binds in any relationship (Schramm, 1973). In the financial service industry, for example, information is essential to prevent fraud. Customers can save time when companies use information already present at another affiliate to pre-fill applications for new services. Companies can also offer services proactively based on information which identifies a change in a customer's situation or behavior. Indeed, the appropriate use of information can produce real consumer's benefits of time, convenience, and fraud protections (Intranet Journal, 2003).

According to Schramm (1973), information makes decision making easier by reducing uncertainty. Information needs to be judged by certain characteristics because inappropriate information can lead to wasted resources and become a cause of conflict (Perez and Descals, 1999). Researchers have suggested several characteristics of quality information, for example, timely and meaningful (Anderson and Narus, 1990), critical and proprietary (Mohr and Spekman, 1994), timely, credible and relevant (Morgan and Hunt, 1994); timely, accurate, adequate, complete, and reliable (Mohr and Sohi, 1995). Based on the communication and channel literature, this thesis suggests that communication quality should be reflected in a message that is complete, credible, accurate, timely and adequate (Anderson and Narus, 1990; Mohr and Sohi, 1995; Morgan and Hunt, 1994; O'Reilly, 1982).

3. Communication flows

Studies of communication flow in channel relationships are very rare (See Mohr and Sohi, 1995 and Mohr and Nevin, 1990 for exceptions). Several aspects of communication flow have been identified in channel research such as frequency, bi-directionality, formality, and content (Mohr and Sohi, 1995; Weitz and Jap, 1995). Certain communication flows have an impact on channel members' perception about communication quality (Mohr and Sohi, 1995). Two aspects of communication flow, namely, frequency and two-way communications have been selected for this research because they both have consistent direct effects on information use and perceived relationship effectiveness. Although two-way communication is not prominent in previous research, it now appears to be at least as important as communication frequency in generating positive inter-functional outcomes (Fisher et al., 1997).

- **Communication Frequency:** Mohr et al. (1996) describe frequency of communication as the amount or duration of contact between channel members. In a relational channel structure where an extended relational exchange exists, communication appears to have a higher frequency (Dwyer et al., 1987). When channel members become more interdependent, a higher level of communication frequency may be essential for better *co-operation* (Mohr and Nevin, 1990). In addition, when relationships develop over time, interaction between channel members tends to involve a wider range of issues and require a deeper level of discussion (Miell and Duck, 1986). More frequent communication has also been found to contribute to more effective *conflict solving* and has a profound impact on the mutual *trust* and *commitment* in a relationship (Anderson and Weitz, 1989; 1992; Morgan and Hunt, 1994).

Nevertheless, frequent communication may have negative side effects. Although Guetzkow (1965) agrees that communication co-ordinates outputs, he argues that high frequency of contact between channel members can possibly cause dysfunctional outcomes. It is also suggested

that frequent communication may decrease decision-making performance while increasing the confidence of the decision maker at the same time (O'Reilly et al., 1987). Undesired, irrelevant and excessive information may lead to frustration and confusion which, in turn, lowers channel members' perceptions of communication quality (Daft and Lengal, 1986; O'Reilly, 1980; Mohr and Sohi, 1995).

- **Bi-directionality:** Bi-directionality or two-way communication is the “give-and-take” interaction where channel members are encouraged to exchange their feedback – question, clarify, and verify assumptions to ensure the accuracy, credibility and completeness of communication (Mohr and Sohi, 1995). According to Schramm (1973), feedback is very important to two-way communication and dialogue cannot exist without it. In terms of relationships, feedback is the extent of interaction that can strengthen relationships by enabling one party to track needs and wants of its partner, product performance and to respond to all of them quickly (Duncan and Moriarty, 1998). Uni-directional communication, on the contrary, does not give a partner an opportunity to make any contribution to the information exchange. This could result in confusion, which, in turn, leads to dissatisfaction. Dwyer, Schurr, and Oh (1987) observe, “a relationship seems unlikely to form without bilateral communication of wants, issues, inputs, and priorities” (p.17).

Communication: A Determinant of Trust, Commitment, Co-operation, and Conflict Solving

Recent research on the management of channel relationships has increasingly focused on channel communication (Mohr and Sohi, 1995). Channel theorists increasingly realise the important role of communication in the management of distribution channels. Importantly, communication is considered as an important factor in the development of channel relationships and assessments of relationship quality (Mohr and Sohi, 1995). For example, timely communication fosters trust by assisting in solving disputes (Moorman et al., 1993). If the firm perceives that their past communication with their channel member have been frequent and of high

quality, their trust in that channel member is likely to increase (Anderson and Narus, 1990, Anderson and Weitz, 1989; Morgan and Hunt, 1994). The literature also suggests that communication drives relationship commitment (Lewin and Johnston, 1997) because it can foster the company's confidence in the continuity of the relationship (Anderson and Weitz, 1992). Channel communications also serve to centre channel members, attention on activities vital to the co-ordination process (Fraizer and Summers, 1984) and without proper communication, a co-operative relationship is likely to suffer (Das and Teng, 1998). Finally, communication is also regarded as the key to stopping wars and conflicts of all types (Marwell and Schmitt, 1975).

Indeed, emphasis has been placed on communication as a determinant of relational constructs such as trust (Morgan and Hunt, 1994), commitment (Anderson and Weitz, 1992), co-operation (Anderson and Narus, 1990), and conflict resolution (Stern et al., 1996). The summary of representative literature on this issue is listed in Table 2.3. The relationship between communication and these relational constructs will be discussed in more detail in the next section.

Conclusion

This section examined the role of communication in channel relationships. It is evident from the literature that communication is a key ingredient to a successful relationship in distribution channels. Three key aspects of communication were identified in the literature: information sharing, quality of information, and communication flows. If these three aspects are managed effectively, the perceived quality of communication will be enhanced. For example, the use of communication media is crucial for the success of information sharing. Timely, accurate, and reliable information may have a profound impact on the overall communication quality. Frequency and two-way communication may also help companies strengthen their relationships with other channel members. Finally, relationships between communication and relational constructs were briefly examined. In line with the literature, this study posits that communication is a determinant of trust, commitment, co-operation, and conflict solving.

TABLE 2.3
Summary of Representative Channel Relationship Literature with the Focus on the Link between Communication and Other Constructs (Trust, Commitment, Co-Operation and Conflict)

	Focus	Type of research	Authors	The link between communication and other constructs
Part 2	• Intra-channel conflict	• Empirical	• Etgar (1979b)	• Ineffective communication can cause conflicts.
	• Inter-firm relationships	• Empirical	• Gultinan, Rejab, and Rodgers (1980)	• When inter-firm communications are perceived to be effective, co-operation and co-ordination tend to be high.
Section 2.2.2	• Channel relationships	• Empirical	• Anderson and Weitz (1989)	• Trust facilitates communication, and in turn, communication builds trust.
The Link between Communication and Other Constructs	• Channel partnerships	• Empirical	• Anderson and Narus (1990)	• Communication is antecedent of trust and co-operation.
	• Buyer-seller relationships	• Empirical	• Metcalf et al., (1992)	• Communication (exchange of information and interpersonal contacts) impacts the co-operation between buyers and sellers.
(Trust, Commitment, Co-operation, and Conflict	• Channel Relationships	• Empirical	• Anderson and Weitz (1992)	• Communication helps channel members achieve co-operation and motivates them to commit to a relationship.
	• Buyer-seller relationships	• Empirical	• Morgan and Hunt (1994)	• Communication is a key antecedent of trust.
Resolution)	• Buyer-seller relationships	• Empirical	• Kumar (1996)	• Bilateral communication increases trust.
	• Channel relationships	• Empirical	• Lewin and Johnston (1997)	• Communication is a major precursor to trust and commitment.
(Empirical and Conceptual Works)	• Buyer-seller relationships	• Empirical	• Selnes (1998)	• Communication has a strong effect on trust.
	• Relational exchange	• Conceptual	• Whitener, Brodt, Korsgaard, and Werner (1998)	• Communication signals commitment.
	• Channel relationships	• Empirical	• Mohr, Fisher and Nevin (1999)	• Communication solves conflicts.
				• Communication affects perceptions of trustworthiness.
				• Communication has a strong and positive affect on channel members' commitment, co-operation and satisfaction.

Table 2.3 (Continued)
Summary of Representative Channel Relationship Literature with the Focus on the Link between Communication and Other Constructs (Trust, Commitment, Co-Operation and Conflict)

	Focus	Type of research	Authors	Relationship constructs
Part 2 Section 2.2.2	• Relational exchange	• Conceptual	• Arndt (1979)	• Two-way communication has an impact on co-operation.
	• Relational exchange	• Empirical	• Macneil (1980)	• Communication forms another tactic to boost trust among partners.
The Link between	• Channel relationships	• Empirical	• Fraizer and Summers (1984)	• Communication serves to centre channel members attention on activities vital to the co-ordination process.
	• Channel relationships	• Empirical	• Bialaszewski and Giallourakis (1985)	• Communication behaviours between channel members have been linked to trust.
Communication and Other	• Communication	• Conceptual	• Rogers and Albritton (1995)	• Communication has also been found to contribute to more effective conflict solving
	• Buyer-seller relationships	• Empirical	• Heide and Miner (1992)	• Frequent communication has an impact on co-operation.
Constructs (Trust, Commitment, Co-operation, and	• Service marketing	• Conceptual	• Berry (1995)	• Regular sharing of information conveys one party's interest in its partner's welfare.
	• Channel relationships	• Empirical	• Mohr and Spekman (1994)	• Communication is an overt manifestation of commitment.
Conflict Resolution)	• Strategic alliance	• Empirical	• Smith (1997)	• Communication is an important criterion of commitment.
	• Strategic alliance	• Conceptual	• Das and Teng (1998)	• Communication makes channel members learn about each other trustworthiness.
(Empirical and Conceptual Works)	• Buyer-seller relationship	• Empirical	• Langfield-Smith and Greenwood (1998)	• Communication forms a key component in developing co-operation.
	• Channel relationships	• Empirical	• Dyer and Chu (2000)	• Face-to-face communication is one of the factors that increase the level of trust.

Table 2.3 (Continued)
Summary of Representative Channel Relationship Literature with the Focus on the Link between Communication and Other Constructs (Trust, Commitment, Co-Operation and Conflict)

	Focus	Type of research	Authors	Relationship constructs
Part 2 Section 2.2.2 The Link between Communication and Other Constructs (Trust, Commitment, Co-operation, and Conflict Resolution) (Empirical and Conceptual Works)	<ul style="list-style-type: none"> Buyer-seller relationships 	<ul style="list-style-type: none"> Conceptual 	<ul style="list-style-type: none"> Dwyer, Schurr, and Oh (1987) 	<ul style="list-style-type: none"> Communication influences relationship commitment.
	<ul style="list-style-type: none"> Service marketing 	<ul style="list-style-type: none"> Empirical 	<ul style="list-style-type: none"> Parasuraman, Berry, and Zeithaml (1991) 	<ul style="list-style-type: none"> Strong resentment and mistrust is caused by poor communication.
	<ul style="list-style-type: none"> Marketing organisation 	<ul style="list-style-type: none"> Conceptual 	<ul style="list-style-type: none"> Achrol (1991) 	<ul style="list-style-type: none"> Sharing information is crucial to developing trust.
	<ul style="list-style-type: none"> Long-term relationships 	<ul style="list-style-type: none"> Empirical 	<ul style="list-style-type: none"> Gundlach, Achrol and Mentzer (1995) 	<ul style="list-style-type: none"> Sharing information influences relationship commitment.
	<ul style="list-style-type: none"> Channel relationships 	<ul style="list-style-type: none"> Conceptual 	<ul style="list-style-type: none"> Weitz and Jap (1995) 	<ul style="list-style-type: none"> Conflict resolutions are facilitated if the parties understand each other's motivational structure through mutual communication.
	<ul style="list-style-type: none"> Channel relationships 	<ul style="list-style-type: none"> Empirical 	<ul style="list-style-type: none"> Geyskens, Steenkamp, and Kumar (1998) 	<ul style="list-style-type: none"> Communication has the greatest (positive) affect on trust.
	<ul style="list-style-type: none"> Buyer-seller relationships 	<ul style="list-style-type: none"> Empirical 	<ul style="list-style-type: none"> Nielson (1997) 	<ul style="list-style-type: none"> The absence of communications has been seen as a cause of conflict.
	<ul style="list-style-type: none"> Buyer-seller relationships 	<ul style="list-style-type: none"> Empirical 	<ul style="list-style-type: none"> Cannon and Perrault (1999) 	<ul style="list-style-type: none"> Information proprietary information is unlikely to occur in the absence of trust.
	<ul style="list-style-type: none"> International channel relationships 	<ul style="list-style-type: none"> Empirical 	<ul style="list-style-type: none"> Liu and Wang (1999) 	<ul style="list-style-type: none"> Frequent communication enhances co-ordination in channel relationships.
	<ul style="list-style-type: none"> Strategic alliance 	<ul style="list-style-type: none"> Conceptual 	<ul style="list-style-type: none"> Hutt, Stafford, Walker and Reingen (2000) 	<ul style="list-style-type: none"> Communication can strengthen co-operative relationship. Communication is crucial in resolving conflicts. Communication is crucial in building trust.

Table 2.3 (Continued)
Summary of Representative Channel Relationship Literature with the Focus on the Link between Communication and Other Constructs (Trust, Commitment, Co-Operation and Conflict)

	Focus	Type of research	Authors	Relationship constructs
<p>Part 2 Section 2.2.2 The Link between Communication and Other Constructs (Trust, Commitment, Co-operation, and Conflict Resolution) (Empirical and Conceptual Works)</p>	<ul style="list-style-type: none"> • Inter-firm co-operation • Relationship marketing 	<ul style="list-style-type: none"> • Empirical • Conceptual 	<ul style="list-style-type: none"> • Dickson (1992) • Colgate and Alexander (1998) 	<ul style="list-style-type: none"> • The sharing of advantageous information is an indicator of co-operation. • Commitment can be developed by communication.

2.2.2.2 Trust

In marketing, much research on trust has been conducted in the context of distribution channels (e.g., Anderson and Narus, 1990; Anderson and Weitz, 1989; Harrison, 2003; Morgan and Hunt, 1994; Priluck, 2003, Solberg and Nes, 2002; Stone and Mason, 2000) in which vulnerability is created by the high degree of inter-dependence in channel relationships (Gundlach and Cadotte, 1994; Kumar et al., 1995a). Indeed, it is evident from the literature that trust plays an essential role in the development of long-term relationships in distribution channels especially as short-term inequities are inevitable in any relationship (Gounaris and Venetis, 2002). Trust allows firms to take risks because their partners are not expected to act opportunistically (Morgan and Hunt, 1994). By creating a trusting atmosphere channel members hope that those risks can be reduced (Pérez and Descals, 1999) without engaging extensively in, for example, monitoring their partners or building safeguards through contracts in the relationship (Andaleeb, 1996). These benefits should build attachment and engender the firm's desire to strengthen and continue the relationship. Finally, through trust, parties in a relationship develop confidence that, over the long-term, opportunistic behaviours will be diminished to yield a long-term benefit (Dwyer et al., 1987). Before exploring other aspects of trust, it is first necessary to understand its definition. Definitions of trust will be discussed next.

Nature of Trust

Marketing research on trust primarily focuses on two targets of trust: the firms and their sales people (Doney and Cannon, 1997). Indeed, it is suggested that people can develop trust in organisations (Morgan and Hunt, 1994) as well as individuals. In other words, customers can trust the firm or its representatives, or both. It is also suggested that a reciprocal causal relationship exists between the two targets of trust. That is when customers first start their relationship with a firm, their limited experience of the firm does not allow them to build trust with the firm itself. Trust of the firm can be, then, inferred on the basis of their perceptions of the salesperson's

trustworthiness. The customer's trust in the salesperson can then be transferred to the firm itself. Nevertheless, previous interactions with the supplier firm and other members of its sales force also provide a basis for inferring the extent to which a current salesperson can be trusted (Doney and Cannon, 1997).

In an industrial buying context, vulnerability comes from the *buyer's dependence* on a supplier firm and/or its salesperson. Buyers' risk emerges primarily when purchase situations involve modified re-purchase or new tasks. Further, suppliers' policies and strategies can affect the buying firm's costs and quality. Hence, the buying firm's relationship with the salesperson is very crucial as the salesperson, their primary contact with the suppliers, can provide valuable information and consultation to the buying firm. Indeed, to make current purchase decisions and develop long-term relationships, buying firms must determine the extent to which they can trust suppliers and their sales people (Donney and Cannon, 1997).

This research, however, is conducted in the context of distribution channels in which vulnerability is created by the high degree of *inter-dependence* usually found in channel relationships (Gundlach and Cadotte, 1994; Kumar et al., 1995a). As switching costs are relatively high in distribution channels, relational constructs central to building long-term relationships with customers such as trust are often emphasised in the literature.

Definition of Trust

The concept of trust has been widely studied and therefore, diversely interpreted. Some studies treat trust as a cognitive, expectation, or affective sentiment, while others regards trust as a behavioural intention or risk-taking behaviour. Trust has also been considered as a positive outcome.

Moorman, Deshpandé and Zaltman (1993) define trust as a "willingness to rely on an exchange partner in whom one has confidence" (p.315). This definition suggests that trust does exist when both belief and behavioural

intention components are present. In other words, if one believes that a partner is trustworthy, one must be willing to rely on that partner.

Ganesan (1994) conceptualises trust as the belief that the partner is credible and benevolent. Credibility refers to as the retailer's belief in the vendor's expertise to perform the task effectively and reliably while benevolence is the retailer's belief that the vendor has intentions and motives beneficial to the retailer when new conditions arise.

Andaleeb (1996) defines trust as the willingness of a firm to rely on the partners' behaviour especially when those behaviours have outcome implications for the firm bestowing trust. That is, trust bestowal is preceded by the firm's belief that the exchange partner's action will lead to favourable outcomes.

Anderson and Narus (1990) suggest that the trusting partner is likely to perform actions that will result in positive outcomes for the firm, as well as not take actions that will result in negative outcomes for the firm.

Doney and Cannon (1997) define trust as "the perceived credibility and benevolence of a target of trust" (p. 36). The credibility of the party is related to the documentation or statements made during the course of a business relationship. That is trust requires "say-do" parity – the belief that what is said or promised, is what will be done. This is credibility at its finest and a foundational aspect of building, maintaining, or repairing trust.

Benevolence is the conceptualization that one party is genuinely concerned for the other's welfare and is motivated by seeking a joint gain in the relationship. It can also be used as an assessment that a trusted individual is concerned enough about the company's welfare to either advance their interests, or at least not impede them (Ganesan, 1994). Indeed, trust involves a sense of benevolence. It is the assurance that the company's interests will be well represented by another. So even if the company is not present, the person or trusted institution is expected to watch out for them.

This definition of trust also suggests that trust is dynamic rather than static. That is, companies are faced with a series of different interactive processes through different modes of communication. This will bring about consequences to the way their business partner's credibility and benevolence is perceived. In other words, trust is a state in which the affective and/or cognitive dimension has its roots in the company's pre-perception of the other party's credibility and its genuine interest in the company's welfare. This perception will be validated during the relational exchanges with a series of evidence, which provides trust with a more objective dimension (Smeltzer, 1997). Indeed, companies use emotional memory affected by past experiences to check if there is any evidence in the past to suggest that the other party is not trustworthy.

This research has chosen the measurement scale for trust developed by Doney and Cannon (1997) for this study because the researchers make a clear distinction between the measure of supplier firm's trust and the measure of the salesperson's trust. Indeed, ones may trust the salesperson without trusting the organisation where he/she belongs to. On the contrary, ones may trust the organisation but distrust the salesperson who represents the company. As this research aims to measure the impact of the extranet on the IFA's trust in the insurer as an organisation, the measurement scales developed by Doney and Cannon (1997) is appropriate for this research.

Trust is also defined as the confidence in the reliability and integrity of the exchange partner (Morgan and Hunt, 1994), the belief that the partner is honest and benevolent (Kumar et al. 1995b), the firm's belief that its needs will be fulfilled in the future by actions undertaken by the partner (Anderson and Weitz, 1989) and the belief that the partner can be relied upon to behave in such a manner that one's long-term interests will be served (Crosby et al., 1990). The development of trust relies on the positive experiences, where channel members demonstrated their trustworthiness and integrity to each other (Pérez and Descals, 1999).

Communication: A Determinant of Trust

Direction of Relationship

In response to the criticism for focusing on behavioural constructs in isolation from their antecedent conditions and outcomes, channel theorists have tried to establish causal ordering among channel constructs. However, most empirical channel studies collect cross-sectional data examining a relationship at one point in time. This leads to uncertainty about causal ordering among channel constructs (Weitz and Jap, 1995).

Although it is evident in the channel literature that communication behaviours between channel members have been linked to trust (e.g., Anderson and Narus, 1990; Anderson and Weitz, 1992; Bialaszewski and Giallourakis, 1985), there is uncertainty about causality between them. For instance, Anderson and Weitz (1989) suggest that trust facilitates communication and communication, in turn, builds trust. Morgan and Hunt (1994) argue that communication leads to increased trust. Anderson and Narus (1990), however, argue that the process of establishing, maintaining, and enhancing successful channel relationships is iterative. That is, the sharing of timely and valuable information between firms is a key antecedent of trust; however, the accumulation of trust will lead to increased sharing of information and better communication in subsequent exchanges between parties. This view has been supported by Weitz and Jap (1995) who contend that the relationship between channel members, who are strangers, begins with informal communications that may lead to small exchanges of sensitive information or a minor economic transaction and trust plays a minor role in these early stages. This study posits that when a firm perceives that their past communications with their channel members have been of high quality, their trust in channel members will be greater.

Relationships between Trust and Different Aspects of Communication

Open Information Sharing and Trust: According to Heide and John (1992), information sharing defines a bilateral expectation that parties will

proactively provide useful information for the partner. Getting information on an ongoing basis enables the party to cope better with the vulnerability that may arise in the future. Berry (1995) also observes that regular sharing of information conveys one party's interest in its partner's welfare. Channel members need to collect evidence about their partners' credibility and trustworthiness and communication facilitates this process (Das and Teng, 1998). In fact, sharing timely and relevant information without withholding or altering potential data appears to increase the confidence in the partner's reliability and intentionality (Anderson and Narus, 1990). As the reciprocal process starts to gain credibility, sustained information flow between channel members should create a trusting environment (Das and Teng, 1998). Through information sharing, channel members identify and develop more commonalities, so the sense of trust would be reinforced. Doney and Cannon (1997) also add that the extent to which a channel member shares *confidential* information with its partner provides a signal of good faith to the partner. Buyers tend to trust suppliers who disclose confidential information because they realise that suppliers make themselves vulnerable by risking a substantial investment. Therefore, sharing confidential information provides a signal to the buyer that the supplier's motives and intentions are benevolent and, therefore, can be trusted (Doney and Cannon, 1997).

Communication Frequency and Trust: In a relational channel structure where an extended relational exchange exists, communication appears to have higher *frequency* (Dwyer et al., 1987). It has been demonstrated that the frequency of communication has a profound impact on mutual trust in channel relationships (Anderson and Weitz, 1989; Morgan and Hunt, 1994). In their study of the development of trust in the salesperson, Doney and Cannon (1997) discovered that frequent contacts between salespersons and customers either for business or social purposes can engender trust because the salesperson's behaviour can be observed by customers in various situations. It is suggested that a key determinant of relationship maintenance is the frequency of contact and communication between companies either for business or social reasons. There is a positive relationship between contact intensity and trust (Crosby et al., 1990).

Two-way Communication and Trust: Communication tends to be more *two-way* when trust exists and there is a strong connection between unidirectional flows of communication and a low degree of trust (Mohr and Nevin, 1990). Trusting partners tend to engage in a high level of two-way communication and, to a certain extent, to be involved in each other's business planning (Anderson and Weitz, 1990). Two-way communication also enables one party to track the needs and wants of its partner, product performance and to respond to all of them quickly (Duncan and Moriarty, 1998). By sharing and giving sensitive or proprietary information through two-way interchanges, channel members can achieve trustworthy relationship interchanges (Anderson and Weitz, 1992).

Conclusion

This section examined the role of trust in channel relationships. The nature of trust was explored and its definitions were examined. Finally, the relationship between trust and communication as a determinant of trust was investigated. Indeed, it is evident in the literature that communication can facilitate trust between channel members. That is, the sharing of communication, frequency of communication and two-way communication is found to lead to increased trust.

2.2.2.3 Commitment

The relational paradigms have posed significant conditions on the conventional power-dependence concept of channel relationships and has shifted the emphasis of channel research to social determinants of behaviour such as commitment (Morgan and Hunt, 1994). When the marketing discipline moved from the transactional view to the relational view of exchange, the concept of commitment became a focal point of explanation in marketing (Gundlach et al., 1995). Commitment is a particularly important construct in research on inter-firm exchange relationships because it has essential implications for channel management (Morgan and Hunt, 1994). It has been considered as an essential ingredient for successful long-term relationships (Gundlach et al., 1995), the central construct of relationship marketing (Morgan and Hunt, 1994), the foundation on which relationships are built (Berry and Parasuraman, 1991), and the highest level of a relationship (Dwyer et al., 1987).

Much research has agreed that mutual commitment encourages channel members to work together to achieve enhancing mutual profitability and helps reduce uncertainty and the costs for continuously seeking new partners (e.g., Anderson and Weitz, 1992, Dwyer et al., 1987, Morgan and Hunt, 1994; Tellefsen, 2002). In fact, numerous empirical studies on commitment have been reported in channel relationship literature. We now have a better understanding of what drives commitment (Anderson and Weitz, 1992; Kumar et al., 1995a; 1995b; Mohr et al., 1996; Morgan and Hunt, 1994) and what the consequences of commitment in channel relationships are (Gundlach et al., 1995; Morgan and Hunt, 1994).

Definitions of Commitment

Like trust, commitment has been addressed in different ways.

Kim and Frazier (1997) suggest there are three different components of commitment: continuance commitment, behavioural commitment, and affective commitment. Continuance commitment is a partner's need and

desire to maintain the relationship. Behavioural commitment is an extent to which a partner provides special help to the company in times of need. Affective commitment is a level of unity sensed to be present in a relationship.

Anderson and Weitz (1992) state that commitment to a relationship “entails a desire to develop a stable relationship, a willingness to make short-term sacrifices to maintain the relationship, and a confidence in the stability of the relationship” p. 19.

Morgan and Hunt (1994) define commitment as “an exchange partner believing that an ongoing relationship with another is so important as to warrant maximum efforts at maintaining it” p. 23.

Geystens, Steenkamp, Scheer and Kumar (1996) suggest that commitment is composed of affective and calculated commitment. Affective commitment determines the extent to which an exchange party would like to maintain a relationship with the company. Calculated commitment is the degree to which members feel the need to maintain the relationship with the company.

According to Andaleeb (1996), commitment is a party’s desire to maintain, continue, and strengthen a valued relationship.

Commitment has also been defined as “an implicit or explicit pledge of relational continuity between exchange partners” (Dwyer et al., 1987:19), intention to continue the relationship (Doney and Cannon, 1997), enduring desire to maintain a valued relationship (Moorman et al., 1992), enduring intention to develop and maintain a stable, long-term relationship (Gundlach et al., 1995), a party’s intention to continue the relationship (Kumar et al., 1995a), and the desire to maintain membership in the dyadic relationship (Mohr et al., 1999).

Communication: A Determinant of Commitment

Direction of Relationship

The importance of communication becomes critical in signalling future intentions and might be interpreted as an overt manifestation of more subtle phenomena such as commitment (Mohr and Spekman, 1994). Researchers tend to take one of two approaches in explaining the relationship between communication and commitment: either they posit that communication directly drives commitment in relationship (i.e. Anderson and Weitz, 1992) or they posit that communication, through trust, increases commitment in relationship (Moorman et al., 1992; Morgan and Hunt, 1994).

The first conceptualisation suggests that communication directly impacts on relationship commitment (Anderson and Weitz, 1992; De Ruyter et al., 2001). Communication is claimed to foster confidence in the continuity of the relationship, increase commitment levels of both the supplier and the distributor and motivates channel members to commit to the relationship (Anderson and Weitz, 1992).

The second view, however, suggests that communication is not a direct antecedent of relationship commitment (Berry, 1995; Morgan and Hunt, 1994). Communication, in fact, drives trust, which, in turn, increases commitment in a relationship. In line with Anderson and Weitz (1992), this research suggests that communication may directly increase the level of channel members' trust.

Relationships between Commitment and Different Aspects of Communication

Open Information Sharing and Commitment: Significant exchange of communication is an important criterion of commitment (Dwyer et al., 1987). Open sharing of information is the key to long-term relationships (Smith, 1997). According to Mohr and Nevin (1990), exchanging information makes channel members realise the mutual benefits in

integrated channels, which can become an incentive for both parties to maintain the relationship. Consequently, when parties realise that the relationship is worth working for, they will warrant maximum efforts in maintaining it (Morgan and Hunt, 1994). Indeed, channel members tend to be motivated to commit to a relationship characterised by sharing information (Anderson and Weitz, 1992).

Sharing information about decisions and strategies also reflects the willingness to invest in the relationship (Gundlach et al., 1995; Kumar et al., 1995). The party may manifest its intention or desire to maintain or continue the relationship by disclosing its confidential information to its partner. Hence intensive information sharing should lead to better-informed parties, which in turn should make each party more confident in the relationship and more willing to keep it alive (Anderson and Weitz, 1989; Anderson and Narus, 1990). Indeed, it is evident in the literature that communication increases the channel member's desire to continue the relationship. Since continuance is an important component of commitment, this research suggests that sharing information can increase commitment between channel members.

Communication Frequency and Commitment: In an industrial buying context, contact intensity is referred to as the frequency of contact with which the supplier communicates with its buyer either for personal or business purposes. Frequency of contact reflects an effort on the part of the supplier to keep the communication channels open with the buyer as well as exhibiting a commitment to the relationship (Crosby et al., 1990). It has been found that *frequency* of communication has a profound impact on the mutual commitment in a relationship (Anderson and Weitz, 1989; 1992; Morgan and Hunt, 1994).

Two-way Communication and Commitment

Evidently, two-way communication can “raise the commitment levels of both the supplier and the distributor” (Anderson and Weitz, 1992: 28). In fact, it can help channel members achieve stability, durability, consistency

and continuity in the relationship by tracking needs, wants and goals of their partners (Anderson and Narus, 1984; Anderson and Weitz, 1989). Indeed, if relationship continuity is an important ingredient of commitment, two-way communication may help increase commitment between channel members by providing the means for relationship continuity.

Conclusion

This section examined the role of commitment in channel relationships. The definitions of commitment were explored and its relationship with communication examined. The literature suggests that communication can directly lead to increased commitment while information sharing, frequency of communication and two-way communication can facilitate commitment between channel members.

2.2.2.4 Co-Operation

Co-operation is superior to individual action in achieving virtually all goals (Metcalf et al., 1992). While key channel problems can come from the fact that distributors are independent businesses with multiple suppliers and product lines but limited resources, resulting in different business objectives (Celly and Frazier, 1996), co-operation has been seen to play a central role in achieving co-ordination in channels of distribution (Anderson and Narus, 1990; Morgan and Hunt, 1994; Ruyter et al., 2001). Earlier channel theorists had recognised the importance of the role of co-operation in channel behaviour. In fact, co-operation in channels has received some attention since the late 1970s (Young and Wilkinson, 1989). Unfortunately, it has rarely been explicitly studied (Anderson and Narus, 1984). Indeed, channel relationships are moving towards more co-operative ones because it is a way of improving performance in channel activities (Wilson, 1995). With co-operative goals, parties will try to understand the other's goals, consider the other's views open-mindedly, show respect and work together for mutual benefit (Tjosvold, 1997).

Nature of Co-operation

On one hand, co-operation has been related to power, as well as conflict (Stern and El-Ansary, 1992). It has been seen as being coerced by channel members (Young and Wilkinson, 1989). Stern and El-Ansary (1992) observe that the exercise of power is crucial for gaining co-operation. Dwyer et al., (1987) also state that the parties' possession of power will foster an atmosphere of co-operation.

Heide and Miner (1992), however, argue that co-operation should be concerned with a willingness to adapt, the accommodation of each other's interests, restraint from the use of power, and to jointly solve problems. Morgan and Hunt (1994) also suggest that co-operation is more related to trust and commitment than power. In line with Heide and Miner (1992), this research suggests that co-operation should be concerned with the

willingness to adapt, accommodate each other's interests, restrain from the use of power and jointly solve problems.

Definitions of Co-operation

Co-operation is the “the regular pattern of similar or complementary actions and activities that enable both parties to share information, opportunities, and processes in such a way as to facilitate the achievement of competitive advantages” (Jap, 1999: 464). It is concerned with the integration of the different parts of the organisation to accomplish a collective set of tasks (Mohr and Nevin, 1990). It reflects the willingness of a partner firm to pursue mutually compatible interests in the alliance rather than act opportunistically (Das and Teng, 1998); the firms' ability to collaborate and work together in a joint fashion toward their respective goals (Stern and Reve, 1980); and the extent to which the channel members are willing to voluntarily take co-ordinated action and jointly strive to achieve both individual and mutual goals (Smith, 1997). Indeed, co-operation embraces the notion of give and take, which is necessary for ongoing relationships (Smith, 1997) Co-operation is also defined as the extent to which the work of two parties is co-ordinated (Metcalf et al., 1992). Based on the game-theoretical framework, Heide and Miner (1992) define co-operation as a multi-dimensional phenomenon that has four major domains, including flexibility, information exchange, shared problem solving and restraint in the use of power.

Communication: A Determinant of Co-operation

Direction of Relationship

Efficient communication tends to be necessary in channels of distribution where activities are more inter-dependent. According to empirical research by Anderson and Narus (1990), communication has an influence on co-operation in channels of distribution. Co-operation tends to be high when inter-firm communications are perceived to be effective (Guiltinan et al., 1980). In other words, channel members tend to communicate more in order

to co-ordinate more efficiently (Mohr and Nevin, 1990). According to Langfield-Smith and Greenwood (1998), communication is one of the factors that influence channel members' willingness to accept changes, which forms a key component in the development of co-operative buyer-supplier relationships. Also, channel communications serve to focus channel members attention on activities vital to the co-ordination process (Fraizer and Summers, 1984) and without proper communication, co-operative relationships are likely to suffer (Das and Teng, 1998).

Indeed, the relationship between communication and co-operation is evident in the literature (e.g. Anderson and Narus, 1990; Anderson and Weitz, 1992; Arndt, 1979; Heide and Miner, 1992; Kalafatis, 2000). In specific, the literature strongly suggests that communication is a key determinant of co-operation.

Relationship between Co-operation and Different Aspects of Communication

Open Information Sharing and Co-operation: Sharing information is perceived as being critical for the effective functioning of distribution channels since it represents the means by which business transaction and relationships are co-ordinated (Mohr and Nevin, 1990). Channel members can achieve co-operation by sharing information (Anderson and Weitz, 1992). If channel members share information with each other and are knowledgeable about each other's business, they should be able to establish the co-operative relationship (Anderson and Weitz, 1992). According to Metcalf, Frear, and Krishnan (1992), the information and social exchange factors serve as general predictors of the degree of co-operation between buying and selling firms. As the sharing of information takes place, inter-organisational contact patterns and role relationships develop.

Communication Frequency and Co-operation: It is suggested that the frequency of communication has a positive effect on co-operation (Axelrod, 1984; Heide and Miner, 1992). According to Mohr and Nevin (1990), when channel members become more inter-dependent, a higher level of

communication frequency may be essential for better co-operation. This might be because when relationships develop over-time, channel members involve a wider range of issues and require a deeper level of discussion (Miell and Duck, 1980).

Two-way Communication and Co-operation: According to Arndt (1979), the smooth functioning of the co-operating group of organisations depends on efficient control and information routines allowing for two-way communication. Anderson and Weitz (1992) suggest that channel members can achieve co-operation by sharing information through two-way interchanges. Two-way communication is also considered as one of the key factors that can be used to develop convergence in viewpoints between the company and distributors, thereby facilitating satisfaction and co-ordination of the relationship (Mohr et al., 1996).

Conclusion

This section examined the role of co-operation in channel relationships. The definitions of co-operation were explored and its relationship with communication was examined. The literature suggests that effective communication can facilitate co-operation.

2.2.2.5 Conflict

Conflict is one of the most widely studied phenomena in channel research (Anderson and Weitz, 1992). Distribution channels have a complex network, comprising of a number of independent companies with different goals and motivations. These companies put themselves into inter-dependencies with other channel members, establishing mutual goals due to the need for resources, skills, and access to particular kinds of markets (Stern et al., 1996). With these interdependencies, relationships have been formed and developed through the interaction between channel members. While channel relationships require a great deal of co-operative effort in order to achieve the common goals, they are also an arena for conflicts (Achrol et al., 1983). Indeed, conflict is virtually inevitable in marketing channels due to the inherent functional inter-dependence between channel members (e.g. Gaski 1984; Mohr and Spekman, 1994; Ruyter et al., 2001; Stern et al., 1996). Perceived conflict between channel members will increase, particularly, in uncertain environments (Achrol et al., 1983). According to Deutsch (1958), conflicts exist when the channel member engages in activities that are incompatible with those of other channel members. Conflicts can also arise when one channel member has a perception that the other channel members try to prevent him/her from achieving its goals (Anderson and Weitz, 1992, Stern et al., 1996).

Nature of Conflict

Although conflict may have negative effects on channel relationships (Anderson and Weitz, 1992), it is not necessarily destructive to the relationship's development (Morgan and Hunt, 1994). In fact, if conflict has been handled and resolved successfully, it may strengthen the inter-personal relationships, cultivate greater trust, communication and relationship satisfaction (Sekhon and Kennington, 2001; Weitz and Jap, 1995). Morgan and Hunt (1994) describe this kind of conflict as functional conflict. They argue that the way conflict has been handled is very crucial. If it has been solved amicably, such a conflict can be referred as *functional conflict* because it 'prevents stagnation, stimulates interest and curiosity, and

provides a medium through which problems can be aired and solutions arrived at' (Morgan and Hunt, 1994: 26). Functional conflict may increase productivity in channel relationships and be viewed as another part of doing business (Anderson and Narus, 1990).

However, if conflict is not resolved effectively, non-functional consequences – hostility and bitterness – will predominate (Frazier, 1999). Indeed, conflict and the manner in which conflicts are resolved, are very important issues in channel relationships (Mohr and Spekman, 1994).

Definitions of Conflict

Definitions of conflict have conceptual agreement for the most part. Conflict is defined as the tension between two or more social entities, arising from incompatibility of actual or desired responses (Raven and Kruglanski, 1970), a situation in which the channel member perceives another channel member to be engaged in behaviour that is preventing or impeding him from achieving his goals (Lusch and Brown, 1982) and "the behaviour that impedes, blocks, or frustrates another firm's goal pursuit" (Kumar et al, 1995: 350).

Conflict is also conceptualised as a process composed of various different overlapping stages such as latent conflict, perceived conflict, affective conflict, manifest conflict and conflict aftermath (Brown et al., 1991). The most frequently studied stages of conflict in channel relationships are affective and manifest conflict. Affective conflict is defined as hostility, frustration, and anger toward a channel partner (Brown et al., 1991). These feelings of hostility can develop into manifest conflict or behavioural responses such as overt attempts to prevent the other from achieving its goals (Anderson and Narus, 1990).

Communication: A Determinant of Conflict Solving

Direction of Relationship

From the point of view of the communication theorist, Roloff (1987), communication and conflict are interdependent and have influences on each other. In distribution channels, the presence or absence of communication has been seen as a cause of conflict and/or co-operation (Marwell and Schmitt, 1975). Communication is considered an effective mode of *conflict solving*. From the point of view of channel theorists, communication plays a crucial role in conflict resolution strategies (Stern et al., 1996). Marwell and Schmitt (1975) suggest that communication is, in fact, the key to stopping wars and conflicts of all types. When conflicts arise, effective communication may convince the organisation that other organisations may have legitimate interests as well (Roloff, 1987).

Communication, however, can also be symptomatic of conflicts (Roloff, 1987). There are various reasons that prevent channel members from communicating successfully. Mis-communication and communication difficulties can cause misunderstanding and conflicts in the channel. Some of communication failures are message ambiguity, communication medium, and attitude (Weitz and Jap, 1995).

Relationship between Conflict and Different Aspects of Communication

Open Information Sharing and Conflict: Stern et al. (1996) suggest that information-intensive conflict resolution strategies, which involve significant information exchange, may enhance the longevity and co-operative attitude of channel relationships. Open information sharing can lead to the perception that conflict is functional and resolves disputes (Morgan and Hunt, 1994). According to Weitz and Jap (1995), conflict solving is facilitated if the channel members understand each other's motivational structure through mutual information exchange.

Communication Frequency and Conflict: When conflicts exist within the relationship, channel members are often encouraged to increase the frequency of communication with each other regarding their objectives and goals (Stern et al., 1996). Increased frequency of communication has been found to contribute to more effective problem solving (Mohr and Sohi, 1995). Lack of communication may worsen the perception of conflict. Even when a third party is involved in channel disputes, one of the major tasks of mediation is, in fact, to keep channel members communicating with each other.

Two-way Communication and Conflict: Two-way disclosure of plans, programmes, expectations, and goals can help channel members understand each other's expectations, clarify roles, and avoid misunderstanding (Smith, 1997). In *two-way* communication, channel members can give feedback to another so that none of them will be left with questions and doubts concerning the shared information (Mohr and Sohi, 1995). Channel members are encouraged to exchange their questions, clarification, and verification of assumptions to ensure the accuracy, credibility and completeness of communication (Mohr and Sohi, 1995). One-way communication does not give a partner an opportunity to make any contribution to the information exchange. This could result in confusion, which in turn, leads to misunderstanding and disputes. Indeed, increased two-way communication can enhance channel members' perceptions of openness and participation in dealing with their partner (Mohr and Sohi, 1995).

Conclusion

This section examined the role of conflict in channel relationships. The nature of conflict was discussed and its definitions were explored. Finally, the relationship between conflict and communication was examined. The literature suggests that effective communication – through open information sharing, frequent and two-way communication – can lead to decreased conflict in distribution channels.

2.2.3 Inter-Relationships between Trust, Commitment, Co-operation, and Conflict

Trust, commitment, co-operation, and conflicts are key relational constructs within channel context (Anderson and Narus, 1990; Ganesan 1994; Moorman et al., 1993; Young and Wilkinson, 1989). However, little effort has been devoted to explaining how they are related to each other (Möller and Halinen, 2000). This section has a summary of both empirical and conceptual studies on the relationship between trust, commitment, co-operation, and conflicts, which is listed in Table 2.4.

2.2.3.1 Trust and Commitment

The significant relationship of trust on commitment has been well documented in the literature (e.g. Achrol, 1991; Andaleeb, 1996; Moorman et al., 1992; Morgan and Hunt, 1994; Ruyter et al., 2001). Trusting relationships are so highly valued that companies will desire to commit themselves to such a relationship (Morgan and Hunt, 1994). On the other hand, “mistrust breeds mistrust and as such would also serve to decrease commitment in the relationship and shift the transaction to one of more direct short-term exchanges” (McDonald 1981: 834). This research concluded that trust is a key determinant of relationship commitment. Without trust, relationship commitment is likely to suffer.

2.2.3.2 Trust and Co-operation

Both theoretical and empirical evidence indicates the strong relationship between trust and co-operation (e.g. Anderson and Narus, 1990; Morgan and Hunt, 1994). However, the causal ordering between trust and co-operation in a given situation has varied. Much research agrees that co-operation is a determinant of trust, that is, trust develops gradually over a number of co-operative exchanges (e.g. Matthews and Shimoff, 1979; Dwyer and Lagace, 1986). In line with this notion, Van de Ven (1976) observes that most

TABLE 2.4
SUMMARY OF REPRESENTATIVE CHANNEL RELATIONSHIP LITERATURE WITH THE FOCUS ON THE LINK BETWEEN TRUST,
COMMITMENT, CO-OPERATION AND CONFLICT

	Focus	Type of research	Authors	The Link between trust, commitment, co-operation, and conflicts
Part 3 Section 2.2.3	• Channel marketing	• Conceptual	• Gattorna (1978)	• Conflict and co-operation are the opposite ends of a continuum.
	• Buyer-seller relationships	• Conceptual	• Dwyer and Lagace (1986)	• Trust develop gradually over a number of co-operative exchanges.
	• Channel relationships	• Empirical	• Anderson and Weitz (1989)	• High level of trust results in relationship commitment.
The Link between Trust, Commitment, Co-operation, and Conflict	• Channel relationships	• Empirical	• Anderson and Narus (1990)	• Past co-operation leads to trust and the accumulated trust leads to better co-operation.
	• Relationship marketing	• Conceptual	• Achrol (1991)	• Trust is a determinant of the amount of co-operation.
	• Professional Services	• Empirical	• Moorman, Zaltman, and Deshpande (1992)	• Trust is a determinant of the possibilities to solve conflicts in an efficient way.
Conceptual (Empirical and Works)	• Channel relationships	• Empirical	• Anderson and Weitz (1992)	• Trust leads to relationship commitment.
	• Paradigm shift	• Empirical	• Morgan and Hunt (1994)	• Trust is reinforced by mutually satisfactory conflict resolution.
	• Business network	• Conceptual	• Anderson, Håkansson and Johanson (1994)	• Trust is a determinant of commitment.
	• Buyer-seller relationships	• Empirical	• Langfield-Smith and Greenwood (1998)	• Past conflicts influence the other channel member's commitment.
				• Trust leads to relationship commitment.
				• Co-operation is the direct outcome of both trust and commitment.
				• Trust leads a partner to perceive a future conflict as a functional one.
				• Co-operation is an antecedent of commitment.
				• High level of trust must be well-established in order to achieve channel co-operation.

Table 2.4 (Continued)
SUMMARY OF REPRESENTATIVE CHANNEL RELATIONSHIP LITERATURE WITH THE FOCUS ON THE LINK BETWEEN TRUST, COMMITMENT, CO-OPERATION AND CONFLICT

	Focus	Type of research	Authors	Relationship constructs
Part 3 Section 2.2.3	• Channel relationships	• Empirical	• Stern, Sternthal and Craig (1973)	• Conflict has a negative effect on trust.
	• Channel relationships	• Empirical	• Childers, Ruekert, and Boush (1984)	• Trust is an antecedent of co-operation. • Conflicts tend to decrease when trust exists in the relationship.
	• Channel relationships	• Empirical	• Geyskens and Steenkamp (1995)	• Affective commitment is an outcome of trust.
The Link between Trust, Commitment, Co-operation, and Conflict	• Channel relationships	• Empirical	• Geyskens, Steenkamp, and Kumar (1996)	• Trust leads to co-operative behaviours that are conducive to relationship success. • Trust affects relationship outcome like commitment.
	(Empirical and Conceptual Works)			

co-operative inter-organisational relationships between strangers emerge incrementally and begin with small and informal risk. When these transactions are repeated over a period of time, trust is gradually established.

However, Morgan and Hunt (1994) propose that co-operation is, in fact, a direct outcome of trust. Mutual trust between channel members helps produce an atmosphere of co-operation. Once trust is established, firms learn that co-operation will lead to outcomes that exceed what the firm would achieve if it acted only in its own best interests. Deutsch (1985; 1960) also suggests that the initiation of co-operation requires trust whenever an individual places his/her fate partly in the hands of others. To achieve co-operative buyer-supplier relationships, high levels of trust must be well established among all parties (Langfield-Smith and Greenwood, 1998).

Finally, Anderson and Narus (1990) propose that the relationship between co-operation and trust is iterative, that is, past co-operation leads to trust and the accumulated trust will lead to a greater willingness to co-operate in the future which then generates greater trust and so on.

2.2.3.3 Trust and Conflict

The relationship between trust and conflict is evident in channel literature (e.g., Morgan and Hunt, 1994, Stern et al., 1973). However, the causal ordering between trust and conflict in a given situation has varied. Conflicts and disagreements that cannot be resolved amicably may result in hostility and bitterness, which, in turn, can lead to relationship dissolution (Morgan and Hunt, 1994). This type of conflict is considered as having a negative impact on trust.

However, when conflicts are handled effectively and resolved amicably, such conflicts can be considered as functional conflicts. This process enables companies to maintain good relationships with each other (Anderson and Narus, 1990). Consequently, when conflict arises again in the future, companies are likely to give each other the benefit of the doubt (Hardy and Magrath, 1988). In this context, trust has been perceived as the

key factor that leads a partner to perceive future conflicts as functional ones (Morgan and Hunt, 1994). In other words, channel members that have developed strong trust in an exchange relationship tend to work out their disputes and conflicts amicably and view some level of conflict as a part of business (Dwyer et al., 1987; Morgan and Hunt, 1994).

Finally, while functionality of conflict is suggested to be a consequence of trust, trust can also be reinforced by mutually satisfactory conflict resolution and the way in which inter-firm interactions are organised and conducted (Achrol, 1991). In short, when conflict is handled efficiently, it can strengthen the relationship and cultivate greater trust, relationship satisfaction, stability and personal growth (Weitz and Jap, 1995).

2.2.3.4 Commitment and Co-operation

The relationship between co-operation and commitment is also evident in channel literature (see Anderson and Weitz, 1992; Heide and John, 1990). However, causal ordering between them has varied. Axelrod (1984) suggests that co-operation can facilitate commitment. A well-established co-operative environment is perceived as an important determinant of commitment in the initial stage of the channel relationship (Siguaw et al., 1998). In line with this view, Anderson, Håkansson and Johanson (1994) also posit a positive causal path from co-operation to relationship commitment.

On the contrary, Morgan and Hunt (1994) argue that co-operation is, in fact, an outcome of relationship commitment, that is, the firm that commits to the relationship will continue to co-operate with other channel members because of a desire to make the relationship work.

2.2.3.5 Commitment and Conflict

A history of conflicts in an exchange relationship suggests that channel members may not be committed to the relationship (Anderson and Weitz, 1992). Disagreement and dispute may make it difficult for channel members to place confidence in the other party's long-term orientation. The

partner's willingness to make sacrifices to continue the relationship may also be hampered by conflicts (Anderson and Weitz, 1992). Despite being suggested by several channel academics that conflicts can be constructive when it leads to an exploration of new options (e.g. Stern, El-Ansary 1992, Morgan and Hunt, 1994), it is claimed that a persistent history of conflict is likely to reduce the perception of commitment (Anderson and Weitz, 1992).

2.2.3.6 Co-operation and Conflict

Co-operation has been posited as being related to conflict, although the nature of this relationship is still uncertain (Anderson and Narus, 1984). When co-operation was first studied empirically, a number of researchers considered co-operation to be at the opposite end of the conflict dimension (i.e. Gattorna, 1978). A co-operation-conflict continuum is constituted by four major dimensions: goal compatibility, domain consensus, evaluation of accomplishment and norms of exchange (Young and Wilkinson, 1989). However, a number of channel theorists have adopted a different perspective and suggested that co-operation and conflict are, in fact, two distinct concepts (Anderson and Narus, 1984). Young and Wilkinson (1969), for example, propose that co-operation and conflict can exist simultaneously and relationships can be co-operative and conflicting at the same time. Morgan and Hunt (1994) also suggest that partners can have ongoing disputes about goals but continue to co-operate because the termination costs are high.

2.2.4 Review of Measurement Scales

In order to explore the impact of the extranet on communication and relationships in distribution channels, it is necessary to establish the means of measurement of each variable. This section reviews the measurement scales for the constructs of communication, trust, commitment, cooperation, and conflict. All reviewed measurement scales of each variable are Likert scales. Likert scales are commonly used in attitudinal measurement. They use a five-point scale ranging from strongly agree, agree, neither agree nor disagree, disagree, strongly disagree to rate people's attitudes (Ray, 1980). In this research, the criteria suggested by Likert himself were kept in mind during the statement development and data analysis. First, statements were essentially expressions of desired behaviour not statements of fact. Second, the research propositions were stated clearly and concisely. As this research adopted most measurement scales from previous research, the wording of measurement items were adjusted to suit the context of this study. Each statement is in the simplest possible vocabulary. Finally, the statements were worded in the way that the modal reaction to some is more toward one end of the attitude continuum, and to others move in the middle or toward the other end. In this manner, the modal value of the responses to the different questions in the attitude scale should range fairly well across the attitude continuum.

Although general social scientists accept that such Likert scales are approximately interval in character (Maholtra, 1993), the limitations of Likert scales as interval measurement cannot be ignored. That is, like ordinal scales, the distance from "strongly disagree" to "agree" may be different from the distance from "agree" to "neither agree nor disagree". Although researchers cannot be certain that the intervals between successive ratings are exactly equal, with reasonable care and diagnostics it may be safe to say that no interval represents a difference more than two or three times greater than another interval (Sarle, 1995).

The measurement scale of each variable was reviewed and selected. These measurement scales were then adapted to suit the context of this study. Changes in wordings of measurement items were treated with extreme care to ensure the measurement's reliability. The adapted measurement scales were then used to build interview questions and develop a mail-survey questionnaire.

2.2.4.1 Measures of Communication

Measures of Communication/Information Sharing

- Anderson and Narus (1990) define communication as “the formal as well as informal sharing of meaningful and timely information between firms” p. 44. The global scale is developed to measure the manufacturer's ability to communicate as soon as possible on any unexpected problems with things such as lead times, delivery schedules, or product quality. The measurement items are on a seven-point Likert scale and anchored with “strongly disagree” and “strongly agree”.
- Metcalf, Frear, and Krishnan (1992) measure communication by using the two-item scale that was first developed by IMP research. The measurement scale is used to assess the extent to which the information is shared and exchanged between buyers and sellers. Items are scored on a five-point Likert scale and anchored with “strongly agree” and “strongly disagree”.
- Mohr and Spekman (1994) define information sharing as “the extent to which critical, often proprietary, information is communicated to one's partner” (p. 139). A four-item global scale is developed to assess information sharing variables. All items are on a five-point Likert scale and anchored with “strongly agree” and “strongly disagree”.
- Morgan and Hunt (1994) develop a four-item scale to measure the communication construct. A one-to-seven Likert scale is adopted and all measurement items are anchored by “strongly disagree” and “strongly agree”.

- Selnes (1998) defines communication as “the ability of the supplier to provide timely and trustworthy information” p. 313. The scale contains four items related to: providing information that can be trusted; providing information if delivery problems occur; providing information of quality problems; and fulfilling their promises.
- Cannon and Perreault JR. (1999) develop the four-item scale to assess the exchange of information between buyers and sellers. The scale has seven-point response level and all items are anchored with “very inaccurate description” and “very accurate description”.
- Vlosky, Fontenot, and Blalock (2000) develop a three-item scale to measure the impact of the extranet on perceived information sharing between channel members. All items are on a five-point Likert scale and anchored with “strongly agree” and “strongly disagree”.

Selected Measure of Communication/Open Information Sharing

The measurement scale of communication/open information sharing is taken from Vlosky et al., (2000). This measurement is chosen for the following reasons. First, it reflects a conceptual definition of communication that gives to the open sharing of information. Secondly, it contains three measurement items, which is quite appropriate for this type of research. A lesser number of measurement items may cause some doubts over the reliability of the measurement scale; however, too many measurement items may discourage respondents from completing the questionnaire because of time constraints. Finally, this scale has already been used previously to measure the perception of the respondents regarding the impact of the extranet on information sharing. (See Appendix 2.1.1)

Measures of Communication Frequency

- Mohr and Sohi (1995) operationalise communication frequency as a formative scale in which respondents assess frequency of contact over a variety of communication modes. Eight modes of communication are used and the dealers indicate how frequently they provide information to the focal manufacturer for each of these eight modes.
- Mohr, Fisher, and Nevin (1996) extend the work of Mohr and Sohi (1995) by adding advertising, sales literature, and newsletters to the list of communication modes that the focal manufacturer uses to communicate with dealers. However, eight modes are still listed that dealers could use to communicate with manufacturers.
- Based on the work from Maltz and Kohli (1996), Fisher, Maltz, and Jaworski (1997) measure communication frequency as a formative, or check-list scale, in which a variety of possible modes of communicating are itemised. “More” of the construct is defined as higher frequency across the possible modes. The authors categorise communication modes into three types: written, oral, and electronic.

Selected Measure of Communication Frequency

This research takes the measurement scale of communication frequency developed by Mohr and Sohi (1995) and adapts it to suit the context of this study. There are several reasons why this measurement scale is chosen. First of all the scale is very versatile, allowing some changes to be made without affecting the scale’s reliability. Secondly, the measurement scale was developed from the background theory extensively used in channels research. Adjustment was also made to make the measurement scale suitable for the context of this research. That is, three modes of communication in the original scale were replaced by fax communication, courier, and extranet. (See Appendix 2.1.2)

Measures of Two-way Communication

- Anderson and Weitz (1992) develop two sets of a six-item global scale to assess both distributor and manufacturer's perceptions of two-way communication. All measurement items are measured on a one-to-seven Likert scale and anchored by "strongly disagree" and "strongly agree".
- Based on the work from Anderson et al., (1987), Mohr and Sohi (1995) operationise bidirectionality or two-way communication with a three item scale, which measures the extent to which feedback is given: (a) by the dealer to the manufacturer (1 item), and (b) by the manufacturer to the dealer (2 items). The two items measuring the manufacturer's feedback to the dealer are averaged to form one indicator of bidirectionality. The single item measuring the dealer's feedback forms the second indicator of bi-directionality.
- Based on the work from Mohr and Nevin (1990), Fisher, Maltz and Jaworski (1997) develop a four-item global scale to measure the two-way communication between the marketing and engineering department. All measurement items are measured on a one-to-five Likert scale and anchored by "strongly disagree" and "strongly agree".

Selected Measure of Two-way Communication

The measurement scale of bidirectionality is taken from Fisher, Maltz and Jaworski (1997). This measurement scale is selected for several reasons. First, it reflects a conceptual definition of two-way communication that emphasises feedback and two-way communication. Secondly, the questions are simple and concise, enabling respondents to answer them within a short period of time. Finally, one-item global scale was added to the measurement scale. (See Appendix 2.1.3)

Measures of Quality Information

- Suggesting that information quality should be reflected in messages that are accurate, accessible, specific, timely relevant, and of sufficient quantity, O'Reilly (1982) develops a ten-item scale to assess the perceived information quality of the respondents. Respondents indicate, on 5-point scales, the extent to which the three types of information obtained (files, others in the unit, and others outside the unit) are accurate, accessible, specific, timely, relevant, and of sufficient quantity.
- Mohr and Sohi (1995) develop a five-item semantic differential scale to assess the dealer's perceptions of communication quality. The scale items tap into the five aspects of communication quality, namely adequacy, timeliness, accuracy, completeness and credibility.

Selected Measure of Information Quality

The measurement scale for information quality is taken from Mohr and Sohi (1995), because the items appear to have sound measurement properties and reflect the conceptual definition of information quality, emphasising adequacy, timeliness, accuracy, completeness, and credibility of the exchange information. To make the measurement scale compatible with that of other variables, the five-item semantic scale was extended to seven-item scale (See Appendix 2.1.4).

Measure of Information Overload

There are few sound measurements of information overload in marketing channel literature. This research took the original measure of information overload from Roberts and O'Reilly (1974). The measure has been used and adapted by several channel theorists. The measurement consists of one item, which appears to have sound measurement properties and reflects the conceptual definition of information overload. The measurement item was adapted to suit the context of this study. (See Appendix 2.1.5)

Measure of the Use of Communication Media

Based on the measurement scale of communication frequency developed by of Mohr and Sohi (1995), this research has formed a simple and straightforward measurement scale to measure the impact of the extranet on the use of other communication media. (See Appendix 2.1.6)

2.2.4.2 Measures of Trust

Although there is a conceptual agreement on the definitions of trust, operational measurement of trust seems to vary. Six major measurement scales of trust are chosen for consideration as follows:

- Anderson and Weitz (1989) define trust as “one party’s belief that its needs will be fulfilled in the future by actions undertaken by the other party” (p. 312). The authors develop the trust measurement scale using information from the field study of US independent sales agents reporting on relationships with US principals (electronic components). A two-item global scale is developed. All measurement items are measured on a seven-point Likert scale.
- Anderson and Narus (1990) define trust as the firm’s belief that a partner will perform actions that will result in positive outcomes for the firm, as well as not taking unexpected actions that would result in negative outcomes for the firm (p.45). Based on this definition, the authors develop the trust measurement scale, using information from the field study of US distributor firms and manufacturing firms reporting on their relationship with one another (cross-section of industries). A one-item global scale is developed to measure the distributor’s trust. The item is anchored by the statement “don’t trust Manufacturer X” and “trust Manufacturer X completely”. In terms of manufacturer’s trust, a three-item scale is developed to measure manufacturer’ benevolence. All three items are anchored by “don’t trust Firm X” and “trust Firm X completely”. Both measurements use a seven-item Likert scale.
- Moorman, Zaltman and Deshpande (1992) define trust as “a willingness to rely on an exchange partner in whom one has confidence” (p.315). Based on this conceptualisation, the authors develop a five-item global scale to measure the user trust in his/her partner. Seven-point Likert scale is used. All five items are anchored with the statement “strongly disagree” and “strongly agree”.

- Ganesan (1994) conceptualises trust as the belief that a partner is credible and benevolent. Two distinct components of trust have been identified: credibility and benevolence. Based on this definition, the author develops the trust measurement scale, using information from a field study of US retail-buyers and US vendors supplying to those retailers reporting on their relationship with one another (department store chains). Trust is measured as a multi-dimensional construct: credibility and benevolence. Both retailer and vendor scales consist of 12 items, measured on a seven-point Likert scale. All measurement items are anchored by “strongly disagree” and “strongly agree”.
- Conceptualising trust as existing when one party has confidence in the reliability and integrity of the exchange partner, Morgan and Hunt (1994) introduce a measurement scale for the trust construct. The new scale is adapted from the Dyadic Trust Scale of Larzelere and Huston (1980). According to their structural equation modelling study, trust consists of seven items measured on a one-to-seven Likert scale anchored with the statements “strongly agree” and “strongly disagree”. This multi-item scale taps the major facets of trust such as reliability, integrity and confidence.
- Defining trust as the belief that the partner is honest and benevolent, Kumar, Scheer and Steenkamp (1995b) measure trust as a multi-dimensional construct: honesty and benevolence. Using information from a field study of small US dealers and small Dutch dealers reporting on their relationship with suppliers (automobiles), two sets of five-item scales are developed to measure trust in a partner’s honesty and trust in a partner’s benevolence. All measurement items are measured on a one-to-seven Likert scale and anchored by the statement “strongly disagree” and “strongly agree”.
- Andaleeb (1996) define trust as “the willingness of a party to rely on the behaviours of others, especially when these behaviours have outcome implications for the party bestowing trust” (p.7). Based on this conceptualisation, the six-item global scale is developed, partly based on

prior studies, to measure distributors' trust. All measurement items are measured on a one-to-seven Likert scale and anchored by "strongly disagree" and "strongly agree".

- Arguing that although credibility and benevolence could be conceptually distinct in business relationships, they may be so intertwined that in practice they are operationally inseparable, Doney and Cannon (1997) treat trust of the selling firm as a unidimensional construct. Final measures of trust include seven items that tap the credibility and benevolence aspects of trust. All measurement items are measured on seven-point Likert scale.

Selected Measures of Trust

The measurement scale for the construct of trust developed by Doney and Cannon (1997) is chosen for this study for these reasons. First, Doney and Cannon make a clear distinction between the measure of supplier firm's trust and measure of the salesperson's trust. Secondly, the measurement of supplier firm's trust taps both credibility and benevolence aspects of trust. Thirdly, the wording of measurement items can be adjusted to suit the context of this study. (See Appendix 2.2)

2.2.4.3. Measures of Commitment

Commitment has been measured differently. Four measurement scales of commitment are chosen for consideration:

- Anderson and Weitz (1992) define commitment as “a desire to develop a stable relationship, a willingness to make short-term sacrifices to maintain the relationship, and a confidence in the stability of the relationship” (p.19). Based on this definition, a ten- items global scale is designed to assess commitment of both manufacturer and distributor. A one-to-seven Likert scale is used and all measurement items are anchored by “strongly disagree” and “strongly agree”. The scale taps multiple facets of commitment including a strong sense of loyalty, expectation of continuity in the relationship, willingness to invest in the relationship and a willingness to make short-term sacrifices to realise long-term benefits.
- Morgan and Hunt (1994) define commitment as “an exchange partner believing that an ongoing relationship with another is so important as to warrant maximum efforts at maintaining it...” (p. 23). Based on organisational commitment scales of Meyer and Allen (1984) and Mowday, Steers, and Porter (1979), a seven-item global scale is developed. The scale reflects an importance of the supplier intention and effort to continue the relationship and sense of family and care. The scale is a one-to-seven Likert scale anchored by response cues “strongly disagree” and “strongly agree”.
- Kumar, Scheer, and Steenkamp (1995b) conceptualise commitment as a multiple-dimension construct in their study. Commitment is measured as a multiple dimension construct with affective commitment, expectation of continuity and willingness to invest in the relationship. Each dimension consists of three items. The scales are seven-point scales with “strongly disagree” and “strongly agree” as the anchors.

- Kim and Fraizer (1997) define distributor commitment as the extent of a distributor's business ties with its focal supplier' (p.141). Commitment is conceptualised as a multiple-component construct in this study. Two different types of general scales are developed, composite and global. While the composite scale consists of three facet scales, continuance commitment, behavioural commitment and affective commitment, the global scale consists of seven items capturing a distributor's overall impressions and summary evaluations of its commitment. Both scales employ a one-to-seven Likert scale.

Selected Measure of Commitment

These four measurement scales of commitment construct are the most used and well-known scales in the marketing literature. They are well developed and highly reliable. As a trade-off for the confidence that the questionnaire will be completed and returned by the respondents, this research has chosen the most concise measurement scale developed by Morgan and Hunt (1994). (See Appendix 2.3)

2.2.4.4 Measures of Co-operation

Co-operation has been measured differently. Five major measurement scales of co-operation are chosen for consideration:

- Anderson and Narus (1990) define co-operation as “similar or complementary coordinated actions taken by firms in interdependent relationships to achieve mutual outcomes or singular outcomes with expected reciprocation over time” (p.45). Using information obtained from the field study of US distributor firms and manufacturer firms, the researchers develop two sets of multi-item global scales to measure co-operation of both distributors and manufacturers. A one-to-seven point Likert scale is used and all items are anchored with “strongly disagree” and “strongly agree”.
- Based on the study of iterated games, Heide and Miner (1992) define co-operation as a multi-dimensional phenomenon that includes the four domains of flexibility, information exchange, shared problem solving and restraint in the use of power. *Flexibility* consists of four items measuring respondents’ assessments of the degree to which both parties adapt their own behaviour to accommodate needs of the other. *Information exchange* consists of four items measuring respondents’ assessments of the degree to which each party discloses information that may facilitate the other party’s activities, as opposed to keeping all information proprietary. *Shared problem solving* consists of four items measuring respondents’ assessments of the degree to which the parties share the responsibility for maintaining the relationship itself and for problems arising as time passed by. *Restraint in the use of power* consists of three items measuring respondents’ assessments of the degree to which the parties typically refrain from exploiting each other although there is an opportunity to do so. All scales are seven-point scales.
- Metcalf, Frear and Krishnan (1992) refer to co-operation as “the extent that the work of buyer and seller is co-ordinated” (p.29). Based on the IMP research, a four-item scale is developed. The multi-item global

scale reflects the importance of co-operation: marketing co-operation, call frequency, requests from salespersons and product use. All four items are scored on a five-point scale with end-points. The response cues are “strongly disagree” and “strongly agree”.

- Morgan and Hunt (1994) refer to co-operation as “situations in which parties work together to achieve mutual goals” (p.26). Based on the Brown (1979) measurement scale, the researchers have developed a five-item global scale. The scale is scored on a seven-point Likert scale and the items are anchored with “not at all co-operative” and “very co-operative”.
- Smith (1997) define co-operation as “the extent to which exchange partners undertake voluntary coordinated action and jointly strive to achieve individual and mutual goals” p. 156. He measures co-operation with four-item scale adapted from Heide and Miner (1992).
- Jap (1999) adopts the term co-ordination effort and conceptualise it as the regular pattern of similar or complementary actions and activities that enable both parties to facilitate the achievement of competitive advantages. The researcher develops a three-item global scale in which all measurement items are measured on a seven point Likert scale.

Selected Measure of Co-operation

The measurement scale for the construct of co-operation developed by Jap (1999) is chosen for this study for two reasons. First, the measurement scale is very concise and easy to understand, containing only three measurement items. Secondly, the measurement items appear to have sound measurement properties and reflect the conceptual definition of co-operation. (See Appendix 2.4)

2.2.4.5 Measures of Conflict

Five measurement scales concerning conflict are selected for consideration as follows:

- Anderson and Narus (1990) refer to conflict as “the overall level of disagreement in the working partnership” (p.44). Based on this definition, a single global scale is developed. The scale examines the manufacturer’s perception of overall level of disagreement with their exchange partner. All measurement items are measured on a five-point Likert scale and anchored with “considerably increased” and “considerably decreased”.
- Anderson and Weitz (1992) develop two sets of a six-item scale to assess both manufacturer’s and distributor’s perceptions of the history of their relationship. The scales elicit the degree to which the problems with the relationship resulted in the parties’ considering other alternatives. All items are measured on a seven-point Likert scale and anchored with “strongly disagree” and “strongly agree”.
- Morgan and Hunt (1994) conceptualise that “when disputes are resolved amicably, such disagreements can be referred to as functional conflict...” (p.26). Based on this conceptualisation, functionality of conflict is measured with a two-item global scale. All measurement items are on a one-to-seven Likert scale anchored with the statements “strongly disagree” and “strongly agree”.
- Kumar, Scheer and Steenkamp (1995b) define conflict as “behaviour that impedes, blocks, or frustrates another firm’s goal pursuit” (p. 350), and perceive conflict as “the magnitude of present conflict acknowledged and perceived by the firm” (p. 350). The researchers measure two types of conflict: affective conflict and manifest conflict. A four-item semantic differential scale is developed to measure affective conflict. A two-item global scale is developed to measure manifest conflict. All measurement items of manifest conflict’s scale are

measured on a seven-point Likert scale and anchored with “strongly disagree” and “strongly agree”.

Selected Measures of Conflict

To assess channel conflict, this research adopts the measurement scale of manifest conflict developed by Kumar, Scheer and Steenkamp (1995b). The reasons for choosing this measurement scale are as follows. First, the measurement scale is developed to measure manifest conflict in particular. Secondly, the scale is very concise and straightforward. Thirdly, the measurement items appear to have sound measurement properties and reflect the conceptual definition of manifest conflict (See Appendix 2.5)

2.2.5 Summary

This part of the thesis examined the concept of channel relationships; key constructs in channel relationships; the relationship between communication and relational constructs; the inter-relationship between trust, commitment, co-operation, and conflict; and finally the measurement scales of each channel construct. In brief, the coming of relationship marketing has significantly influenced channel relationships. Channel researchers have shifted their focus to the factors that facilitate relationship development. Communication has received a great deal of attention in channel research and been considered as a crucial factor in channel relationships. While it is evident in the literature that trust, commitment, co-operation and conflict are inter-related, the literature also suggests that communication has a significant impact on these relational constructs.

The concept of channel relationships is a crucial conceptual framework to this research. On this foundation, the next stage of the literature review focuses on the extranet as a means of communication and its impact on channel communications and relationship.

2.3. Conceptual Framework 2: Extranet

A purpose of this section is to examine how extranets have been developed in distribution channels and its impact on channel communication and relationship. This section starts with the development of inter-organisational information system (IOS) before discussing the advent of the Internet and intranet. Next, the impact of the Internet and intranet in distribution channels is explored. Finally, this section examines the extranet and its potential impacts on business-to-business industry, channel communications and channel relationships. The literature from non-academic sources has to be reviewed along with the academic literature. Indeed, although the Internet, intranet and, particularly, extranet are new and fast-moving disciplines, many recent developments of these technologies have not yet been incorporated into the academic literature. Nevertheless, summary Tables 2.5 and 2.6 contain representative examples of the academic literature linking the Internet and extranet to marketing.

2.3.1 Inter-organisational Information System (IOS)

This section considers the development of the Inter-organisational Information System (IOS) as a first step to understanding how firms strive to find ways to improve their efficiency and relationships with their channel members. This section begins by discussing the characteristics of an inter-organisational information system. Then, it examines the development of the inter-organisational information systems, using the new interactive medium, the Internet.

Characteristics of IOS

Many of the efforts of channel members to administer less adversarial channel relationships are facilitated by the use of information technology (Stern and El-Ansary, 1992). The use of information technology for competitive advantage involves systems that link an organisation to suppliers, distribution channels, or customers. These systems, in fact, use information or processing capabilities in one organisation to improve the

TABLE 2.5
SUMMARY OF REPRESENTATIVE INTERNET LITERATURE

Focus	Type of research	Authors	Main points relevant to the research
<ul style="list-style-type: none"> • A general Internet marketing framework 	<ul style="list-style-type: none"> • Conceptual 	<ul style="list-style-type: none"> • Morgan (1996) 	<ul style="list-style-type: none"> • Companies need to fundamentally rethink their marketing strategies through consideration of the opportunities presented by the WWW.
<ul style="list-style-type: none"> • Small business 	<ul style="list-style-type: none"> • Empirical 	<ul style="list-style-type: none"> • Poon and Swatman (1997) 	<ul style="list-style-type: none"> • Most small businesses are using the Internet as a communications medium in addition to the telephone and fax.
<ul style="list-style-type: none"> • Retailer-customer relationships 	<ul style="list-style-type: none"> • Empirical 	<ul style="list-style-type: none"> • Doherty, Ellis-Chadwick and Hart (1999) 	<ul style="list-style-type: none"> • The potential of the Internet as a retail channel.
<ul style="list-style-type: none"> • Supplier relations 	<ul style="list-style-type: none"> • Conceptual 	<ul style="list-style-type: none"> • Loughlin (1999) 	<ul style="list-style-type: none"> • Electronic commerce can strengthens suppliers' position.
<ul style="list-style-type: none"> • Business-to-business 	<ul style="list-style-type: none"> • Empirical 	<ul style="list-style-type: none"> • Evans and King (1999) 	<ul style="list-style-type: none"> • There are both opportunities and obstacles inherent with business-to-business web sites.
<ul style="list-style-type: none"> • Business-to-business 	<ul style="list-style-type: none"> • Empirical 	<ul style="list-style-type: none"> • Boyle and Alwitt (1999) 	<ul style="list-style-type: none"> • Internet communication seems to have the potential to solidify inter-firm relationships, rather than to fragment them.
<ul style="list-style-type: none"> • Small and medium enterprises 	<ul style="list-style-type: none"> • Empirical 	<ul style="list-style-type: none"> • Vescovi (2000) 	<ul style="list-style-type: none"> • Internet communication represents an important opportunity but requires a careful planning at the same time.
<ul style="list-style-type: none"> • Business-to-consumer 	<ul style="list-style-type: none"> • Empirical 	<ul style="list-style-type: none"> • Allan and Chudry (2000) 	<ul style="list-style-type: none"> • The Internet should be used as an integral part of a business's overall strategy and, as a channel, managed in conjunction with all other channels that a business uses.
<ul style="list-style-type: none"> • Business-to-business 	<ul style="list-style-type: none"> • Empirical 	<ul style="list-style-type: none"> • Avlonitis and Karayanni (2000) 	<ul style="list-style-type: none"> • The Internet has a positive effect on sales sales management activities, market-oriented product management activities, and sales performance and efficiency.

TABLE 2.6
SUMMARY OF REPRESENTATIVE EXTRANET LITERATURE

	Focus	Type of research	Authors	Main points relevant to the research
Section 2.3.4	• Business-to-Business	• Conceptual	• Watson (1999)	• The extranet enables companies to distribute corporate information to employees, business partners and customers inexpensively and efficiently.
	• Business-to-Business	• Empirical	• Anandarajan, Anandarajan and Wen (1998)	• The extranet helps reduce operating costs.
	• Educational Sector	• Conceptual	• Preston and McCrohan (1998)	• The extranet enables the professional program to employ the latest technology advances toward improving the educational experience of students while lowering per unit academic costs.
The Extranet	• Business-to-Business	• Empirical	• Vlosky and Fontenot (1999)	• Factors that influence business-to-business buyer and seller partnership strength in general also apply in the extranet environment.
(Empirical and Conceptual works)	• Entrepreneurialism	• Conceptual	• Kippenberger (2000)	• The advantages and disadvantages of the extranet.
	• Business-to-Business	• Empirical	• Vlosky, Fontenot and Blalock (2000)	• Impact of the extranet on business practice, communication, and relationships.
	• Business-to-Business	• Empirical	• Angeles (2001)	• Basic conceptual framework for understanding extranet implementation guidelines
	• Public Health Sector	• Conceptual	• Barthell and Pemble (2003)	• The use of the extranet to improve communication in emergency clinical care unit.

performance of another or to improve relationships among organisations (Johnston and Vitale, 1988).

An Inter-organisational Information System (IOS) was driven by the belief that increased competitiveness requires increased co-operation between channel members (Fredriksson and Vilgon, 1996). Its unique characteristics are both technological and organisational, that is, it is built around information technology, particularly computer and communications technologies that facilitate the creation, storage, transformation, and transmission of information (Johnston and Vitale, 1988). It also allows information to be sent across organisational boundaries and the users of the IOS are possibly given different degrees of access to stored data and computer applications.

Development of IOS

IOSs that connect the company to its agents or dealers were built first by the airlines and more recently by insurers and financial services (Johnston and Vitale, 1988). In fact, IOS became available even before the 1970s and has been developed over time. The well-known IOS are, for example, electronic data interchange (EDI), bar-coding for inventory management and control and Universal Product Code (UPC) (Wilson and Vlosky, 1998). Among them, electronic data interchange (EDI) is probably the most used IOS. EDI is the electronic transmission of business data mostly between channel members. It works by enabling different companies' computers to exchange transactions using standard formats such as the American National Standards Institute's (ANSI's) X12 series (Bayles, 1997). It is X12 that specifies standard fields for data transactions such as purchase orders, shipping documents, invoices, and payments. EDI software extracts "flat" files – files that cannot be linked to other data – from mainframe financial or order-processing systems and translates the data into EDI standard forms. Companies then transmit large batches of EDI forms mostly over third-party "value-added networks" (VANs) (Bayles 1997). VANS are, therefore, electronic bridges between specific businesses using similar business forms, such as purchase orders, invoices, shipping notices, etc., primarily in

manufacturing and engineering sectors (Sullivan, 1998). EDI has been the primary method of conducting on-line business-to-business commerce for almost 30 years. It helps companies to significantly reduce typing errors, time, and clerical costs of hand-processing paper forms and drastically cut retailers' warehousing costs by utilising an automatic mechanism to reorder best-selling items. In addition, its standard and technologies are dependable, proven and trusted (Bayles, 1997).

The potential downsides of EDI are that large companies must maintain full-time EDI staff for ongoing management of translation systems and auditing of the operation. As a result, small- and medium-sized companies cannot participate in this technology because of its heavy investment and complexity involved in both the start-up and ongoing phases. The transmission charges itself can cost the user about £25,000 to £36,000 a month, just for sending regular purchase orders and invoices via EDI (Bayles, 1997). In addition, it is impossible to mix electronic mail messages with EDI transmissions, so a valuable channel of communication and relationship building is missing (Bayles, 1997).

In order to overcome these barriers, a new form of inter-organisational information system has been developed. The Internet protocols differentiate the Internet from other IOSs. It can create a standard platform, which the company can standardise as a common protocol of communication to their business partners (Bickerton et al., 1999). Therefore, a company can employ Internet technologies even before it has identified its ultimate trading partners. Business partnerships can be established by means of informal business communications based on electronic mail (e-mail). Very few, if any, small businesses would join a "value added network" (VAN) to undertake EDI transactions if none of their business partners were using such a service – but this happens frequently with the Internet technologies (Poon and Swatman, 1997). The power relationships between large and small firms that force small businesses to use proprietary EDI environments (Hart and Saunders, 1997) do not exist in the Internet environment. The next section discusses the development and impact of the Internet in distribution channels.

2.3.2 Internet

This section examines different aspects of the Internet: its origin, definitions, and tools. It also focuses on the impact of the Internet on business-to-business industry and channel communications. The academic literature about the Internet is summarised in Table 2.5.

Origin of the Internet

The Internet began as a USA government experiment in 1969 with four computers connected together over phone lines. The system was called ARPANET, after the Advanced Research Projects Agency of the US Department of Defense. By 1972, the extranet was developed to connect different universities and government computer centres throughout the country. This connectivity allowed widespread sharing of various types of data among participating facilities (Vlosky et al., 2000). However, during that time, the Internet was the domain of scientists and academics. Therefore, it was limited primarily to those individuals who worked in the technical or scientific community. In addition, a high degree of technical expertise was required for interaction with the Internet because of its cryptic set of commands and a complex interface based on the UNIX operating system, which was difficult to master. It also used to be very expensive to connect to the Internet. Only governmental entities, education institutions and most well funded corporations could afford to adopt it. However, the advent of the World Wide Web, designed by Tim Berners-Lee in 1989, changed the way users served the net (Initially the WWW was different from the Internet but now the words are inter-changeable). Internet terminology has been made and publicly used since 1982 (Bickerton et al., 1999) and the Internet has become available to individual users since 1991 (Glossbrenner and Glossbrenner, 1995).

Definitions of the Internet

The Internet has been defined differently. It may be a business force that helps shrink the distance between locations, suppliers and customers

(Loughlin, 1999). It may also be a storage place loaded with information (Morgan, 1996). It is also a network that is a powerful engine for companies (Ainscough and Lockett, 1996).

Technically speaking, the Internet is a linkup of independent computer networks that operate on a standard protocol, which allows communication between incompatible computers (Bickerton et al., 1999). The Internet is also described as the network of shared resources that allows small and medium enterprises (SMEs) to compete at a global level (Poon and Jevons, 1997). Finally, the Internet is viewed as the community of people who access these shared resources (Hoffman and Novak, 1996). Indeed, a consensus definition of the Internet does not seem to exist.

Internet Tools

Glossbrenner and Glossbrenner (1995) suggest that the Internet consists of eleven tools. Having access to the Internet also means having access to these tools (Ellsworth and Ellsworth 1995). The following discussion is confined to two most well known tools: electronic mail (E-mail) and World Wide Web (WWW).

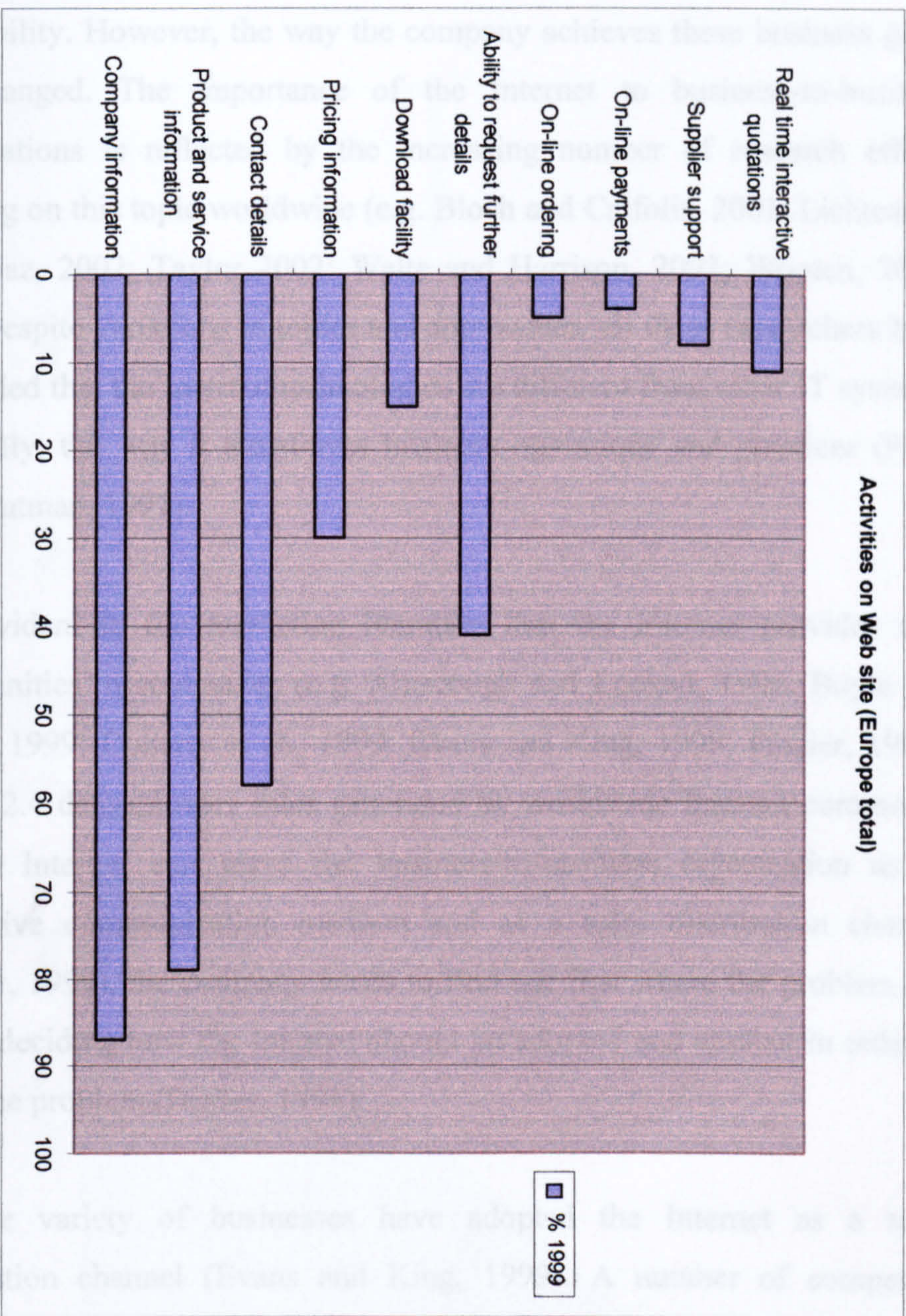
- **e-mail:** is the basic Internet tool that is technically simple and widely used. Many businesses, particularly small ones, adopt the Internet because it gives them access to electronic mail communication (Poon and Swatman, 1997). Electronic mail has increasingly played a vital role in both business-to-business and business-to-consumer industries.
- **World Wide Web (WWW):** Born at the Centre European de Recherche Nucleaire (CERN), WWW is an Internet service based on hypermedia that enables users to explore the Internet using a standard and intuitive mouse point-and-click interface. It was designed to build a system of linked multimedia such as pages with full-colour display; animated images accompanied by sound, motion and video and facilitate ease of navigation, data entry and interactive response (Bickerton et al., 1999; Ellsworth and Ellsworth, 1995). The interface that has been used for

organising the incoming hypermedia information is called a browser. The significance of WWW browsers is that users no longer have to learn complex computer operating systems such as UNIX, which was designed for efficiency, but not user-friendliness (Ainscough and Lockett, 1996). Two major browsers used by users are Netscape Navigator and Microsoft Explorer.

WWW pages are stored on computers, known as web servers or sites that are linked to the Internet. Every web page has its own address, called a uniform resource locator (URL) that identifies where it is stored (Hannon, 1998). The Common Gateway Interface (CGI) allows web pages to interact with computer programs so that most things that can be done on a computer can also be done on the WWW (Hofacker, 1996).

In the past, a web site comprised only text and graphics, providing information about the company, its products and points of contact without an interaction opportunity. Being forced by increased competition for Internet users' attention, a huge investment has been made to create web sites that are more interactive and exciting (Breitenbach and Van Doren, 1998). WWW has rapidly become an excellent source of information and the "place" where most advanced electronic commerce occurs (Evans and King, 1999). Figure 2.3 demonstrates activities that happen on the Web site. The WWW, indeed, alters the way Internet technologies have been operated and offers both opportunities and limitations to business-to-business marketers and their customers (Evans and King, 1999). The opportunities and limitations offered by WWW are listed in Appendix 2.6.

FIGURE 2.3
Activities on Web Site



Source: OECD Workshop (1999) in Norway

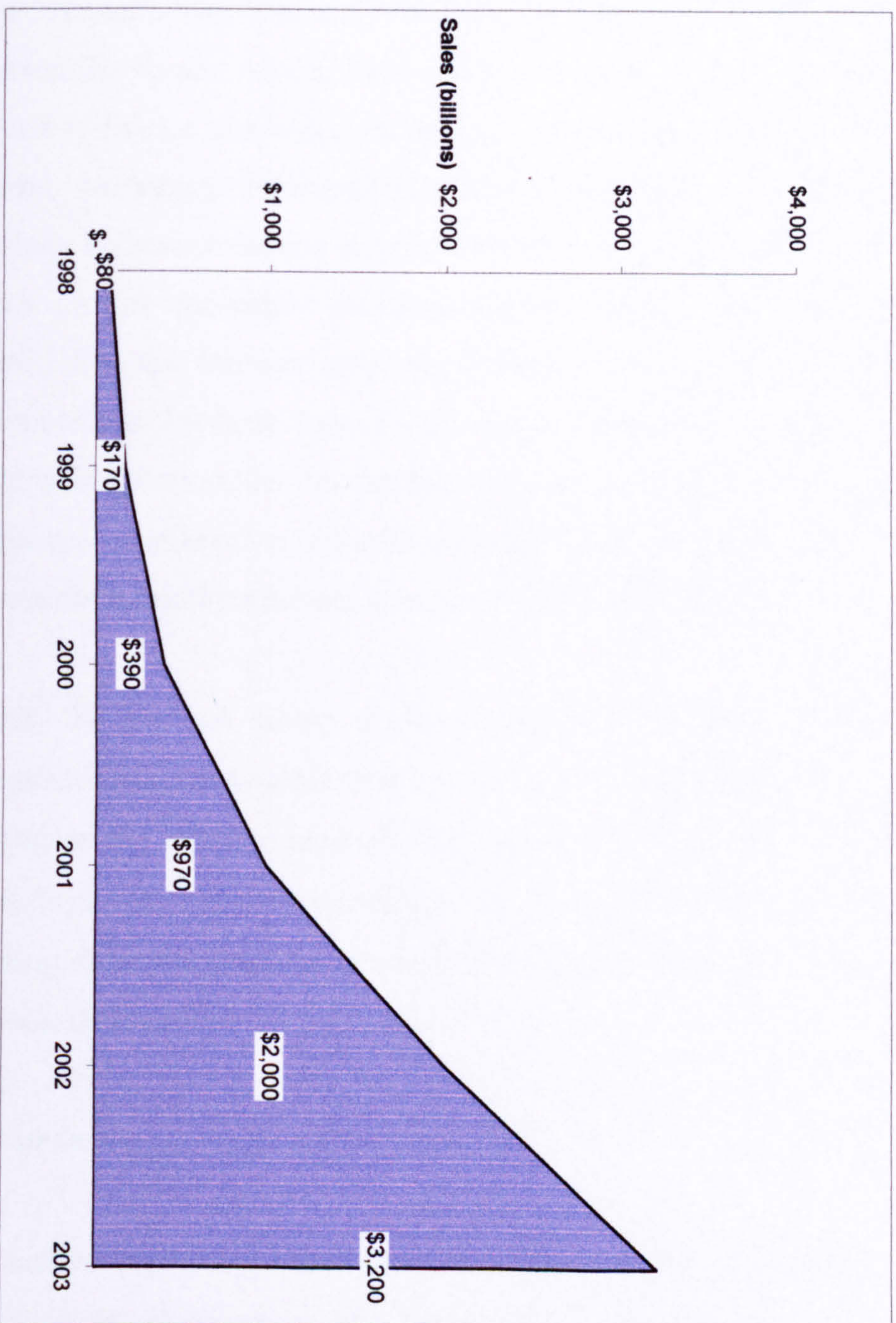
Impact of the Internet on Business-to-Business Industry

As companies learn how to thrive in a new economy driven by the Internet, it is becoming clear that business goals have not really changed. They are still about growing market share, improving customer care and increasing profitability. However, the way the company achieves these business goals has changed. The importance of the Internet to business-to-business organisations is reflected by the increasing number of research efforts focusing on this topic worldwide (e.g. Bloch and Catfolis, 2001; Lichtenthal and Eliaz, 2002; Taylor 2002; Walte and Harrison, 2002; Wooten, 2003; etc.). Despite variations in topics and approaches, all these researchers have concluded that the Internet technologies are different from other IT systems, especially, the way it transforms business operations and practices (Poon and Swatman, 1997).

It is evident in the marketing literature that the Internet provides new opportunities to companies (e.g. Ainscough and Lockett, 1996; Boyle and Alwitt, 1999; Doherty et al., 1999; Evans and King, 1999; Frazier, 1999). Figure 2.4 demonstrates sales generated by worldwide Internet commerce. As the Internet can serve the business-to-business organisation as an interactive communication medium and as a sales distribution channel (Frazier, 1999), the company needs to find out first where the problem lies before deciding how the Internet should be adopted and applied in order to solve the problem (Bayles, 1998).

A wide variety of businesses have adopted the Internet as a sales distribution channel (Evans and King, 1999). A number of companies benefit from this new sales distribution channel (See Appendix 2.7.1); however, this new sales distribution channel may also severely damage the relationship between the company and its channel members, and even lead to the termination of intermediaries. Therefore, in certain situations, adopting the Internet as a sales distribution channel may not be appropriate (Frazier, 1999).

FIGURE 2.4
World-wide Internet Commerce (Both Business-to-Business and Business-to-Consumer)



Source: OECD Workshop (1999) in Norway

Impact of the Internet on Channel Communications

Whilst it is evident in channel literature that communication is essential in channel relationships (Morgan and Hunt, 1994), little attention has been paid to the impact of the Internet on business-to-business industry (see Boyle and Alwitt, 1999 for exception). In fact, most focus has been placed on the Internet's business and marketing applications on the individual consumers (Boyle and Alwitt, 1999). Academic research has also centred on Internet use from a consumer perspective. Due to the dynamic nature of inter-firm exchange, business-to-business communication via Internet technology embraces various complexities and issues that are not found in research on the individual consumer (Boyle and Alwitt, 1999). It is suggested that the Internet may play a major role in improving overall communications between buyers and sellers (Boyle and Alwitt, 1999). Despite little attention, the Internet has been perceived as a new mechanism for channel members to co-ordinate, plan and exchange information necessary for a healthy inter-organisational relationship.

In brief, the Internet seems to have implications within the dynamic environment of inter-organisation exchange (Sands, 2003). It has been portrayed as the ultimate medium that encourages interactivity, which, in turn, reshapes the marketing paradigm (Rexha and Kingshott, 2003). The increasing domination of the Internet is set to make further and, perhaps, more radical alterations.

2.3.3 Intranet

This section begins by examining the intranet as the evolution of the Internet. Then, it examines the key role of the intranet in inter-firm communications.

Development of Intranet

The intranet is a network based on both the Internet and WWW technologies, which is set up within a department or organisation. It is a

private network used exclusively within a company or organisation. Access is limited to employees or organisation members only. A company may use an intranet to facilitate communication among its members and deliver information and services to employees. This is particularly useful in large, multi-site organisations.

The intranet is one of the fastest-developing applications of Internet technologies and can be particularly effective as an internal communication tool (McNaughton et al., 1999). It aims at improving internal communications (Christensen, 1997). Intranets existed as LANs (Local Area Networks) before the WWW became popular. The WWW is a portal or gateway using CGI to link into the intranet. Basically, an intranet strategy can start with an implementation of Web-enabled technology within an organisation that allows the company to create more uniform and comprehensive links to information resources. The company can then add scheduling and collaboration applications to create a company that extends beyond the constraints of buildings and walls (McNaughton et al., 1999). The intranet may be considered as an in-house, interactive library containing corporate information and materials (Bayles, 1997). With information-sharing networks, the intranet enables employees to use the same browser they use to surf the WWW to access the company data (Bayles, 1997). Permitting only company employees to access the data, a security programme, known as a firewall, prevents unauthorised entry to an intranet (McNaughton et al., 1999). Intranets can help the company increase internal communication, facilitate collaborative and co-operative activities, improve knowledge management and redesign the process (McNaughton et al., 1999).

Role of the Intranet in Channel Communications

The role of the intranet in inter-firm communication is indirect but a crucial one. When the company decides to open up the information in the internal Web applications to their channel members who can then access selected parts of the internal corporate information, the resulting communication structure is described as the extranet (Angeles, 2001). Using a web-enabling

technology allows the intranet to be accessed externally via password security. Before making an attempt to harness the capabilities and profits gained from using an extranet, the company needs to have a fully functioning intranet in place first (Angeles, 2001). In other words, companies are not likely to achieve their extranet strategies unless their intranet is well implemented internally.

2.3.4 Extranet

This section, first, discusses different aspects of the extranet: its development, definitions, characteristics, tools, growth, benefits and limitations. Then, it examines the role of the extranet as a communication medium and its impact on distribution channel and channel communications. Finally, this section explores the impact of the extranet on channel relationships. The academic literature about the extranet is summarised in Table 2.6.

Development of Extranet

The extranet is widely known as the third wave of the Internet evolution after the Internet and intranet. It is a mechanism based on Internet and Web technology for communicating both privately and selectively with the firm's customers and business partners (Wailgum, 1998). It rests on four key technologies: the Internet technology, the Web technology, group-ware applications, and firewalls. It is possible that the extranet would have developed without any one of the four technologies, but highly unlikely (Wailgum, 1998). The extranet normally links the intranets of distributed companies for the purpose of conducting business. This secure electronic consortium usually consists of an enterprise and its key trading partners, customers, dealers, distributors, suppliers, or contractors.

The extranet is normally forged from the secure, closed environments of intranets, which are internal closed networks based on Internet technology, crossed with the public outreach of the Internet itself. Both extranets and intranets share the requirement of creating high-quality interaction while

ensuring security, confidentiality, and controlled access. The extranet, however, takes intranets and extends them via firewalls to enable collaborative business applications across different companies. Security and privacy can be obtained either by ensuring that transmission lines are privately owned or leased, by tunnelling through the Internet, or by using the Internet with special forms of security protection such as password authorisation (Bayles, 1997). In some cases, this screening is not to protect the information but more to profile the user pre-entry in order to direct the clients to pertinent information and monitor what they do inside the extranet. The extranet, is therefore, different from the Internet and intranet in the way that it is not available to the public in the same way as the Internet due to carefully constructed firewalls and limited participation (Angeles, 2001) although it is not limited to internal use like the intranet.

Definitions of Extranet

Having received worldwide attention, several definitions have been given for extranets. The extranet is any network connected to another network for the purpose of sharing information and data. It is created when two businesses connect their respective intranets for business communication and transactions (Hannon, 1998). The extranet is typically behind a firewall, and closed to the public, but it is open to the selected partners. It is a specialised branch of E-commerce by which corporations share information with business partners, distributors, or customers (Winkleman, 1998). Although there is still some confusion over the exact definition of an extranet, the most commonly accepted definition seems to be networks using the Internet communication protocols to electronically link business partners to one another. This linkage is usually accomplished by companies allowing their channel members to access certain areas of their intranet” (Vlosky et al., 2000). There are, however, alternative views of the extranet other than the technical. For example, from the business point of view, research firm ActivMedia defines the extranet as an Internet Protocol (IP) network used for maintaining ongoing business relationships while enabling privacy, security, and customised communication (Bort, 1998a). In terms of

databases, an extranet is the pool of business information that is accessed by the company and its selected partners (Bayles, 1997).

Characteristics of the Extranet

The key characteristics of the extranet are summarised as follows:

- **Interactivity:** Interactivity is referred to the degree to which participants in a communication process have control over, and can exchange roles in their mutual discourse (Rogers and Allbritton, 1995). The extranet stimulates channel interactivity by enabling channel members to communicate with each other constantly regardless of time and place.
- **Speed:** The information in the extranet is in electronic form – unless the user prints it out; it can be transferred in just seconds using the worldwide network of data lines. Customers can receive service over the extranet rather than waiting on the telephone for their sales representatives. Resellers can also find out the information they need, including real-time custom pricing, availability, and product information while they are sitting at their desktop PC (Millman, 1997). Companies regard saving the customers time as one of the most important functions of the extranet. Companies can reap the rewards of getting their products to market faster (Vlosky et al., 2000).
- **Information Access:** An extranet creates a secure environment for the exchange of critical data between channel members such as customers, suppliers, distributors, or vendors over the Internet. Companies may maintain databases with customer information and market research data. The extranet allows authorised channel members outside the organisation to access this information (Strom, 1997). Indeed, the extranet has become one of the major facilitation technologies to allow companies to instantaneously provide channel members with customised information.

- Connectivity:** The extranet has also provided companies with the ease of connectivity (Bayles, 1997). The extranet, for example, allows companies' employees and clients to share ideas and view materials as they are being developed (Henry, 1997). It creates a significant degree of electronic bonding between suppliers and distributors by allowing them to connect to each other's intranet (Hills, 1997). The extranet's platform of instant and constant connectivity enables companies to communicate with their channel members anytime. This means the extranet reduces dependence on time norms while encouraging non-temporal relationships across time zones (Bayles, 1997). The opportunity on the extranet is not just doing what the company has always done cheaper and faster, but also it is about to rethink at a fundamental level the business models that companies can employ on the Internet platform, both in terms of what kind of value they can deliver to their customers and also the kinds of relationships that they can build with their customers.
- Transactions:** The supply chain in distribution channels involves a potentially large number of activities and transactions performed by a number of different parties. An activity may be carried out by different parties depending on, for example, the terms of business, type of product, and market as well as on the methods of operation of channel members. If a supply chain is to operate effectively and efficiently then the relationships and activities have to be clearly identified and managed (Stern et al., 1996). The instant and constant platform of the extranet enables channel members to complete transactions in a 24/7 environment (Bayles, 1997). Unlike traditional Internet sites, the extranet is usually integrated into the company's back office and legacy applications. A traditional web site requires that when a customer places the order online, it still must be processed through the back-end application software. On the contrary, a well designed extranet can offer a customer a closed-loop process that automatically receives the electronic orders, transfers it to the on-line order fulfilment software. In turn, that software is already integrated with other business applications related to accepting the order and delivering the product to the customer

(Angeles, 2001). This helps reduce the time and errors associated with traditional order taking which typically involves multiple inputs of data. Hence, marketing effectiveness can be enhanced.

Extranet's Tools

As mentioned earlier, the extranet rests on four major technologies: the Internet technology, the Web technology, group-ware applications, and firewalls. These technologies have underpinned the extranet's tools.

The Internet technology and Web technology comprise various communication tools and services (e.g. e-mail, and USENET) with distinct characteristics and communication capabilities that permit an organisation to employ them both independently and jointly, to achieve multiple communication goals (Avlonitis and Karayanni, 2000). The extranet has inherited some services from the Internet technology. This research focuses on two of the best-known and popular services: e-Mail and World-Wide-Web.

- **e-Mail:** Vlosky and Fonenot (1999) conducted research to understand the role of extranet in business-to-business relationships. The results suggest that 89 percent of the respondents used electronic communication with their trading partner. Drawing on the extranet literature, it is explicit that electronic mail may be well used to facilitate certain customer services activities. Electronic mail, for example, is suitable for extranet applications such as technical support and on-line services (Bayles, 1997). The company can submit questions or requests by electronic mail, and its trading partner can, then, respond. According to Blattberg and Deighton (1991), it is now the age of addressability, in which the enhanced capabilities of improved and interactive communication imply new levels of services and trends. Thus, companies need to wrestle with services not just at the level of the individual customers, but at the level of the individual customer at a specific point in time.

- **World Wide Web (WWW):** Bayles (1997) suggests several advantages of WWW in the context of an extranet. For example, it integrates Web technology with legacy systems – a computer system or application program which continues to be used because of the prohibitive cost of replacing or redesigning it and despite its poor competitiveness and compatibility with modern equivalents (Brodie and Stonebraker, 1995) – providing users with a graphical Web browser interface which is user-friendly and easy to learn. The low cost of Internet access and free web browsers allows users to link into a legacy system without the expense and learning curve of proprietary shares (Brodie and Stonebraker, 1995).

Extranet's Growth

While the Internet has doubled in size every year since 1982 (Hoffman and Novak, 1996), and the Web doubles in size every two to three months (Hoffman et al., 1995), AMR Research forecasts that business-to-business extranet will reach about £3.4 trillion in 2004 and industry leaders are expected to move up 60 to 100 percent of their business transactions over the Internet by 2002 (Angeles, 2001). Network Computing's market research study shows that 26 percent of the businesses surveyed currently have an extranet, which was defined as an intranet specifically for allowing third-party access (Angeles, 2000). Furthermore, the Boston Consulting Group estimates business-to-business commerce to account for about £1.6 trillion in sales by 2003 (Donlon, 2000).

According to ActivMedia's study, the leading adopters of the extranet are information providers. Next is the computer sector, which includes companies that manufacture or sell computer hardware and software. Here, one in every four companies has an extranet. Next are the financial services industry, with 23 percent, and industry and manufacturing, with 22 percent (Vlosky and Fontenot, 1999).

According to the Network Computing's market research study, customers are the most common group to access the extranet. Fifty-two percent allows external consultants access. Nearly half of the businesses surveyed allow

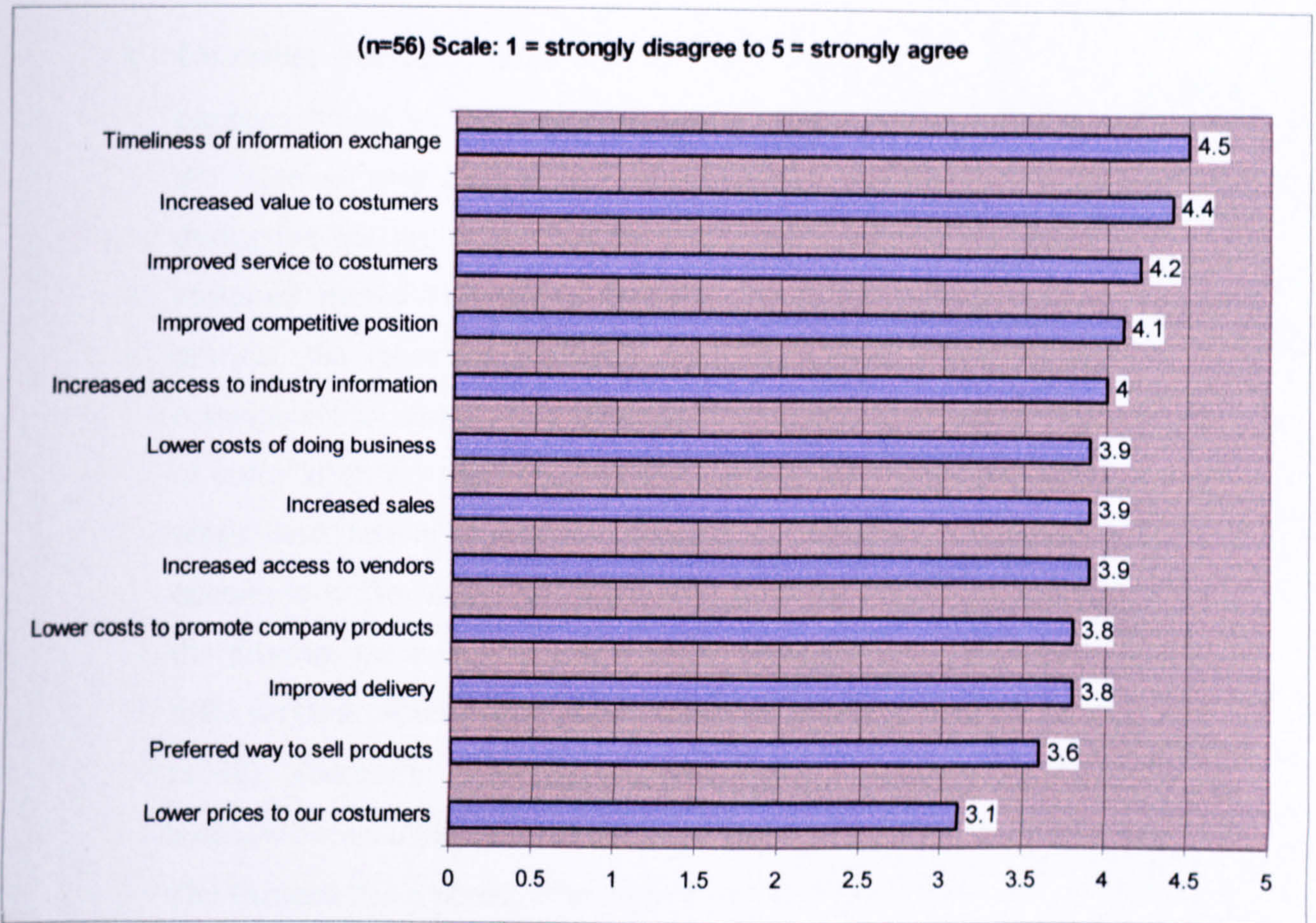
their boards access to the intranet from the outside. One-third in the study allow suppliers access, and thirty-one percent permits distributors and salespeople access inside (Angeles, 2000). Figure 2.6 demonstrates business application using extranet.

Benefits of Extranet

To keep up with the increasing competition, companies are continually looking for new and better ways to reduce expenditures, improve communications and establish better relationships with customers, suppliers and partners (Vlosky and Fontenot, 1999). The extranet can help companies achieve many of these goals. Figure 2.5 demonstrates benefits companies can achieve from adopting the extranet. According to Kippenberger (2002), companies may benefit from the extranet in the following areas:

- **Communication:** The timely and efficient distribution of key information is one of the reasons many companies choose to participate in an extranet. An extranet creates a secure environment for the interchange of critical data with business partners, customers, and suppliers over the Internet (Vlosky et al., 2000). The extranet has a potential to enhance communication between channel members and, therefore, improve their relationships. (See Appendix 2.7.1)
- **Cost Reductions:** Many companies are reaping measurable benefits from extranet use in terms of pounds saved on operating methods. The extranet enables the cost reduction. Companies can reduce the cost of interactions and transactions by communicating with business partners over an extranet instead of using phone, fax, and postal mail (Anandarajan et al., 1998). (See Appendix 2.7.2)
- **Order Processing and Distribution:** A business-to-business extranet can be used to place orders, receive invoices, track shipment, and process payments. Sales representatives are then freed to devote more time to establishing close customer relationship (Anandarajan et al., 1998). Many companies are maintaining an extranet that allows

FIGURE 2.5
Benefits from Adopting Extranet



Source: Adapted from Vlosky and Fontenot (1999)

- distributors to generate and access corporate data, check inventory, place orders and receive shipment status information (Vlosky et al., 2000). In fact, one of the best potential uses of extranets today is enhanced ordering systems (See Appendix 2.7.3).
- **Customer Service:** Future customer behaviour is influenced by what happens during the production process. Indeed, when interest is created, the customer may have only a vague idea of his/her actual needs, but during the purchasing process the scope of needs is narrowed until the customer makes the buying decision. Then during the consumption process, the customer evaluates how the service delivered actually corresponds to his/her needs (Turnbull and Demades 1995). Therefore, in order to attract customers and turn interest into sale and finally into resale and lasting customer contracts, a continuous adaptation of operations to the customers' needs is required (Berry 1983). Throughout the process, the company will have to demonstrate its capabilities to offer services which really satisfy these needs. According to Grönroos (1980), successful marketing occurs when customers repeat their business because they are satisfied with the organisation's performance. The extranet has a potential to improve customer service. It has brought about a means of overcoming the distance barrier. It has made the communication process more efficient, and enabled more interaction than ever before. For example, companies can provide their business partners and potential customers with services over the extranet rather than keeping them waiting on the telephone for company's representatives (Anandarajan et al., 1998). Resellers can also find out the information they need, including real-time custom pricing, availability, and product information while they are sitting at their desktop (Wailkum, 1998). According to Vlosky et al., (2000), saving customers' time is the most important function of the extranet. (See Appendix 2.7.4)
- **Productivity:** Companies' productivity can be enhanced through the use of the extranet, which allows the sharing of necessary information for "just-in-time" systems. (See Appendix 2.7.5)

- **Business Development:** The extranet can facilitate collaboration in product design, which can lead to lower design and production costs. (See Appendix 2.7.6)

Potential Problems of Extranet

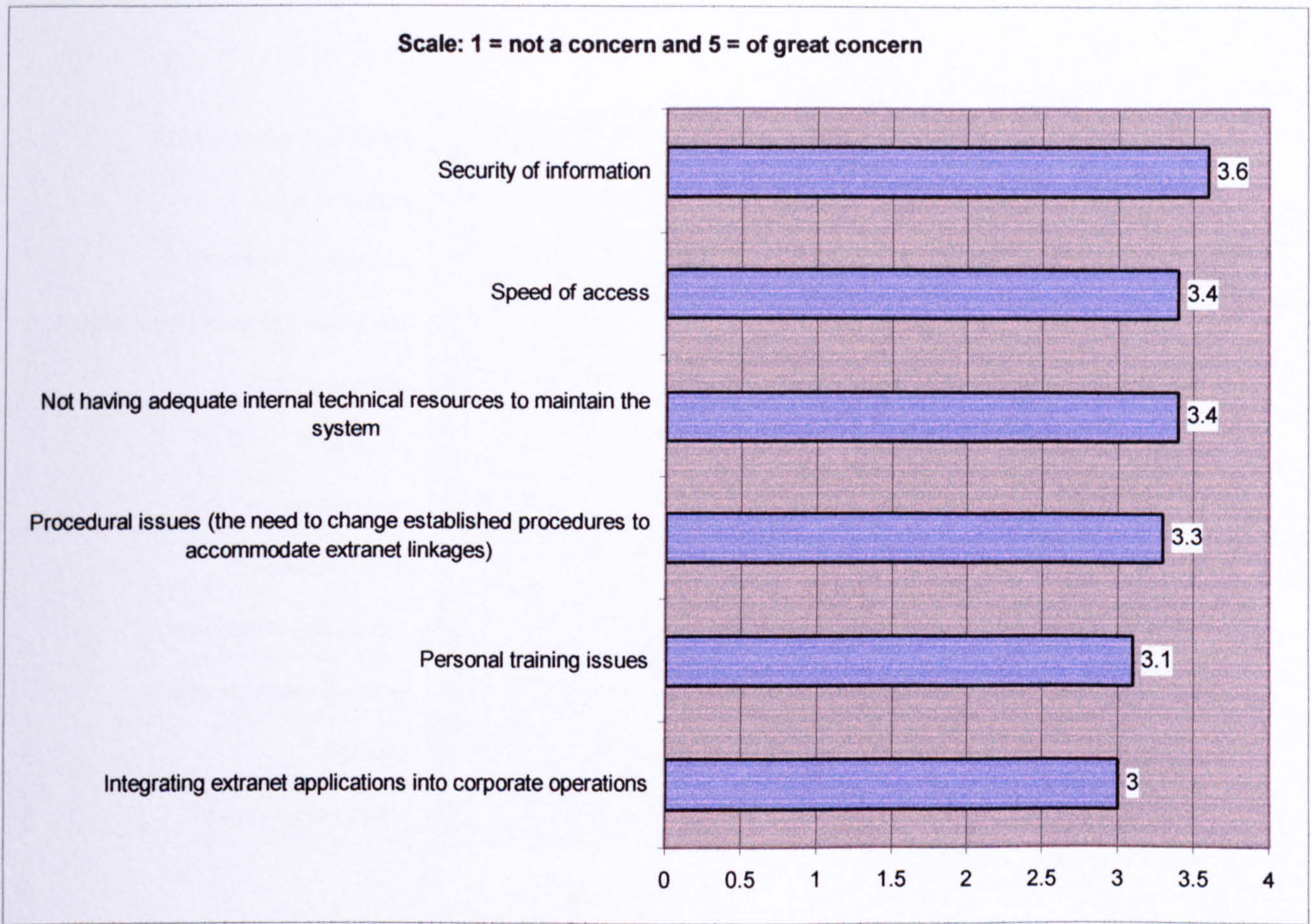
“The benefits of extranets, such as reduced time to market and cost of doing business, and faster access to partner information, may be outweighed by the costs involved in security, Web servers and development, legacy systems integration, ongoing support and maintenance. Extranets require a large amount of IS time and energy, much more than what it takes to get an intranet or Web site up and running, which may place it at the bottom of the IS group's to-do list” (Wailgum, 1998).

The technologies on which the extranet has been built may have some limitations. For example, most IT professionals concede that browser response time is unacceptable. They argue that overall response time must be optimised before Web sites can be relied upon to handle applications that process thousands of transactions per minutes (Bayles, 1997). Also there seems to be a question as to which corporate function should monitor extranet systems, IS departments or marketing (Kippenberger, 2000). Liability issues are also potential problems for extranet use. The extranet operator may be liable if other companies lose business operations due to an extranet crash (Anandarajan et al., 1998). Further, the extranet providing companies must verify that information is seen and accessed only by intended recipients (Kippenberger, 2000). They must ensure that data and server resources are available when needed. Accordingly, the biggest concern of an extranet system is security (Vlosky et al., 2000). Indeed, any system that runs over the Internet is vulnerable to encroachment from unauthorised access. Sensitive information transmitted over extranets, including financial data, and specifications for new products, can make the extranet a target for hackers (Vlosky and Fontenot, 1999). Figure 2.6 demonstrates major concerns about adopting the extranet.

Impact of Extranet on Distribution Channels

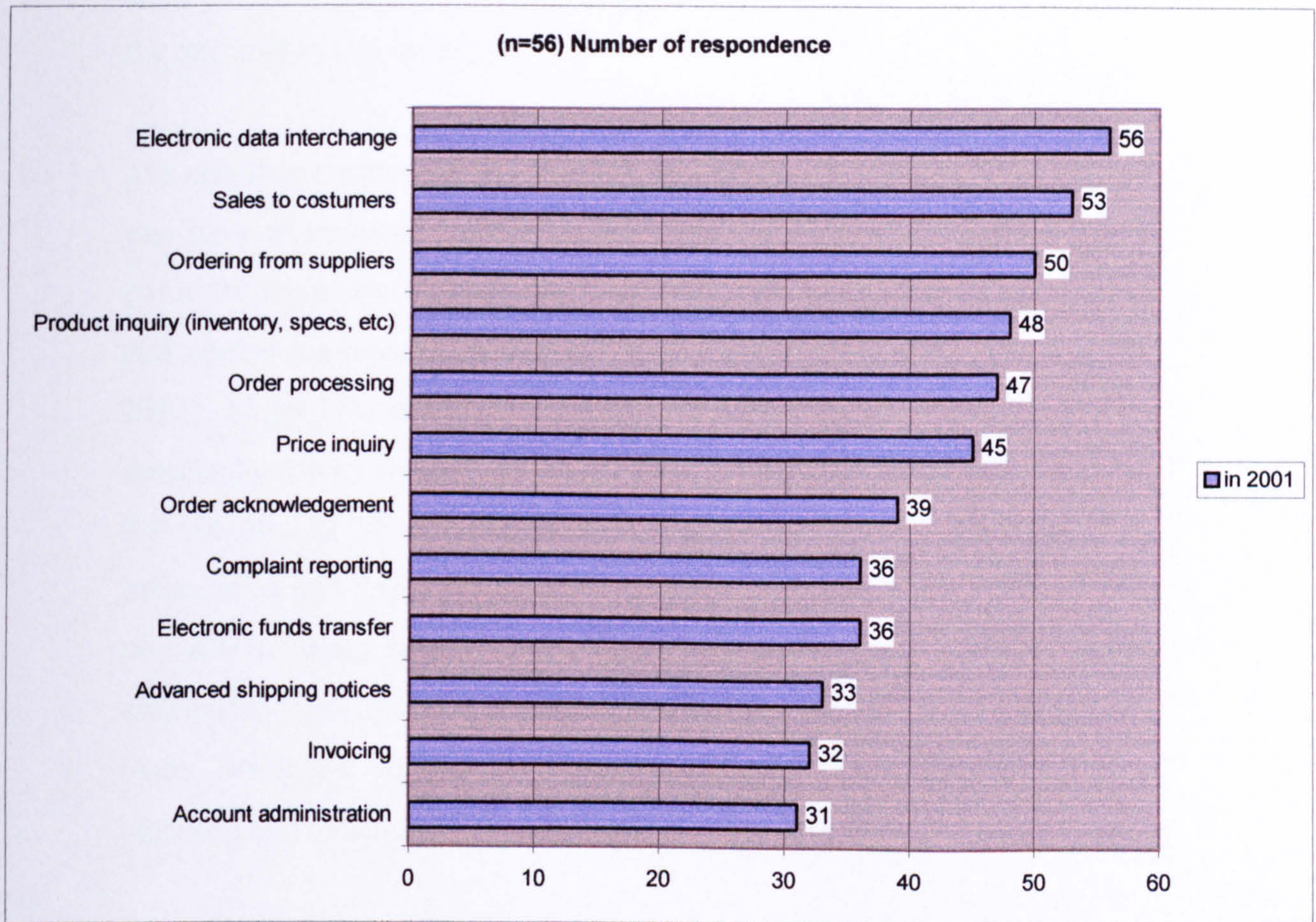
The network of communication in distribution channels is extremely complex. Those who represent a company may come in contact with any number of individuals in a trading organisation. Subsequently, companies need a uniquely efficient mode of communication with their channel members (Boyle and Alwitt, 1999). The forms and capabilities of communication technologies have begun to vary, and it is likely that they will vary a great deal in the future (Huber, 1990). The extranet has been viewed as a new communication medium that can improve channel communications (Vlosky et al., 2000). Increasingly, companies are turning to an extranet as part of their constant search for new and better ways to communicate with their channel members, establish better relationships with customers, suppliers and partners, and reduce expenses (Vlosky and Fontenot, 1999). In fact the extranet has already been used for exchanging large volume of data, sharing news and product catalogues with trading partners, collaborating with other companies on joint development efforts, jointly developing and sharing training programmes with other companies, and much more (See also Appendix 2.7.7-2.7.1). Figure 2.7 shows the list of business applications using the Extranet.

FIGURE 2.6
The Major Concerns about Adopting an Extranet



Source: Adapted from Vlosky and Fontenot (1999)

FIGURE 2.7
Business Applications Using an Extranet



Source: Adapted from Vlosky and Fontenot (1999)

Impact of Extranet on the Insurance Industry

Whilst there is an evidence of the impact of the extranet on this sector, the limited number of academic research on this subject suggests that there is a need for more research to be carried out in order to understand the role of the extranet in this industry.

The continuous growth of the Internet and extranet over the past several years can have a profound impact on the insurance industry. However, to this point the insurance industry has been slow to adapt, leaving many carriers and agents unprepared to respond to new developments (Intranet Journal, 2003). Many UK insurance companies provide the IFAs with a specially designed extranet website; however, most of them have not yet exploited the full potential of the extranet. Most extranets are used mainly for transferring information and data (Vlosky et al., 2000). Companies are not looking at the potential of using their extranet sites to develop stronger links with their distributors and other businesses and systems (Bayles, 1997). In addition, many insurance companies are developing an extranet without proper planning and technology testing (Intranet Journal, 2003).

According to the preliminary data obtained from face-to-face interviews with IFAs, many insurance companies still use the fax or telephone to contact IFAs as many IFAs are not linked up electronically. In terms of competitiveness, the manual processes of fax, telephone and filling in forms are expensive for the insurance company. This is due to the fact that the financial services industry is highly regulated and Insurance companies have to deal with many paper forms and documents. At the same time, day-to-day operations depend on the timely distribution of massive amounts of information to a geographically dispersed sales force. The drivers of regulatory mandates, global opportunity and competition make paper-based processes impractical (Intranet Journal, 2003).

In the future, the extranet for insurance companies will mean that many of the labourious processes such as producing quotations and the complicated calculations required for underwriting will become automated. IFAs will be

able to key in requests at an extranet site and obtain instant answers and quotations (Intranet Journal, 2003).

It is predicted that the extranet will help the insurer reach a group of IFAs who previously were “isolated” because they lacked large IT infrastructures. Increasingly, insurance companies are discovering extranets and the advantages this secure Internet technology can provide. The financial services industry is finding ways to improve its business operations and relationships through the use and management of the extranet (Intranet Journal, 2003).

The role of an Extranet in Channel Communications

As communication is essential for channel relationships (Anderson and Narus, 1990; Anderson and Weitz, 1989; Frazier, 1999; Ganesan 1994; Moorman et al., 1993; Stern and El-Ansary, 1988, Young and Wilkinson, 1989), the emergence of a new medium is always worth serious attention. In channel research, traditional communication media that have received most attention are face-to-face, telephone, fax and mail. Most communication research has also been conducted, based on these media. The extranet is a relatively new medium and it is very different from other media. As a result, it is likely that the extranet will affect the way channel members communicate with each other and, therefore, their relationships.

This research establishes that communication has three key major aspects: the information quality, sharing of information, and communication flows. The role of the extranet in channel communication will be discussed around these issues.

- **The Quality of Information Obtained from the Extranet:** Quality information is referred to as the message that is complete, credible, accurate, timely and adequate (Anderson and Narus, 1990; Mohr and Sohi, 1995; Morgan and Hunt, 1994; O’Reilly, 1982). This research aims to explore whether the information obtained via the extranet is

perceived as timely, adequate, credible, accurate, and complete by distributors.

Timeliness: Channel members do not only have a production lead-time, but also an information lead-time (Stern and Craig, 1971). Although a great deal has been done to reduce production cycles and delivery time, there is still a lot to be done to reduce information lead-time (Stern and Craig, 1971). The impression has been fostered that the extranet allows channel members to access the information immediately, 24 hours per day, across time zones (See Appendix 2.7.10). The recipient will no longer suffer the delay that might be caused by other means of communication (e.g. mail, fax, etc.). However, the most difficult part of adopting the extranet is an ongoing support and maintenance, which requires a lot of time and energy (Wailgum, 1998). Questions need to be handled quickly, content on the extranet needs to be up-dated regularly and connections need to be efficient. Failing to do so may affect the information timeliness.

Adequacy: The extranet can provide two means of information dissemination – push and pull (Bayles, 1997). Pushed information is considered useful if it is not excessive and it helps the recipient in their decision making. An overload of pushed information results in irrelevant information that is usually stored or deleted by the recipient instead of used. The recipient may resent the loss of control on the user's side. Pulled information is a factor of effective extranet. Information is selected on a need-to-know and empowered basis by the user, who pulls what they want, when they want it. An extranet user can then gather the information needed to make a decision, and control, in many occasions, remains with the users. In short, the recipient is empowered to get the desired information (Bayles, 1997). Accordingly, distributors may find information obtained from the extranet adequate.

Credibility: Databases in the extranet are designed for particular groups of users. Some databases can be shared among channel members but some cannot. It is important that channel members perceive

information stored on the extranet as credible and reliable (Bayles, 1997). Channel members should also feel confident that interaction and exchange of information throughout participating organisations has been protected from both the public Internet as well as designated extranet members who should not be privy to certain information.

Accuracy: Extranets allow users to access the supplier's database for instant and accurate information about shipment, pricing, order status, and so forth (Vlosky and Fontenot, 1999). The Information that has been stored in the extranet may be perceived as the accurate one because the user can get the information directly from the source instead of through the third party. In addition, if the user is uncertain about accuracy of the information, the extranet allows the user to address his or her concerns simultaneously (Bayles, 1997).

Completeness: When information is transferred, one of the most common problems is that parts of information may be lost due to the limitation of communication media. For example, telephone communication relies on language content and audio cues rather than visual cues. Thus, the essence of detailed and complicated information may be lost if it is transferred by telephone (Huber and Daft, 1987). As the information is stored in the electronic form in the extranet, channel members can retrieve it directly from the extranet and should receive the requested information in the complete form. With the extranet, channel members can avoid the reception of the incomplete information caused by misunderstanding, for example, over the face-to-face or telephone conversation.

- **Impact of Extranet on Information Sharing:** The most fundamental component of an extranet is the pool of business information that is accessed by the enterprise and its trading partners (See Appendix 2.7.11). As an enterprise and its trading partners get deeper into each other's business processes, there will be a greater need to provide access to a wider range of databases, documents and other resources on the respective intranets. These shared resources can then serve as the basis

for co-operation and collaboration among internal and external personnel (Bayles, 1997). Usual information that can be obtained from the extranets are, for example, competitive information, data sheets, brochures, financial information, forms, pricing information, contractual information, procedural manuals, corporate structure changes including changes to roles and responsibilities, contact details of all personal, new product development, and other data, depending on their access privileges (Bayles, 1997 and Bickerton et al., 1999). When this information can be obtained easily and cheaply, channel members will be more updated with an organisation's changes and become more in tune with how the company wants to do business (See Appendix 2.7.12). As the literature suggests that information sharing is subject to various conditions, the impact of the extranet on some conditions will be discussed next.

Communication Media: The extranet may affect the use of other traditional media (Boyle and Alwitt, 1999). The increasing use of the extranet may result in the decrease in use of certain media such as face-to-face meeting and telephone. According to Anandarajan et al., (1998), although the extranet's e-mail is the quickest and easiest way to reach channel members, the importance of human interaction and business relationships should not be down-played. Electronic exchanges may allow channel members to stay in touch and communicate any time with anyone, inexpensively and efficiently, however, spending time sharing with customers and business partners the kind of social information that develops trust should not be ignored.

This triggers the question whether the technology has the potential to draw channel members together or push them further apart (Boyle and Alwitt, 1999). This research will explore the impact of the extranet on traditional means of communication.

Information Overload: Companies often provide their distributors with excessive information. It is not uncommon that this results in an information overload. This information is often stored or deleted instead

of used. The extranet, however, helps companies select information they need to make a decision. Indeed, the literature suggests that the extranet can decrease information overload (Angeles, 2001; Bayles, 1997; and Vlosky et al, 2000).

Information Accessibility: Accessibility of information is very important in distribution channels. According to O'Reilly (1982), decision-making depends heavily on the availability of relevant information, typically as it increases the accuracy of decisions made. Vlosky et al., (2000), suggest that the extranet increases the company's accessibility of certain information (See Appendix 2.7.13). This research aims to investigate the impact of the extranet on the distributor's access to certain information.

- **Impact of Extranet on Communication Flows:** This research aims to explore the impact of the extranet on two communication flows: communication frequency and two-way communication.

Frequency: The use of computer mediated communication tools can possibly increase the amount of information transfer and communication (Huber, 1990). Computer networks also increase the number of contacts that people have with others (Adams et al., 1993). While the literature suggests that the extranets may encourage companies to communicate frequently with their channel members via the increased communication links and interactive and friendly interface (Bickerton et al., 1999; Ainscough and Lockett, 1996; Vlosky and Fontenot, 1999), the extranet may suffer from the Web technology's limitations concerning, for example, transmission speed, site congestion, lack of organisation, web culture, and lack of confidence in security (Evans and King, 1999). These limitations may reduce communication frequency between channel members. This research will, therefore, explore the impact of the extranet on the communication frequency between channel members.

Two-way Communication: “Intensive two-way communication regarding plans, programmes, expectations, goal setting, and performance evaluation is critical for resolving disputes and coordinating action” (Anderson and Weitz, 1989). The extranet provides two-way interaction through its friendly web-based interface and electronic mail (Bayles, 1998). Channel members can submit their problems by e-mail and feedback (e.g. technical support) can then be obtained quickly (See Appendix 2.7.6). Another form of two-way communication is using an extranet site to access databases and perform queries for research or conduct other transactions (Bayles, 1997). The extranet has been perceived as an appropriate communication tool that supports the intensive two-way communication, allowing channel members to exchange input and feedback at lower cost but with more efficacy (see Appendix 2.7.6). Feedback can be easily provided and obtained through the extranet solution especially when it is possible to access information 24 hours per day, across time zones. The extranet also eliminates the need to wait for the next business day in order to respond to a message. In addition, the extranet has an application that will generate a record of the enquiry, which provides further evidence of the client’s needs and interests.

However, the extranet has some drawbacks. It is a bit of a “chilly” communication medium compared with the alternatives – hardly as warm as a handshake and a smile, a friendly voice or even a hand-written signature on a paper. And it runs on a machine, the PC that is not easy to master. In addition, it may suffer from the Web technology’s limitations concerning, for example, transmission speed, site congestion, lack of organisation, web culture, and lack of confidence in security (Evans and King, 1999). These drawbacks may or may not impact on the two-way communication. This research will explore the impact of the extranet on the two-way communication of channel communication.

Impact on Extranet on Channel Relationships

The Internet technology may foster a general shift from arms-length transactions towards closer exchange relationships; where closer coordination, less conflict and norms of mutual trust and information sharing can be expected (Avlonitis and Karayanni, 2000). Indeed, the factors influencing channel relationship strength also apply in the extranet environment. Trust, commitment, communication, and so forth are dimensions of business partnerships operating in the Internet as well as the physical market space (Vlosky and Fontenot, 1999). However, it is still unclear whether the extranet improves channel relationships and whether the extranet relationship offers superior performance.

- **Impact of Extranet on Trust:** Trust has been the key issue on the Internet framework. A number of researches have been conducted to investigate the role of trust in the Internet environment (e.g Kolsaker and Payne, 2002; Mukherjee, and Nath, 2003; Vlosky et al., 2000). Unfortunately, little work has been done to explore the impact of the extranet on distributor's trust. When the supplier decides to use the extranet to communicate with their distributors, they hope that this new medium will improve their communication and relationship (Vlosky et al., 2000). It is one of the key objectives of this research to look at the impact of the extranet on supplier-distributor relationship. Since trust is considered to be a key ingredient to a healthy relationship (Morgan and Hunt, 1994), to understand the impact of extranets on a relationship, it is important to understand the impact of the extranet on a relational construct of trust.
- **Impact of Extranet on Commitment:** In the same way as trust, commitment is also considered to be one of the most important factors in a channel relationship (Anderson and Weitz, 1992, Morgan and Hunt, 1994). Although the importance of commitment is evident in the literature, little work has been done to explore the impact of the extranet of commitment. Vlosky et al. (2000) studied the impact of the extranet on business practice and relationship. The research, however, reported

only that commitment is manifested in increased sales or purchases in the future with extranet partners. The influence of the extranet on distributors' commitment still remains unknown. To understand the impact of the extranet on channel relationship, it is importance to understand the impact of the extranet on commitment, which is considered as the key ingredient in channel relationship.

- **Impact of Extranet on Co-operation:** Co-operation is known as the key factor that can influence the success of a distribution channel (Guiltinan et al., 1980). If co-operation is to be achieved, channel members will need to understand the factors that foster co-operation. According to Jap (1999), distribution activities cannot be properly co-ordinated without effective channel communication strategies. Channel relationship literature demonstrates a strong link between communication and co-operation (e.g. Guiltinan et al., 1980; Heide and Miner, 1992). In fact, communication has an influence on co-operation (Anderson and Narus, 1990). If the extranet can enhance channel communication, can we assume that it will also enhance channel co-operation?
- **Impact of Extranet on Conflict:** In response to shifts in consumer shopping behaviour, the globalisation of markets, and the advent of the Internet during the past decade, companies have adopted increasingly complex channel strategies. While multiple channel strategy requires the company's resources: capital, personnel, products, and technology, different distribution channels may compete with each other for the same customers in the marketplace, increasing the possibility of intermediary dissatisfaction (Stern et al., 1996). Communication and co-ordination have been considered as the key mechanisms that companies can use to influence the level of channel conflict with their distribution partners. Supplier firms believe that with effective internal and external channel communication strategies, distribution activities in the channels can be properly co-ordinated. This would help suppliers manage the causes of channel conflict: goal incompatibility, domain dissensus, and differing perceptions of reality (Stern et al., 1996). It is believed that the

advent of the extranet will impact on channel conflict in one or another way. Its unique capability to provide channel members with immediate access to valuable information, to increase the interaction between supplier firms and distribution firms, and to facilitate channel cooperation, is believed to help decrease the conflict that was previously caused by miscommunication and communication difficulties (Vlosky and Fontenot, 1999).

2.3.5 Measures of Extranet

A number of studies have been carried out to measure several aspects of the Internet/extranet in distribution channels. This research focuses on the measurement scales concerning the use of the extranet and problems channel members experience while using the extranet. Two measures of the extranet are adopted for this study.

Based on the theoretical research in the area of business-to-business communication, Boyle and Alwitt (1999) develop a typology of communication issues that reflect the content of the majority of buyer-to-seller communications in the industry. The respondents are asked how frequently they personally engaged in communication with suppliers that involve these issues. Responses were in the form of a 5-point Likert scale, with the extremes being never = 1 and very frequently = 5. To make this measure compatible with other measures, this measurement scale is extended to a 7-point scale. All items are anchored with “never” and “very frequently”. (See Appendix 2.8)

Bauer, Grether, and Leach (2002) develop a 3-item scale to measure the problems that users experience while accessing the company’s web site. All measurement items are measured on a one-to-seven Likert scale and anchored with “extremely likely” and “extremely unlikely”. (See Appendix 2.9)

2.3.6 Summary

Many people are using an extranet every day without realising it – to track packaged goods, order products from their suppliers or access customer assistance from other firms (Wailgum, 1998). In the near future, companies may be forced to use an extranet with their suppliers and customers. Even now, some large corporations have made it clear that they are not willing to place their business with companies that will not be connected to a secure extranet in the coming years (Wailgum, 1998).

The extranet can link businesses together and connect people to businesses in ways that have not been envisioned before. In managing channel relationships, extranets have been perceived as a potential means of communication to build a strong collaborative relationship in distribution channels and ultimately have a profound impact on the way in which channel members work together to approach consumers. It is believed that the advent of extranets will bring solutions to some channel difficulties by providing targeted private communication across organisations in a controlled and secured manner, orchestrating who has access to what information, applications and capabilities (Bickerton et al., 1999). Indeed, the extranet is viewed as a primary business marketing force throughout the next decade (Vlosky and Fontenot, 1999).

When channel members realise that sustainable competitive advantage can be created through long-term relationship with their partners, they might not be fully aware of the difficulties arising through the communication and channel management. It is likely that an extranet will permanently change channel relationships, but to what extent and how are important. These issues will be explored and discussed in Chapters 4 and 5.

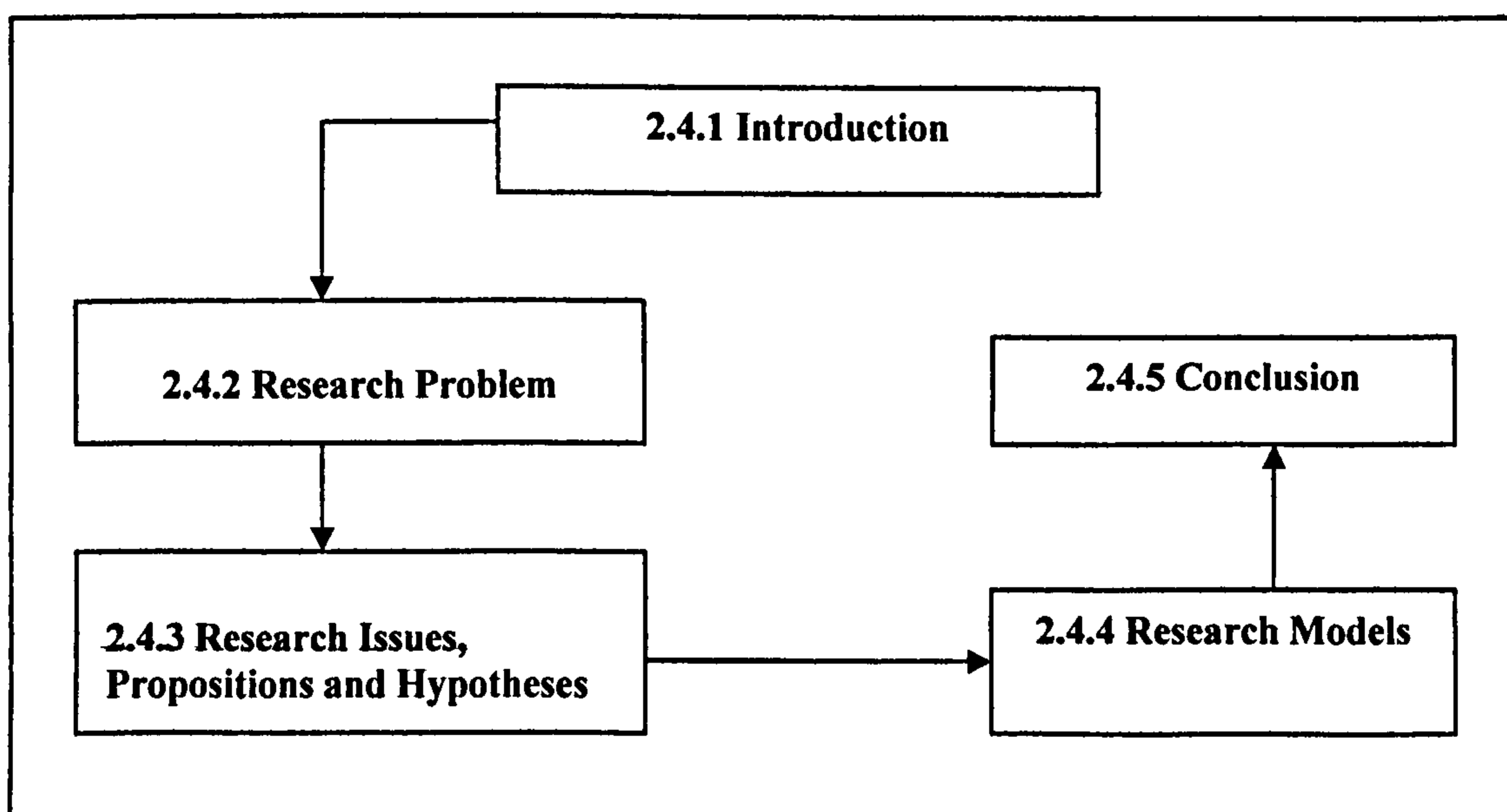
2.4 Conclusion

2.4.1 Introduction

The purpose of this section is to discuss the research issues arising from the intersection of the two topic areas of channel relationships and extranets. This section is divided into five parts as outlined in Figure 2.8. Following this introduction, Section 2.4.2 develops problem, Section 2.4.3 discusses research issues, propositions and hypotheses, Section 2.4.4 develops research models and Section 2.4.5 concludes the section on the theoretical framework.

FIGURE 2.8

Structure of Section 2.4



2.4.2 Research Problem

The focus of this research is to examine the impact of the extranet on distribution channels. Essentially, this research explores the impact of the extranet on the IFA-Insurer communication and relationships from the IFAs' perspective. Accordingly, the problem driving this research is:

How has the extranet impacted on the communication and relationship between the insurer and independent financial advisors (IFA)?

As noted, little work has been done to examine the impact of the extranet in distribution channels and the literature provides little assistance on how to solve the research problem. Thus, a theoretical framework is developed in section 2.2 and 2.3 from both academic and non-academic literature to establish research issues to guide data collection and analysis.

2.4.3 Research Issues, Propositions, and Hypotheses

Following a review of the channel relationship and extranet literature described in Sections 2.2 and 2.3, and preliminary qualitative in-depth interviews described in Chapter 3, research issues, research propositions and hypotheses are developed. Table 2.7 reports the research issues, research propositions and hypotheses.

TABLE 2.7
Research Issues, Propositions and Hypotheses

Research issues	Research Propositions and Hypotheses
<p>RI 1: How does the extranet facilitate the Insurer-IFA communication?</p>	<p>RP1: The extranet has a positive impact on information sharing between the IFA and insurer.</p> <p>RP2: The extranet has a positive impact on two-way communication between the IFA and insurer.</p> <p>RP3: The extranet has a positive impact on an accessibility of certain information</p> <p>RP4: The extranet has a positive impact on speed of communication.</p> <p>RP5: The extranet has a positive impact on an overall communication quality.</p> <p>RP6: The extranet has a negative impact on information overload.</p> <p>RP7: The perceived impact of the extranet on communication quality depends on the frequency of personal visit from the insurer.</p> <p>RP8: The perceived impact of the extranet on communication quality depends on the frequency of extranet communication.</p> <p>RP9: The perceived impact of the extranet on communication quality depends on whether the information provided over the extranet is of good quality.</p> <p>H1: The perceived impact of the extranet on communication quality is positively associated with the impact of the extranet on information sharing.</p> <p>H2: The perceived impact of the extranet on communication quality is positively associated with the impact of the extranet on two-way communication.</p> <p>H3: The perceived impact of the extranet on communication quality is positively associated with the impact of the extranet on information accessibility.</p> <p>H4: The perceived impact of the extranet on communication quality is positively associated with the impact of the extranet on speed of communication.</p>
<p>RI 2: How does the extranet impact on the use of other communication media?</p>	<p>RP10: The extranet has decreased the use of face-to-face communications between the IFA and insurer.</p> <p>RP11: The extranet has decreased the use of telephone communications between the IFA and insurer.</p> <p>RP12: The extranet has decreased the use of the fax communication between the IFA and insurer.</p> <p>RP13: The extranet has decreased the use of mail communication between the IFA and insurer.</p> <p>RP14: The extranet has decreased the use of courier communication between the IFA and insurer.</p>

TABLE 2.7 (Continued)
Research Issues, Propositions and Hypotheses

Research issues	Research Proposition and Hypotheses
<p>RI 3: How does the extranet facilitate the Insurer-IFA relationship?</p>	<p>RP15: The extranet has a positive impact on trust</p> <p>RP16: The extranet has a positive impact on commitment</p> <p>RP17: The extranet has a positive impact on co-operation</p> <p>RP18: The extranet has a negative impact on conflict</p> <p>RP19: The extranet has a negative impact on disagreement</p> <p>RP20: The extranet has a positive impact on relationship quality</p> <p>H5: The impact of the extranet on communication quality is positively associated with the impact of the extranet on trust.</p> <p>H6: The impact of the extranet on communication quality is positively associated with the impact of the extranet on commitment.</p> <p>H7: The impact of the extranet on communication quality is positively associated with the impact of the extranet on co-operation.</p> <p>H8: The impact of the extranet on communication quality is negatively associated with the impact of the extranet on conflict.</p> <p>H9: The impact of the extranet on communication quality is negatively associated with the impact of the extranet on disagreement.</p> <p>H10: The impact of the extranet on communication quality is positively associated with the impact of the extranet on relationship quality.</p>
<p>RI 4: The impact of the extranet on communication, trust, commitment, co-operation, and conflict – How does this facilitate the quality of relationship between insurers and IFAs?</p>	<p>H11: There is a positive relationship between the impact of the extranet on trust and the impact of the extranet on relationship quality.</p> <p>H12: There is a positive relationship between the impact of the extranet on commitment and the impact of the extranet on relationship quality.</p> <p>H13: There is a positive relationship between the impact of the extranet on co-operation and the impact of the extranet on relationship quality.</p> <p>H14: There is a negative relationship between the impact of the extranet on conflict and the impact of the extranet on relationship quality.</p> <p>H15: There is a negative relationship between the impact of the extranet on disagreement and the impact of the extranet on relationship quality.</p>

TABLE 2.7 (Continued)
Research Issues, Propositions and Hypotheses

Research issues	Research Proposition and Hypotheses
<p>RI 5: Does the impact of the extranet on commitment have the most profound impact on the Insurer-IFA relationship?</p>	<p>H16: The perceived impact of the extranet on trust is an important factor that influences the IFA's perception toward the impact of the extranet on relationship quality.</p> <p>H17: The perceived impact of the extranet on commitment is an important factor that influences the IFA's perception toward the impact of the extranet on relationship quality.</p> <p>H18: The perceived impact of the extranet on co-operation is an important factor that influences the IFA's perception toward the impact of the extranet on relationship quality.</p> <p>H19: The perceived impact of the extranet conflict is an important factor that influences the IFA's perception toward the impact of the extranet on relationship quality.</p> <p>H20: The perceived impact of the extranet disagreement is an important factor that influences the IFA's perception toward the impact of the extranet on relationship quality.</p> <p>H21: The perceived impact of the extranet communication quality is an important factor that influences the IFA's perception toward the impact of the extranet on relationship quality.</p>

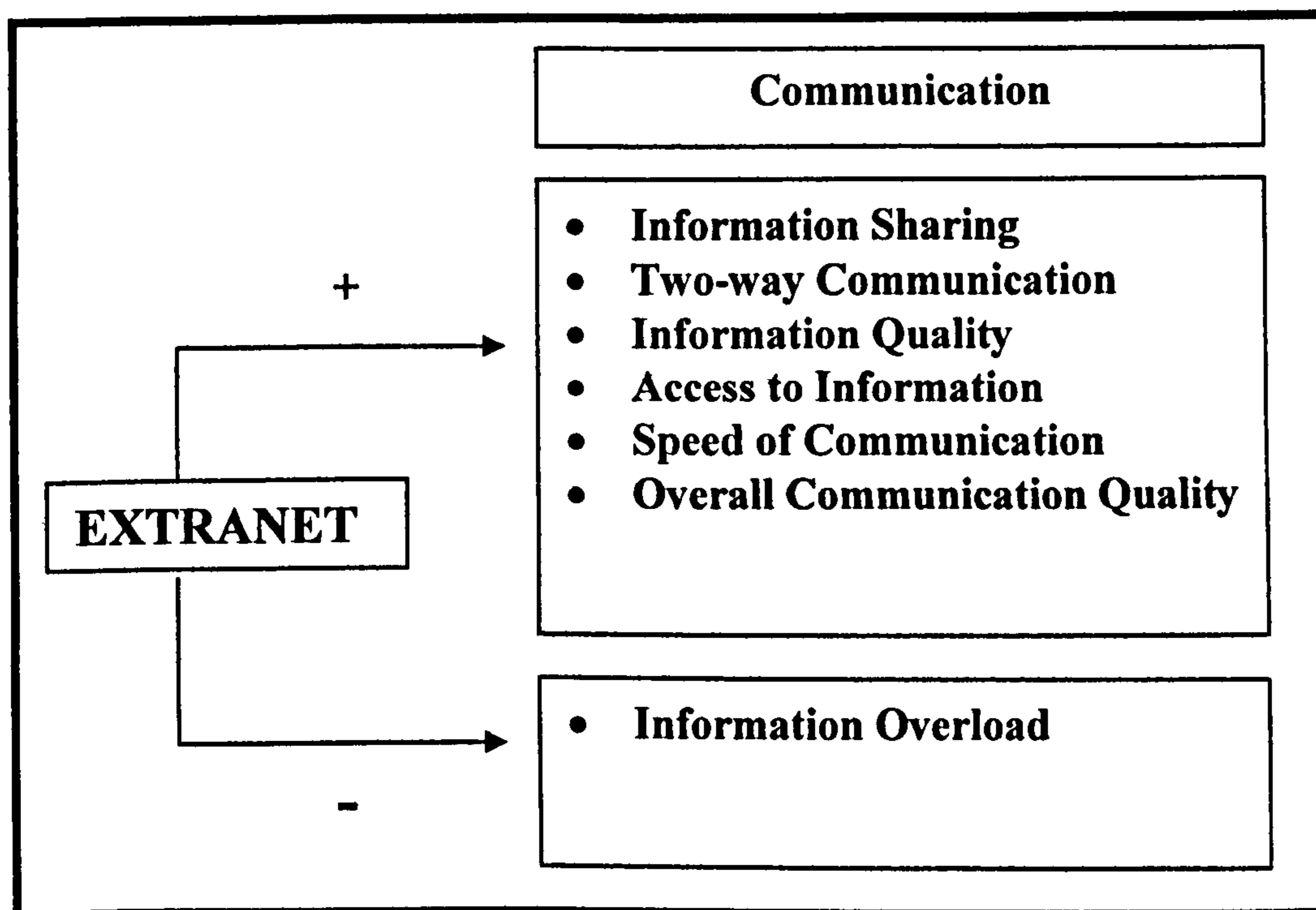
2.4.4 Research Models

From the theoretical background of the previous section, this section develops theoretical models for exploring the research issues as follow:

RI 1: How does the extranet facilitate insurer-IFA communication?

FIGURE 2.9: The Model for Exploring Research Issue 1

(+ = Positively, - = Negatively)

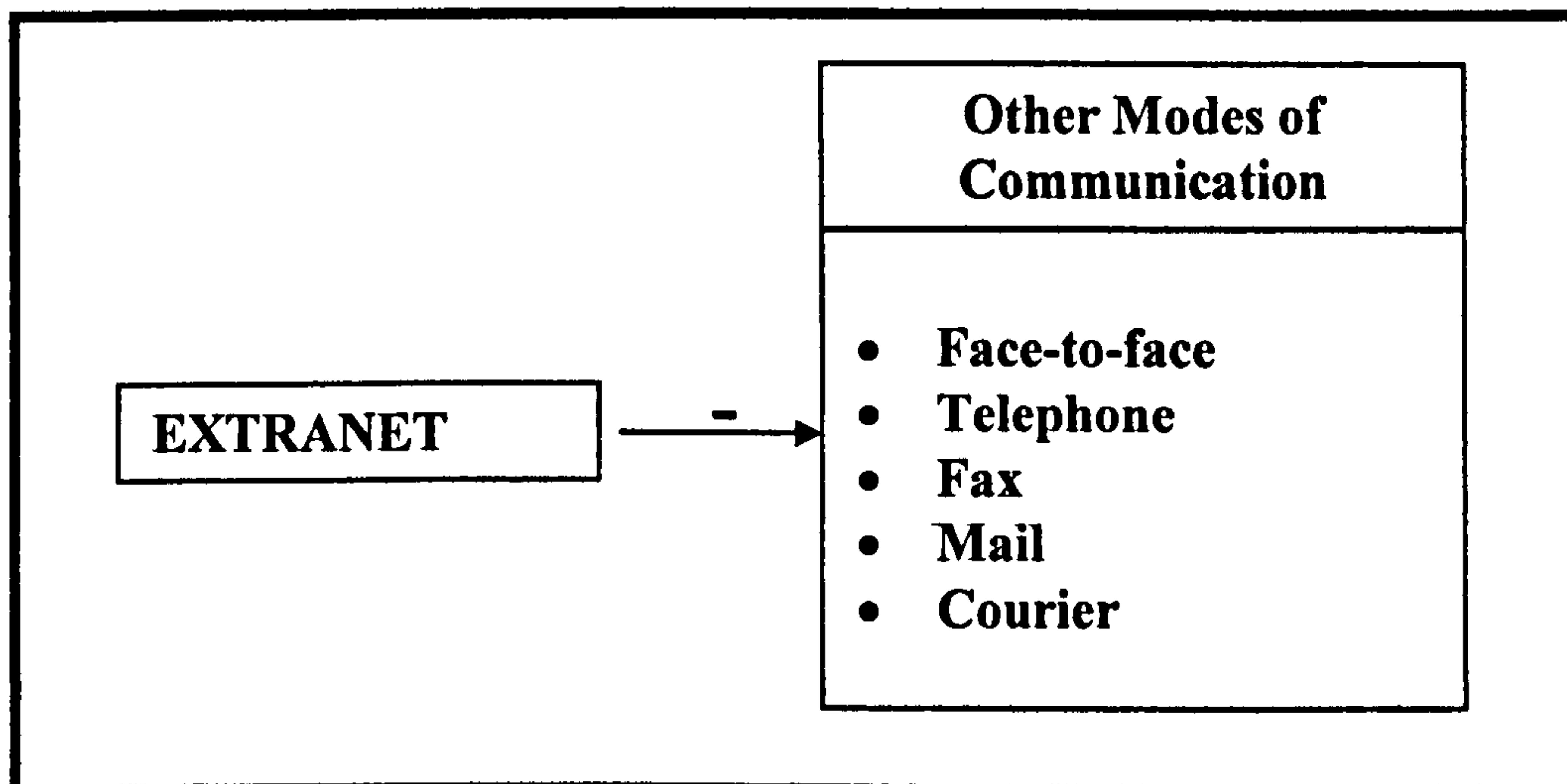


The theory that underlies this model posits that the extranet affects several issues in channel communications – information sharing, information quality, two-way communication, information accessibility, communication speed, overall communication quality, and information overload. These communication variables appear to be frequently discussed in the communication literature, to the extent that with their presence, some relational constructs such as trust, commitment, and co-operation are more likely to be developed and enhanced as noted in Sections 2.2 and 2.3. Thus, this research posits that the extranet can improve 1) information sharing, 2) two-way communication, 3) information quality, 4) access to information, 5) speed of communication and 6) overall communication quality. However, the extranet does not lead to information overload.

RI 2: How does the extranet impact the use of other communication media?

FIGURE 2.10: The Model for Exploring Research Issue 2

(+ = Positively, - = Negatively)

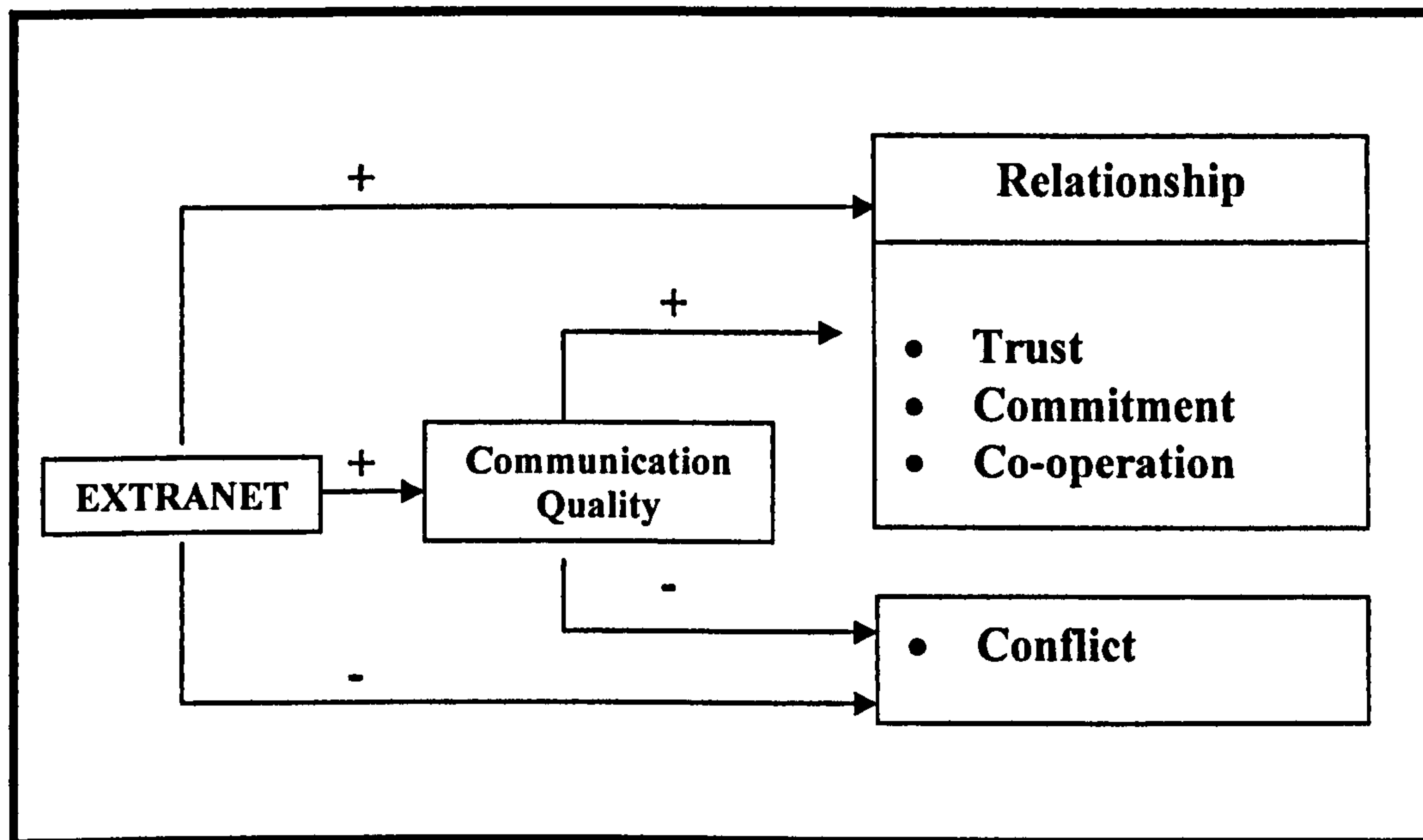


The theory that underlies this model posits that the extranet affects the use of other means of communications: face-to-face, telephone, fax, mail, and courier. These modes of communication are often mentioned in most communication research. In fact, most experiments in communication research always involve at least one of these means of communication. The results obtained from preliminary data obtained from in-depth interviews suggest that the extranet may decrease the use of certain communication media. Thus, this research posits that the use of the extranet will lead to the decrease of the use of other communication media, namely, face-to-face, telephone, fax, mail, and courier.

RI 3: How does the extranet facilitate insurer-IFA relationship?

FIGURE 2.11: The Model for Exploring Research issue 3

(+ = Positively, - = Negatively)



The theory that underlies this model posits that a relationship can be measured or evaluated through the level of trust, commitment, co-operation and conflict (See section 2.2). Hence, to identify how the extranet influences the insurer-IFA relationship, this research examines how the extranet impacts on trust, commitment, co-operation, and conflict. Thus, this research posits that the impact of the extranet on communication quality is positively associated with the impact of the extranet on 1) trust, 2) commitment, and 3) co-operation. However, it is negatively associated with the impact of the extranet on conflict.

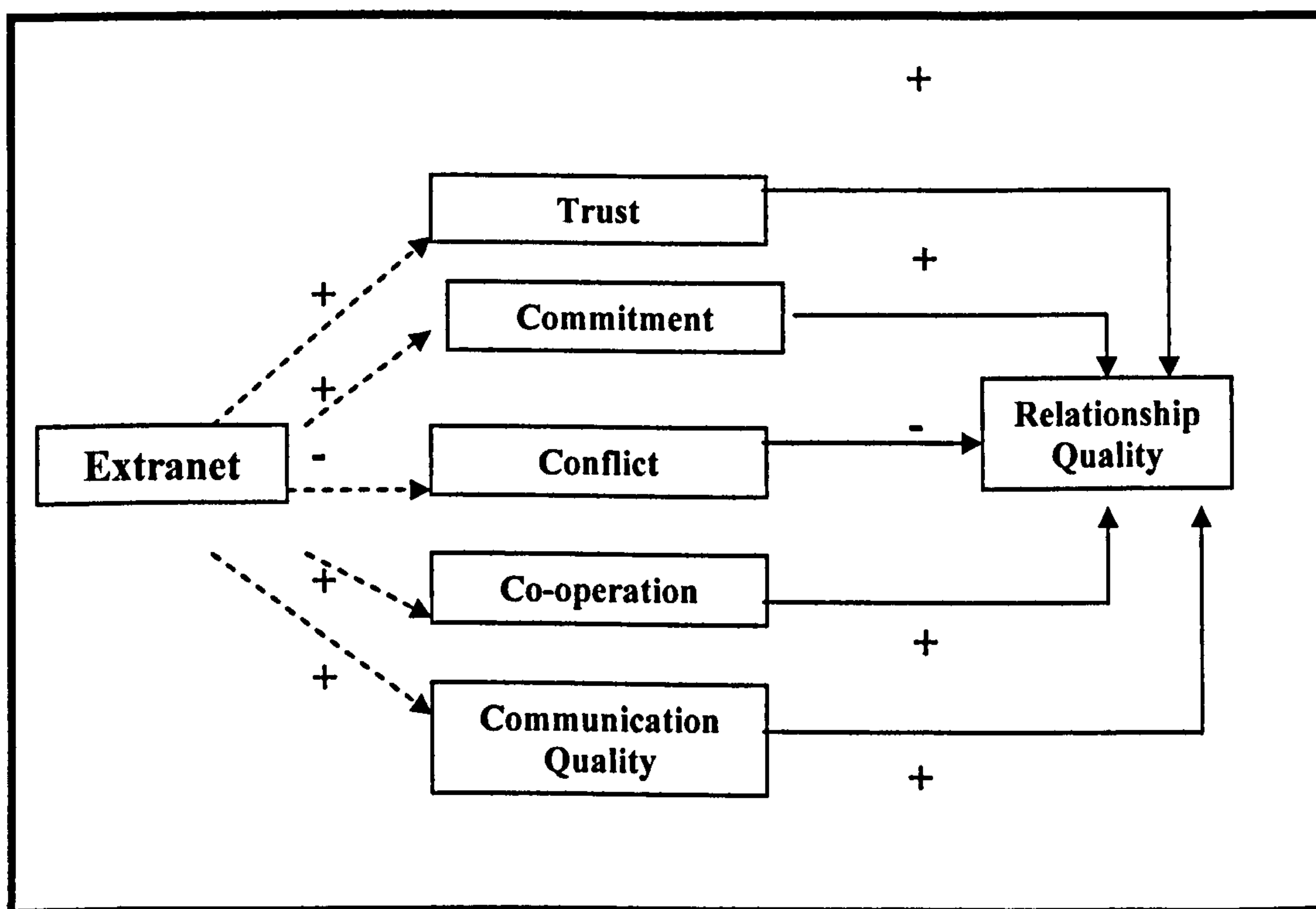
RI 4: The impact of the extranet on communication, trust, commitment, co-operation, and conflict – How does this facilitate the quality of relationship between insurers and IFAs?

RI 5: Does the impact of the extranet on commitment have the most profound impact on insurer-IFA relationship?

FIGURE 2.12

The Model for Exploring Research Issue 4 and 5

(+ = Positively, - = Negatively)



According to the literature, when communication quality increases, it is likely that the level of trust, commitment, and co-operation will also increase and the level of conflict will decrease. Thus, if the extranet does increase communication quality, then, in theory, the extranet should also increase trust, commitment, and co-operation, and decrease conflicts. Further, the literature also suggests that commitment is the most important component in the relationship. Thus, this research assumes that the independent variables (the perceived impact of the extranet on 1) trust, 2) commitment, 3) conflict, 4) co-operation, and 5) communication quality) have a causal relationship with the dependent variable (the perceived impact

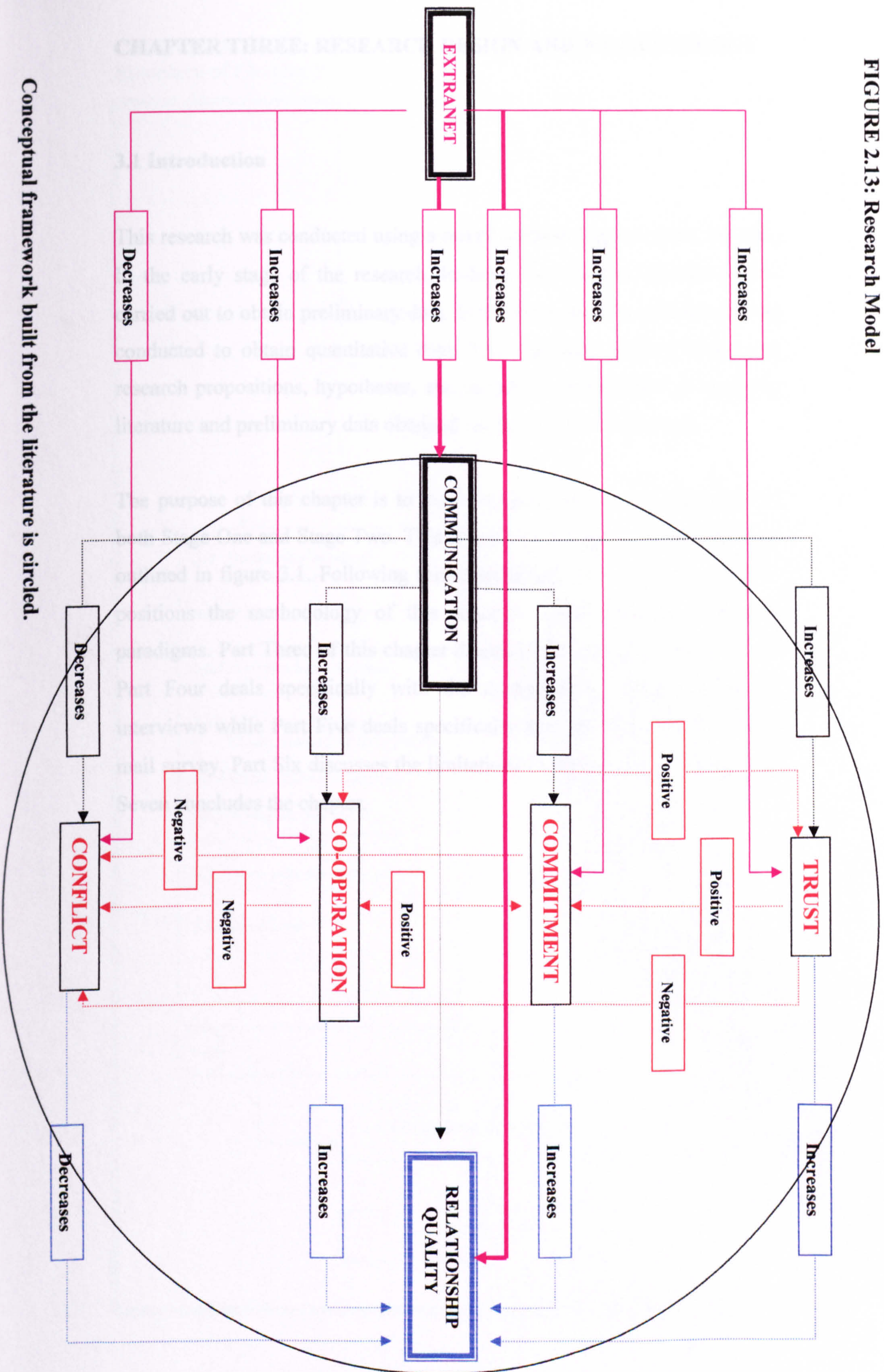
of the extranet on relationship quality). This research also aims to find out which relational factor has the most profound impact on the dependent variable. Figure 2.13 illustrates the overall research model.

2.4.5 Summary

In brief, communication is a key construct in channel relationship literature. Its nexus with other constructs, namely, trust, commitment, co-operation, and conflict, are evident in the literature. The extranet is one of the most important interactive technologies with the potential to facilitate relationships between channel members. However, there does not seem to have been any empirical research to explore the impact of an extranet on channel communication and channel relationships, which this research aims to do. The relationship between extranet usage and relational constructs, namely, communication quality, trust, commitment, co-operation and conflict is also an important gap which this research aims to fill.

The next step is to describe and justify the methodology used.

FIGURE 2.13: Research Model



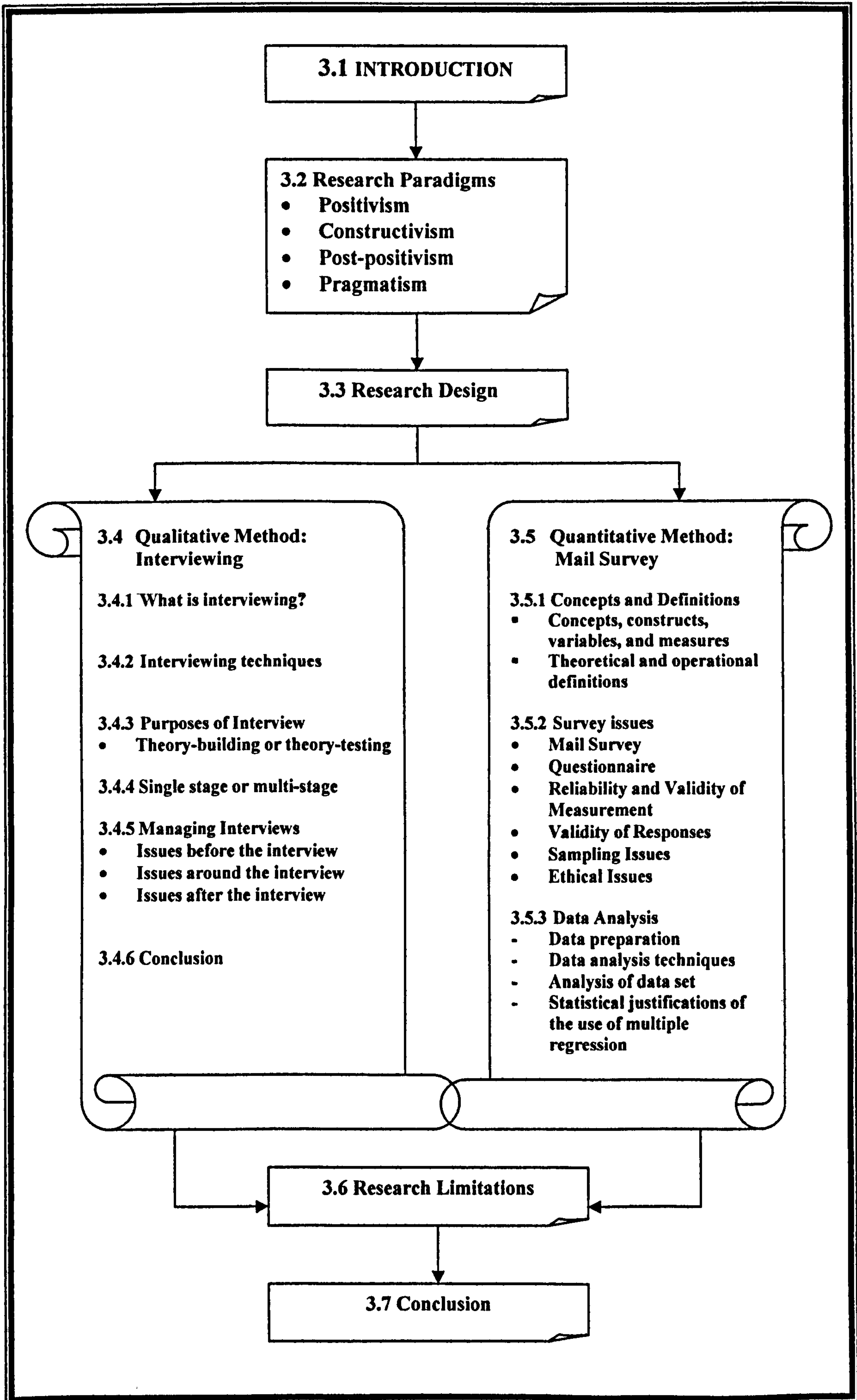
CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This research was conducted using a mixed methodology to obtain the data. In the early stage of the research, in-depth face-to-face interviews were carried out to obtain preliminary data. In the latter stage, a mail survey was conducted to obtain quantitative data. The data was analysed to test the research propositions, hypotheses, and models developed from the existing literature and preliminary data obtained via face-to-face interviews.

The purpose of this chapter is to describe and justify the methodology of both Stage One and Stage Two. This chapter is divided into seven parts, as outlined in figure 3.1. Following this introduction, Part two of the chapter positions the methodology of this research within the major research paradigms. Part Three of this chapter discusses the design of this research. Part Four deals specifically with the methodology of the exploratory interviews while Part Five deals specifically with the methodology of the mail survey. Part Six discusses the limitations of this research. Finally, Part Seven concludes the chapter.

FIGURE 3.1
Structure of Chapter 3



3.2 Research Paradigms

According to Guba and Lincoln (1994: 107), paradigms may be defined as the worldview or belief system that a researcher needs to provide guidance about the nature of reality in the world, to specify the relationship between the investigator and the reality to be investigated, and to indicate appropriate research methods to be employed in the inquiry. Four major paradigms of social science are listed in Table 3.1 and discussed next to justify a paradigmatic position for this research.

3.2.1 Principles of The Paradigms

The basic principles of paradigms of inquiry are ontology, epistemology, axiology, causality, logic and methodology (Tashakkori and Teddlie, 1994). Ontology is concerned with the form and nature of reality: how things are and how they work. Epistemology is concerned with the origin, nature, and limitation of human knowledge, particularly the relationship between the researcher and the reality to be investigated. Axiology is concerned with the role of values in inquiry. Causality is concerned with causal relationships among social phenomena. Logic is concerned with the research cycle or the chain of reasoning which may be seen as moving from grounded results (facts, observations) through inductive logic to general inferences/theory or from those general inferences/theory through deductive logic to tentative hypotheses or predictions of particular events/outcomes. Methodology concerns how the reality at issue is investigated. These principles are usually inter-connected, such that a researcher who takes a position on one of the principles is usually constrained on the position that may be taken on the others (Tashakkori and Teddlie, 1994).

TABLE 3.1**Research Paradigms and Their Principles**

Paradigms	Positivism	Post-positivism	Pragmatism	Constructivism
Ontology	There is a single reality, which is driven by natural laws.	Reality is assumed, but is imperfectly apprehensible as the world is too complex for limited human understanding.	Accept external reality. Choose explanations that best produce desired outcomes.	There are multiple, constructed realities.
Epistemology	Objective point of view. Researcher and the investigated object independent.	Modified dualism. Findings probably objectively 'true'.	Both objective and subjective points of view.	Subjective point of view. Researcher and the investigated object are inseparable.
Axiology	Inquiry is value-free.	Inquiry involves values, but it is possible to control the degree to which values influence results and interpretations.	Values play a large role in conducting research and in drawing conclusions. Pragmatists see no reason to be particularly concerned about that influence.	Inquiry is value-bound.
Causal Linkage	There are real causes that are temporally precedent to or simultaneous with effects.	There are some lawful, reasonably stable relationships among social phenomena. These may be known imperfectly. Causes are identifiable in a probabilistic sense that changes over time.	There may be causal relationships, but we will never be able to pin them down.	All entities simultaneously shaping each other. It is impossible to distinguish causes from effects.
Logic	There is an emphasis on arguing from the general to the particular, or an emphasis on a priority hypotheses or theory.	Primarily deductive.	Deductive and Inductive.	There is an emphasis on arguing from the particular to the general, or an emphasis on "grounded" theory.
Methodology	Questions and hypotheses are in propositional form and subjected to empirical test, mostly through quantitative techniques.	Primarily quantitative.	Quantitative and Qualitative.	Qualitative.

Source: Easton (1998); Gage (1989); Guba and Lincoln (1994); Naude and Turnbull (1998); Reichardt and Rallis (1994); Tashakkori and Teddlie (1994)

3.2.2 Paradigms

Positivism

Positivism has origins dating back to the nineteenth-century French philosopher August Comte. It bases knowledge solely on observable facts and rejects speculation about “ultimate origins” (Tashakkori and Teddlie, 1998). A positivist paradigm underlies what are called quantitative methods (Guba and Lincoln, 1994), and assumes an apprehensible reality driven by immutable laws, as Table 3.1 shows. Objectivity is defined by positivism as being the same as that of natural science and social life may be explained in the same way as natural phenomena. The pursuit of objectivity is defined as the researcher’s detachment from the topic under investigation. Questions and hypotheses within positivism are theory-driven and designed to test the accuracy of the theory through precise quantitative techniques (Guba and Lincoln, 1994). These techniques provide an objective, value-free, one-way mirror window on to reality (Tashakkori and Teddlie, 1998). The results of research using this method of investigation are then said to produce a set of “true”, precise and wide-ranging ‘laws’ of human behaviour (Reichardt and Rallis, 1994). However, positivists consider reality to be easily apprehendable and measured with zero error. As this research deals with a complex social science phenomenon involving reflective humans and their real life experiences, the positivist paradigm is not appropriate for this research.

Constructivism

The discrediting of positivism results in the increasing popularity of constructivism paradigm. Constructivism seeks to comprehend the realities constructed by both researcher and respondents under investigation. The researcher must be closely connected to the research subjects to explore their perception of reality. Constructivists believe that it is impossible to distinguish causes from effects. Thus, under the constructivism paradigm, the methodologies used to perceive multiple constructed realities are qualitative techniques (Reichardt and Rallis, 1994); Tashakkori and Teddlie,

1998). As this research involves some measurable, objective concepts such as the extranet technology, constructivism is an inappropriate research paradigm for this research.

Post-Positivism

Dissatisfaction with the principles of positivism especially with regard to ontology, epistemology, and axiology became increasingly widespread throughout the social and behavioural sciences during the 1950s and 1960s (Tashakkori and Teddlie, 1998). This gives rise to post-positivism. According to Guba and Lincoln (1994), post-positivism has addressed several of the more widely discredited aspects of positivism. Post-positivism is a reaction to the widely discredited principles of positivism and many of its tenets are in direct opposition of those of positivism (Tashakkori and Teddlie, 1998). It believes that although there is a real world waiting to be discovered, there are many perceptions of it (Easton, 1998; Naude and Turnbull ,1998). That is, these perceptions are not reality but merely windows to obtain a better picture of that one reality. When unobservable entities are triangulated by scientific evidence of perceptions, they are accepted as having a correspondence in reality (Godfrey and Hill, 1995). Under the post-positivism paradigm, the methodologies used to perceive the real world are both quantitative and qualitative techniques. However, when choices are between qualitative or quantitative methodology, post-positivists typically prefer the experimental design due to their concern with causality and internal validity (Tashakkori and Teddlie, 1998). This paradigm is not appropriate for this research because the research's choice of the methods depends on the research problem, resources, and time frame, not the preference of certain methods.

Pragmatism

According to Tashakkori and Teddlie (1998), pragmatism rejects the forced choice between positivism and constructivism with regard to methods, logic, and epistemology. Instead, it embraces both points of view. Pragmatists believe that both quantitative and qualitative methods are useful, and

decisions regarding the use of either methods or both depend upon the research question as it is currently posed and the phase of the research cycle that is ongoing. Tashakkori and Teddlie (1998) state that research on any given question at any point in time falls somewhere within a research cycle. The cycle may be seen as moving from grounded results (fact, observations) through inductive logic to general inferences, then from those general inferences (or theory) through deductive logic to tentative hypotheses or predictions of particular events/outcomes. Research may start at any point in the cycle: some researchers start from theories or abstract generalizations, while others start from observations. Regardless of where the researcher starts, a research project always starts, because there is a question that needs a satisfactory answer, and partially travels through the cycle at least once. At some point during the research process, it is likely that both types of inferences and methods will be used simultaneously. Pragmatists accept that they will have a choice of inductive and deductive logic in the course of conducting research on a question that needs to be answered.

Pragmatism also allows researchers to be both objective and subjective in epistemological orientation over the course of studying a research question. It claims that at some points, one may be more “subjective” while at others more “objective”. Also at some points the researcher and the investigated subject must be interactive, while at others, one may more easily stand apart from what one is studying. Pragmatists also believe that values play a large role in conducting research and in drawing conclusions from their studies. Hence, pragmatists decide what they want to research, guided by their personal value systems; that is, they study what they think is important to study. They then study the topic in a way that is congruent with their value system, including variables and units of analysis that they feel are the most appropriate for finding an answer to their research question (Tashakkori and Teddlie, 1998).

In the same way as post-positivists, pragmatists agree that there is an external reality and that researchers should explore causal relationships. They also agree on the principle of the under-determination of theory by

fact. That is, the results from any data set can be explained by multiple theories (Reichardt and Rallis, 1994).

Given all these considerations, pragmatism appears to be the most suitable paradigm for this research because it is a paradigm that philosophically embraces the use of mixed method and mixed model designs and presents a very practical and applied research philosophy.

3.3 Research Design

A research design is necessary for conducting research to achieve its objectives (Erlandson et al., 1993). A research design is a “blueprint” of research, dealing with: what questions to study, what data is relevant, what data to collect, what data collection methods should be used, what measurement and scaling procedures are suitable and how to analyse the results (Erlandson et al., 1993; Yin, 1994).

There is no consensus in the literature about classifying research designs. They are sometimes identified as exploratory, descriptive, and explanatory (Yin 1994), or exploratory, descriptive and hypothesis testing (Sekaran, 1992), or descriptive, experimental and quasi-experimental (Luck and Rubin, 1987), or exploratory, descriptive and causal (Emory and Cooper, 1991). Despite the lack of consensus regarding the classification of research designs, one essential distinction between them is whether the research seeks to answer exploratory questions or explanatory questions.

Exploratory Research

Exploratory research aims to provide tentative understanding of a research problem and should be used as input to further research (Malhotra, 1993). In this research, the exploratory research includes the review of relevant literature and in-depth interviewing, to gain insights into the research problem and discover the main issues in relation to the impact of the extranet on Insurer-IFA communication and relationship. Accordingly,

research issues, research propositions and hypotheses are developed for further inquiry and a survey questionnaire is constructed (Malhotra, 1993).

Explanatory Research

Explanatory research is conducted to provide evidence of cause and effect relationships. In this research, a mail survey was carried out to explore the perceptions of independent financial advisors in relation to the impact of the extranet on their communication with, and relationship to, insurers.

3.4 Qualitative Method: Interviewing

In the first stage of this research, face-to-face interviews were used to obtain preliminary information in relation to the impact of the extranet on communication and relationship between channel members. This section describes and justifies the overall design of the research and methodology of Stage one in which qualitative data was collected to help build the conceptual framework and models for the research. (See Figures 2.8 – 2.12)

3.4.1 What Is Interviewing?

Interviewing is the method of gathering information one-on-one either via direct face-to-face or indirect over-the-telephone (Hessler, 1992). It is described as a conversation with a purpose (Dexter, 1970) that allows the researcher and respondent to move back and forth in time to reconstruct the past, interpret the present, and predict the future (Lincoln and Guba, 1985). It is considered as a basic mode of inquiry (Seidman, 1998); and a special type of conversational interaction, which is, in some ways, similar to other conversations, but it has special features that need to be understood (Wengraf, 2001). It is also perceived as the transcendence of normal conversation that requires special knowledge and training in order to do it well (Hessler, 1992). Interviewing is often treated by newly emerging sociological researchers as a facet of methodology that is easy to master. In fact, interviewing is not only difficult to learn but also difficult to put into sociological practice (Hessler, 1992).

To conduct a good interview, the interviewer does not only need to design a valid and reliable data-gathering instrument, they also need interactive skills that will complement and even enhance the validity and reliability of the data (Hessler, 1992).

3.4.2 Interviewing Techniques

The key objective of in-depth interviewing is to understand the experience of other people and the meaning they make of that experience (Seidman, 1998). Wengraf (2001) suggests that interviews can be used to gain understanding about discourse, objective referents, and subjectivity.

Discourse: The discourse is a mode of talk spontaneously chosen by the subject. In general, a researcher attempts to identify the systemic nature of discourses, which enable certain sorts of things to be said. One mode of analysis is where the researcher attempts to identify a “deep structure” which underlies or generates the “surface performance” of the things actually said (Wengraf, 2001).

Objective Referents: One set of other realities may be that of the objective referents: those things that are referred to in the talk, or about which information can be gleaned through the talk. For example, if an interviewer asks an interviewee about the efficiency of a new computer system, he or she is interested in the “objective fact” to which the interviewee was a witness: what are its advantages, what are its disadvantages? The interviewer is interested in the “discourse” or the “subjectivity” of the interviewee only to the extent that he or she must evaluate the reliability of the interviewee in order to make up his or her own mind about what really happened. In general, the individual subject is being asked to talk so that some information, not about him or her, but about a present or past “context” which happens to be “carried” by him or her, can be obtained. “Interviewing for the facts” or analysing interview material for “factual content” is a very frequent, and obviously important, use of interview material (Wengraf, 2001).

Subjectivity: Subjectivity is a term that Wengraf (2001) constructs from what he perceives as some of the permanent or transient characteristics of the subject who is acting as informant in the interview. For example, the interviewer might suggest the interviewee to talk about any number of subjects not because he/she is interested in that objective referent but because the research is interested in how he or she talks about it, thus revealing their subjectivity. The topics themselves would be of subsidiary interest.

According to Wengraf (2001), it is very important that researchers understand all domains (discourse, referent, subjectivity) since all are overlapping in any one understanding. Nevertheless, no matter how hard they try, it is never possible to understand another perfectly, because to do so would mean that they had entered into another's stream of consciousness and experienced what he or she had. If they could do that, they would be that other person. Therefore, it is very important to recognise the limits of their understanding of others.

3.4.3 Purposes of Interviewing

In a broader categorisation, Hessler (1992) groups interviews into two broad categories that form two general types of interviews: 1) the data-gathering interview and 2) the therapeutic or clinical interview. In social science research, interviewing is a tool used for collecting data to explain the social world, not treating individuals. Interviewing for a data gathering purpose is, however, subdivided into two key categories. Wengraf (2001) suggests that interviews are carried out to collect information with two key purposes:

Theory-Building: This type of interview aims to develop or construct a “model” of some aspect of reality that hopefully will be in accordance with “the facts” about that reality.

Theory Testing: This type of interview aims to test a constructed model to see whether it is confirmed or falsified by “the fact” (Wengraf, 2001).

This research carried out exploratory interviews with the purpose of gaining an insight into the real situation and consequently developing a “model” of some aspect of reality concerning the research issues. As very little has been done in this area of research, it is very difficult to form hypotheses for testing; hence, interviews conducted in this research are not meant to test any rigorous models. Specifically, the researcher would like to understand how the extranet impacts on the way firms communicate and relate to one another. To find out the “facts”, interviews were conducted to explore informants’ perceptions of the impact of the extranet on communication and relationship with their suppliers.

3.4.4 Stages of Interviews

Single Stage: Interviewing can be used as a stand-alone method of inquiry (Hessler, 1992), because it can produce much the same information as large-scale quantitative studies. In fact, interviewing can get deeper meaning and amplify understanding, which is different from a method such as survey that tends to cover a wider range of topics. This suggests that where resources for computerised analysis of quantitative data are limited, interviewing represents a viable alternative to surveys, but they are not appropriate when generalisations to larger populations need to be made (Hessler, 1992).

Multi-Stage: Alternatively, interviewing is effective in setting the stage for quantitative research in which statistically precise measurements of attitudes or preferences are required (Tashakkori and Teddlie, 1998), that is they are provocative and suggestive of further research inquiry. In this research, qualitative interviewing is used to explore the perception of independent financial advisors prior to quantitative survey.

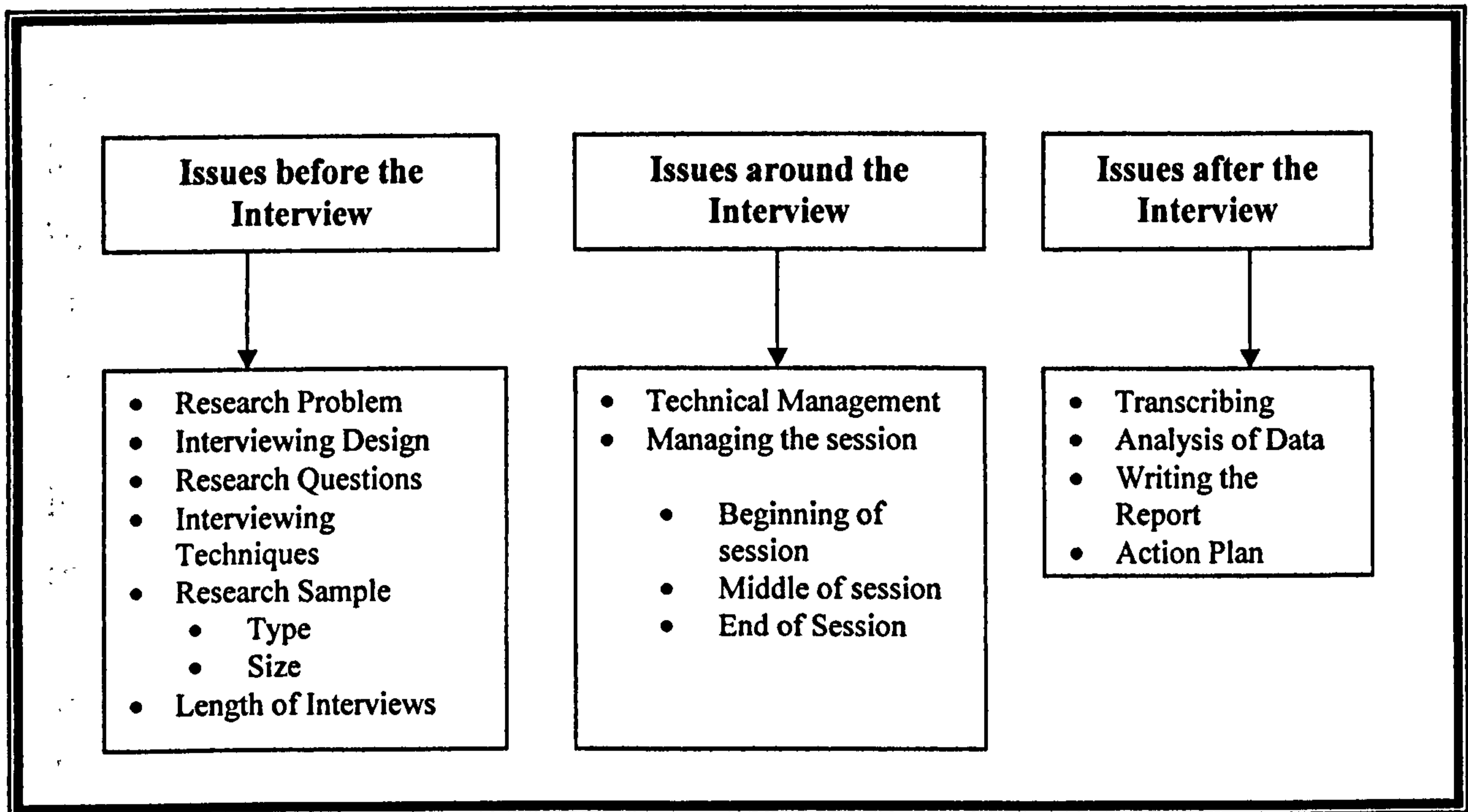
3.4.5 Managing Interviews

This section describes and justifies various processes involved in the practice of qualitative interviewing. These processes are illustrated in Figure 3.2 which shows the major steps involved in the practice of qualitative

interviewing that are classified into issues before the interview, issues around the interview, and issues after the interview.

FIGURE 3.2

Interviewing Structure



Issues Before The Interview

Research Problem: It is very important to define the research problem before conducting interviews. Among several other methods, interviews are often then used as a tool to conduct preliminary observing to check out the researcher's thinking before the process of an explanation for the problem can be developed (Hessler, 1992). Research problems should be posed within a coherent conceptual framework (Wengraf, 2001). The research problem of this study is:

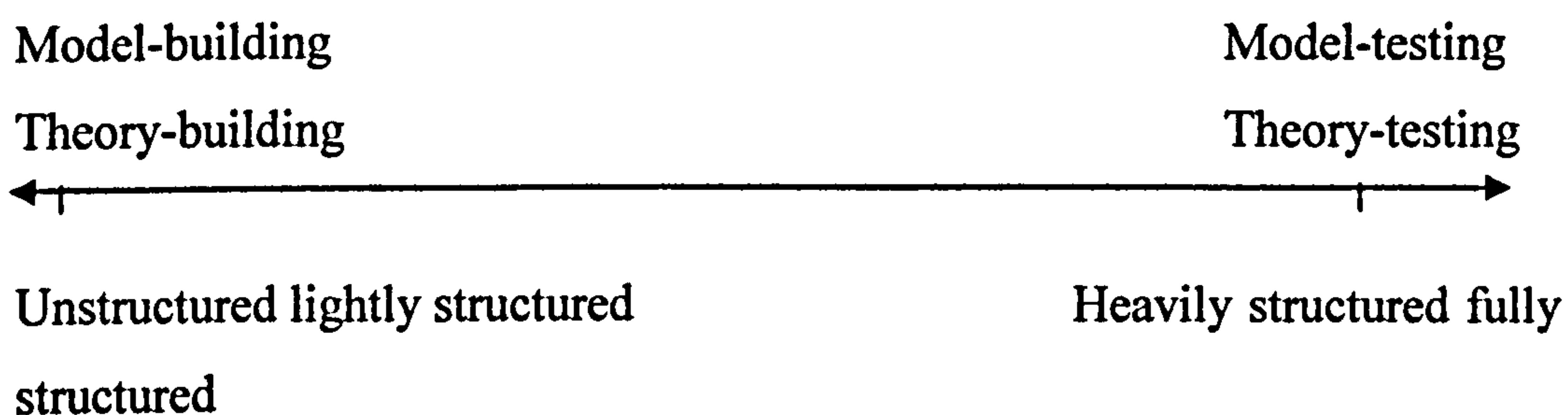
“How has the extranet impacted on communication and the relationship between the insurer and independent financial advisor (IFA) in the UK?”

In this research, the interviews' results help define the scope of the research problem.

Interview Design: Interviewing covers a wide range of practices. There are tightly structured, survey interviews with preset, standardised, and normally closed questions. At the other end of the continuum are open-ended, apparently unstructured, anthropological interviews that might be seen almost as friendly conversations (Spradley, 1979). The conventional argument is that as one moves from model building to model testing, he or she also moves from lightly structured to more heavily structured types of in-depth interviewing. Building a theory or model of a particular reality typically requires an unstructured or lightly structured interview. Once the model or theory has been built, it is then tested by a more heavily structured or fully structured interview (Wengraf, 2001). See Figure 3.3.

FIGURE 3.3

Interview Design



Source: Wengraf (2001)

In this research, all interviews were semi-structured. In semi-structured interviews, a number of questions were prepared in advance. The prepared questions were designed to be sufficiently open that the subsequent questions of the researcher could not be planned in advance but must be improvised in a careful and theorised way. Semi-structured interviews are not easy to prepare and implement. They must be fully planned and prepared (Wengraf, 2001).

Interview Questions: Semi-structured interviews were used with both distributors and suppliers. The semi-structured interview with suppliers consisted of seven open-ended questions:

1. What are the company's main channel marketing strategies?
2. How does the company divide up its distributors?
3. How were supplier-distributor relationships managed before the introduction of the extranet?
4. What are the company's extranet strategies?
5. How has the company integrated the extranet into its channel strategies?
6. How has the extranet impacted on communications between the company and distributors?
7. How has the extranet impacted on relationships between the company and their distributors?

The semi-structured interview with distributors consists of five open-ended questions:

1. How was the relationship between the company and their supplier managed before the introduction of the extranet?
2. How has the extranet been implemented by the supplier?
3. What kind of changes has the extranet brought to the communications between the company and this supplier?
4. How has the company felt about those changes?
5. How has the extranet impacted on the nature of the relationship between the company and their supplier?

Interviewing Techniques: The researcher always kept in mind that the informant is the expert in what he or she knows and understands. The researcher's role is to access this rich store of data from the interviewee, not to impose, even inadvertently, her own interpretations or constructions (Erlandson, et al., 1993). To conduct a good interview, Hessler (1992) points out that several issues need to be taken into account. Some of them are:

- **Talk less and listen more:** Since interview data comes from respondents and not interviewers, the researcher tried to talk as little as necessary to get the respondent to talk as much as possible.
- **Maintain Control:** The researcher tried to take control of the interaction as much as possible, for example, what topics were covered and when they were covered. Losing control of the interview is almost always a methodological disaster that terminates useful data gathering.
- **Take the role of the other:** The researcher tried to understand the respondent's perspective. The research had to spend time learning about where the respondent was coming from.
- **Confidentiality:** The researcher assured the respondents what was said in the interview would be treated with high confidentiality.

Clearly, interviewing is difficult to learn and even more difficult to put into practice (Erlandson et al., 1993; Hessler, 1992). One of the keys to the collection of rich and valid insights in interview research is a well trained and effective interviewer. Accordingly, the researcher's PhD supervisor provided some useful interviewing tips and techniques.

Research Sampling

- **Type of sample:** Random or representative sampling is not suitable for this research because the researcher's major concern is not to generalise the findings of the study to a broader population or universe but to maximise discovery of the heterogeneous patterns and problems that occur in the particular context under study. According to Erlandson et al. (1993), purposive and directed sampling through human instrumentation tends to increase the range of data exposed and maximises the researcher's ability to identify emerging themes. Convenience samples were used in this research for several reasons. First of all, extranet technology is relatively new and most companies were in a very early stage of extranet implementation; therefore, there were few suitable people to choose from at the time of conducting the research. Secondly,

a company communication technology system is a very sensitive area; senior staff members were reluctant to reveal any information to a perfect stranger. In fact, some interviews were arranged through my PhD supervisor's network. Finally, as the aim of the interview is to understand rather than infer, convenience samples are appropriate (Erlandson et al., 1993).

In general social research, the key focus is normally on types of persons (Wengraf 2001). Indeed, researchers need to think about the criteria which distinguish good examples from ones less useful for their research purposes. Some common criteria are, for example, the access to the person, their probability of talking honestly and non-manipulatively to the interviewer, their experience of the subject in question, their capacity to express their experience in words, etc. In this research, a convenience sample of channel interviewees was selected for the interviews based on their level of responsibility, and their perceived ability to comment on the impact of the extranet on their communication to, and relationships with, their channel members.

- **Sampling Size:** According to Erlandson et al. (1993), there is no rule for sample size. This is because in qualitative research, researchers are looking more for information richness than information volume. According to Patton (1990), the logic and power of convenience sampling lies in selecting information-rich interviewees for study in depth because one may learn a great deal more by focusing in depth on understanding a small number of carefully selected sampling than by gathering standardised information from a large statistically representative sample. For this research, face-to-face interviews were conducted with a convenience sample of ten distributors and suppliers.
- **Length of Interviews:** To establish rapport with interviewees and adequately explore the issues, interviews lasted from 1 to 2.5 hours. Some interviewees were very conscious about time and immediately ended the interview once it ran over the agreed time while some were very flexible.

Issues Around The Interview

Preparation for the interview: The researcher did some preparation before each interview. This included deciding on appropriate questions and their sequence, and also deciding on the researcher's own role, dress, and level of formality (Lincoln and Guba, 1985).

Recording the interviews: In interviewing, it is compulsory to keep a record so that the written report will be based on accurate renditions of what was said (Rubin and Rubin, 1995). Recording interviews on a tape recorder helps get the information down in an accurate and retrievable form (Rubin and Rubin, 1995). Some interviewees like being recorded because they are more confident that their message will be transcribed accurately. However, on some occasions, interviewees may feel threatened by the presence of a tape recorder and do not feel like sharing sensitive information with the interviewer (Rubin and Rubin, 1995). In addition, the mechanics of recording require attention. Interviewers need to make sure that, for example, the batteries are fresh, the volume and the microphone are turned on, and the tape does not break.

In this research, a tape recorder was used in every interview. Permission was asked prior to the interview. No interviewees objected to the use of the tape recorder. Care was exercised and the recorder was checked prior to every interview to make sure that it functioned effectively. Spare batteries were present and tapes were also provisionally labelled. Every interview was well-recorded and transcribed.

Managing the Sessions: Each interview is divided into three sessions: the beginning; the middle and the end. Each session is discussed next.

The beginning of the interview session: The beginning of the interview sets the tone for the whole session. The interviewer should express his/her motives, intentions, and inquiry's purpose at the beginning of the interview. To give the interviewee a chance to relax and talk about non-threatening topics, broad questions should be used first (Lincoln and Guba, 1985).

Broad questions can provide the interviewer with valuable information about how the interviewee construes the general characteristics of the context.

In this research, the interview sessions began with the researcher introducing herself, warmly welcoming the interviewee and giving him/her an overview of the research topic and objectives of the interview. All interviewees were assured that their responses were anonymous, that the information they provided would be used for academic purposes, that their support and contribution was highly appreciated. All interviewees were also asked for permission to record the interview by tape recorder.

The middle of the interview session: After the introductions, it is a common procedure in interviewing to start the interview with broad questions and become more specific as the interview progresses. There will be times when the interviewer will need to probe or pursue a certain line of thought with the respondent (Lincoln and Guba, 1985). If further information is to be extracted, probes or follow-up questions can be used to obtain more information without suggesting specific answers and without making respondents defensive (Seidman, 1998).

This research started with broad questions. For example, the interviewee was asked to describe his or her key roles and responsibilities within the company. This helped the researcher decide what was legitimate to ask the interviewee or whether the questions were within the interviewee's territory. The questions then became more specific as the interview progressed. When the researcher needed further information, she probed by way of requests for elaboration and clarification.

The end of the interview session: Concluding the interview is essential. It gives the interviewer a chance to review or summarise what he or she understands to be the important parts of the interview. The interviewee is also given an opportunity to clarify or refine aspects that might cause confusion or dissatisfaction. The interviewer can also take this opportunity to verbally thank the interviewee for his or her co-operation. Before

terminating the interview, the researcher will often seek an additional piece of information from the interviewee, for example, the identification of other persons who might be valuable sources of information. The researcher is often able to make use of an insider's knowledge to enrich his or her purposive sample. A key principle of closure is to never bring final closure, that is, the interviewers should strive to keep the doors of communication open between themselves and interviewee (Erlandson et al., 1993).

In this research, the subjects discussed in the interview were very lengthy. The researcher was under pressure of time. As a result, the researcher could not make a summary at the end of every interview. However, the researcher tried to establish a future contact with each interviewee. Thank-you emails were sent to every interviewee to emphasise the value of the interviewee's information.

Issues After The Interview

Transcribing: Interviewers who transcribe their own tapes are likely to come to know their interviews better. However, the work is so demanding and time-consuming that they can get tired and lose enthusiasm easily (Seidman, 1998). A transcribing machine that has a foot pedal and earphones can facilitate this activity. Otherwise, it will normally take from four to six hours to transcribe a ninety-minute tape (Seidman, 1998). When the researcher is working with quite large samples, professional transcribers are normally involved. However, it is very costly and the researcher must ensure that the professional transcribers will produce a quality work. Otherwise, it is not worth the effort. According to Kvale (1996), whether researchers transcribe the interview themselves, or they hire professional transcribers, it is essential for them to develop explicit written instructions concerning the transcribing to improve the consistency of the process, encourage the researcher to think through all that is involved, and allow them to share their decision making with their readers at a later point. A detailed transcript that was carefully transcribed re-creates the verbal and non-verbal material of the interview that can be of great benefit to a

researcher who may study the transcript months after the interview took place (Mishler, 1991).

In this research, every interview was transcribed by the researcher. All transcriptions were made using a computer-based word-processing program. This helps the researcher to sort and to re-file materials later on. The researcher developed a transcription procedure to ensure consistency of every interview. It took the researcher from eight to twelve hours to transcribe a ninety-minute tape. Appendix 3.1 contains two interview transcriptions.

Analysis of Data: An enormous amount of text can be generated by in-depth interviewing. It is essential that the vast array of words, sentences, paragraphs, and pages are reduced to what is of most importance and interest (McCracken, 1988; Miles and Huberman, 1984). In fact, the analysis of qualitative data is the process of bringing order, structure, and meaning to the mass of collected data. It is a search for general statements about relationship among categories of data (Marshall and Rossman, 1989)

In this study, analysis of the transcript is divided into two parts. The first part deals with the organisation of data into meaningful categories or themes. The second part is concerned with the interpretation, looking for patterns within and between the categories in order to draw conclusions.

Data Organisation: In this research, the researcher used a conventional method to organise data (Seidman, 1998). The researcher started from reading the transcript and marked individual passages of interest. In the marking the passages, the researcher found herself selecting passages that connected to other passages in the file and the literature on the subject, that were contradictory and inconsistent with others, and that were highlighted a dramatic incident.

During the process of reading and marking the transcripts, the researcher also began to label the passages that were marked as interesting. In other words, after having read and marked interesting passages in a couple of

interviews, the researcher halted to consider what the subject of the marked passages was and whether they could be labelled. This process is known as “classifying” or “coding” data (Dey, 1993).

During this reading, marking, and labelling process, the researcher found that some categories that seemed interesting early in the process could die out; some new passages could emerge and seem well-connected to the same category; and some categories that seemed distinct and separate could fold into each other (Dey, 1993).

Each passage was labelled with a notation system that would designate its original place in the transcript. The researcher used the name of the company to identify the interview and Arabic numbers for the page number of the transcript on which the passage occurs. After that, all excerpts were cut with scissors and filed in folders under the name of the assigned category. In the next step, the researcher read all excerpts again and remarked those that seemed more compelling and screened out those that seemed at this stage to be of less interest.

Data Interpretation: According to Glaser and Strauss (1968), it is very important that the interpretation of data is done inductively rather than deductively. The researcher should avoid addressing the material with a set of hypotheses to test or with a theory developed in another context to which he or she wishes to match the data. In fact, the researcher should come to the transcripts with an open attitude, seeking what emerges as important and of interest from the text.

In fact, data interpretation has automatically started since the researcher questioned the interviewee, marked passages that were of interest, labelling and grouping them (Seidman, 1998). In this research, *informal* data analysis and interpretation began while the interviewing was still under way. After completing each interview, the researcher examined the data obtained, pulled out concepts and themes that were related to the research objectives and decided which areas should be examined in more detail. After the interviewing was complete, the researcher began a more detailed analysis of

information obtained from the interviewees. In this *formal* analysis and interpretation, additional themes and concepts were discovered.

After key excerpts from the transcripts were organised into categories, the researcher tried to find the connecting patterns among the excerpts within those categories and also connections between categories that might be called themes. The ultimate goal was to try to integrate the themes and concepts into a theory that might offer an accurate, detailed, but subtle interpretation of the research problem.

Writing the Report: After working out major themes from the interviews, clarifying concepts, and putting together an overarching explanation, the next step is to put this information into a report that is convincing, thought provoking, absorbing, vivid and fresh (Rubin and Rubin, 1995). To report the findings of interviewing research effectively, researchers must be able to bring out the core themes and concepts clearly. The use of excerpts from the interviews at appropriate moments will help make the report convincing while drawing the reader along to the researcher's conclusion. In this research, the final interpretative report contains a summary of the results. See Chapter 4, section 4.2.

Action Plan: In this research, the interviewing was exploratory. The preliminary information obtained from the interviews helped the researcher understand how the senior staff members in the company perceive the impact of the extranet on their communication to and relationships with their channel members. In addition, the interview information also provided some new insights into other issues concerning the impact of extranet that the researcher was not aware of before conducting the interviews. The information was also used to construct a survey questionnaire.

The action taken following the interviewing was further research, which involved testing the hypotheses by a mail survey method. The mail survey and the methodological aspects of the quantitative stage will be discussed next.

3.4.6 Summary

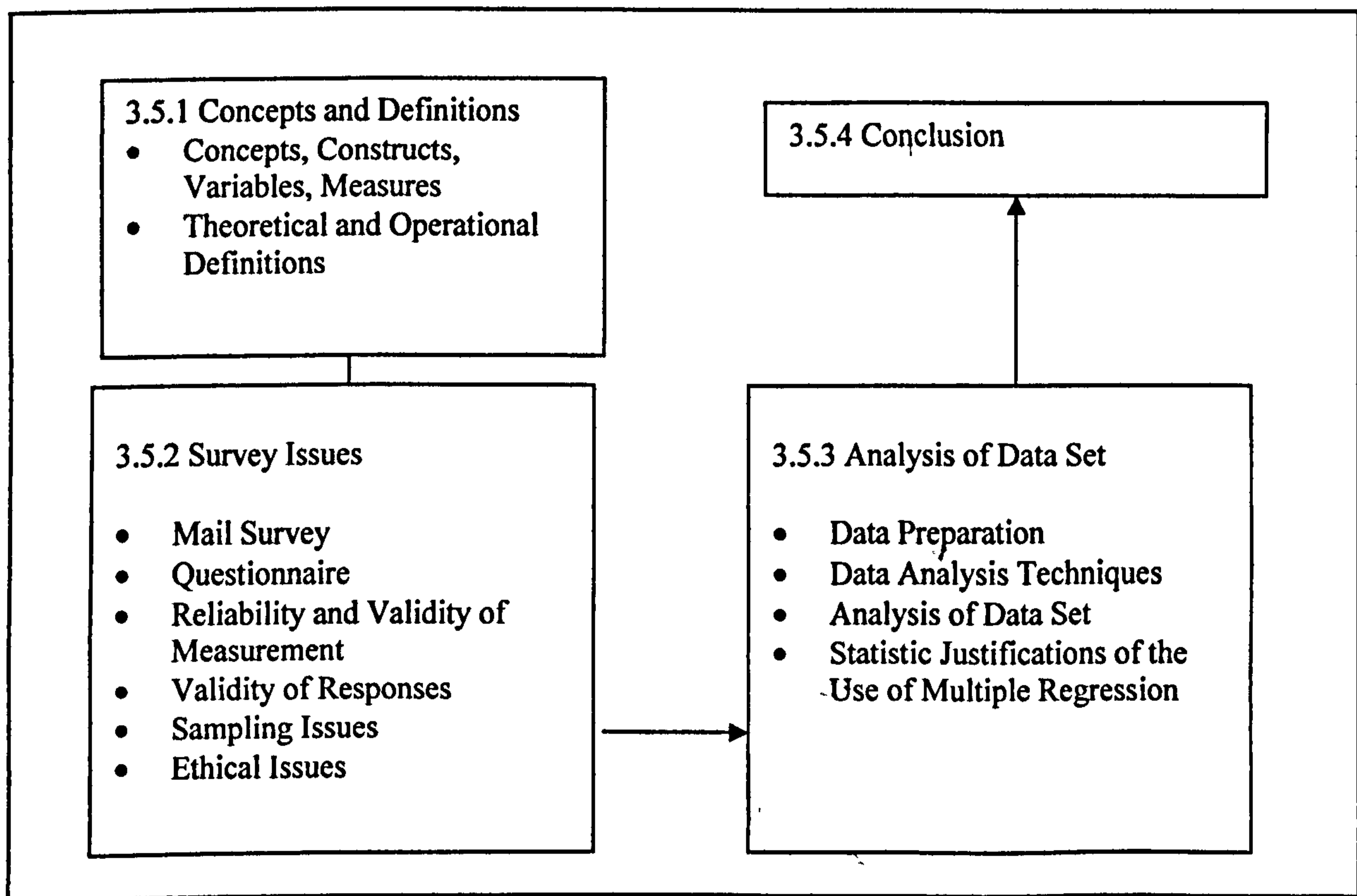
The first part of this chapter described and justified the interviewing methodology at the exploratory stage of this research. Indeed, in-depth interviewing was considered to be appropriate for the first stage of this research in obtaining preliminary information from a wide range of extranet managers across the industry.

3.5 Quantitative Method: Mail Survey

In the second stage of this research, quantitative data was collected to test the hypotheses and model developed from existing literature and preliminary data obtained via face-to-face interviews. A mail survey was used to obtain quantitative data in the second stage. This section is divided into four parts as shown in Figure 3.4. Following this introduction, the next part discusses the data collected in terms of operationalising the research concepts. Then, it discusses the issues around mail survey. Part Three focuses on the analysis of data set. The last part concludes this quantitative methodology section.

FIGURE 3.4

Structure of Section 3.5



3.5.1 Concepts and Definitions

Concepts, Constructs, Variables, and Measures

The beginning point for the quantitative process is a theoretical domain. After a theory has been formulated, hypotheses will be deduced from the theory and submitted to a searching enquiry. Usually, hypotheses take the form of relationships between two or more entities. These entities are usually referred to as concepts/constructs. In order to assess the validity of a hypothesis, it is necessary to develop measures for the constituent concepts – this process is known as operationalisation. In effect, the concepts are translated into variables (Bryman and Cramer, 1997). Indeed, before quantitative data is collected by means of measurement, the concepts and variables relevant to the research problem must be identified and defined (Davis and Cosenza, 1993). Accordingly, this section first distinguishes between concepts, constructs, variables and measures and then identifies and defines the key concepts and variables of this research. Then, the development of measurement scales is discussed in Section 3.5.2

- **Concepts:** According to Ary (1985), a concept is an abstraction encompassing observed events; a word that represents the similarities or common aspects of objects or events that are otherwise quite different from one another. Emory and Cooper (1991) suggest that a concept is an abstraction formed by generalising from particulars e.g. weight is a concept which expresses observations of, for example, lightness and heaviness. Concepts can be real phenomena such as dogs, cloud, or pain. It can also be agreed-upon phenomena such as truth, beauty, justice, and value (Emory and Cooper, 1991). Concepts are described as the building blocks of theory (Fielding and Gilbert, 2000); and phenomena of particular interest in social science disciplines (Sirkin, 1995). The purpose of a concept is to simplify thinking by including a number of events under one general heading (Ary, 1985).

- **Constructs:** Constructs are concepts deliberately and consciously invented or adopted for research. Constructs are concepts existing at higher levels of abstraction invented for some theoretical purpose (Davis and Cosenza, 1993). They enter into theoretical schemes and are related in various ways to other constructs (Ary, 1985). According to Kerlinger (1986), they are defined and specified so that they may be observed or measured. Researchers measure things in three classes:
 1. Direct observables: height, weight, colour, etc.
 2. Indirect observables: questionnaires provided information on age, gender, income, etc.
 3. Constructs: theoretical creations based on observations that cannot be observed directly or indirectly such as IQ, leisure, satisfaction, values, etc. (Davis and Cosenza, 1993). Constructs however, can be defined operationally into variables that can be measured (Sirkin, 1995).

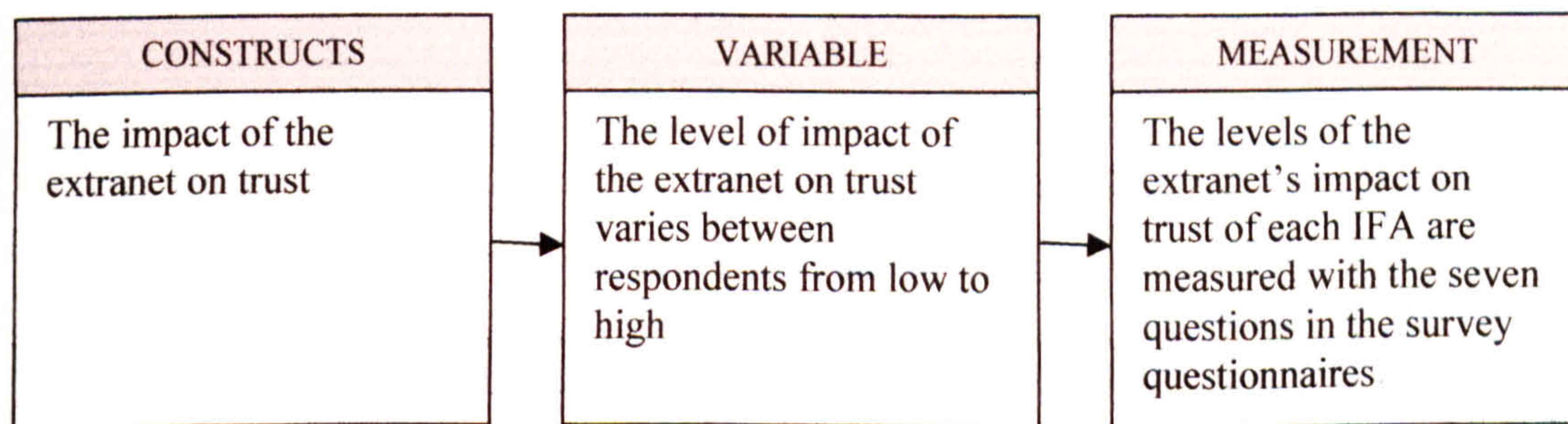
- **Measurement:** Measurement is the assignment of symbols to observable phenomena (Ary, 1985). There are two kinds of phenomena: constant and variables. Concepts or constructs must be free to vary if they are to be variables; otherwise they are constant (Emory and Cooper, 1991). There are three ways of measuring things, namely, counting, ordering, and classifying (Ary, 1985). However, before variables can be measured they must be defined. There are two types of definitions: theoretical (the words used in a theory; basically dictionary or common use) and operational (a definition that explains how the variable is to be measured). According to Ary (1985), operational definitions are essentials to research because they permit researchers to measure abstract concepts and constructs and to move from the level of constructs and theory to the level of observation. In short, operational definition assigns a meaning to a concept or variable by specifying the operations needed to measure it. There are two types of operational definitions: measured operational definition (operation by which the researcher can measure a concept) and experimental operational

definition (steps taken by a researcher to produce certain experimental conditions) (Emory and Cooper, 1991).

- **Variables:** Variables are concepts expressed in terms of something that varies either across objects or within the same object over time (Emory and Cooper, 1991). Variables are properties that possess values and levels – the dimensions on which they vary (Sommer, 1997). According to Sirkin (1995), they are called variables because they vary in amount or attribute for each individual, group, society, state, culture, or whatever has been observed. There are different kinds of variables, for example, independent variables, dependent variables, active independent variables, attribute independent variables, intervening variables, controlled variables, etc. The relationship between concepts, variables and measures in this research is illustrated in Figure 3.5.

FIGURE 3.5

The Relationship between Constructs, Variables and Measures



Theoretical and Operational Definitions

According to Davis and Cosenza (1993), theoretical and operational definitions of each concept of interest must be developed before measurement can take place. Theoretical definitions are the words used in a theory that should state the central idea under study while operational definitions explain how variables are to be measured. Operational definitions also assign a meaning to a concept or variable by specifying the operations needed to measure it (Devis and Cosenza, 1993). Measurement scales used in this research are described and justified in Section 3.5.2.

Table 3.2 describes hypotheses of this research and demonstrates theoretical and operational definitions of each concept to be measured. In addition, it also contains relevant survey questions, deriving from the concepts.

TABLE 3.2
Research Propositions, Hypotheses, Concepts, Definitions and Survey Questions Used in this Research

HYPOTHESES/ PROPOSITION	MODEL CONCEPTS	THEORETICAL DEFINITIONS	OPERATIONAL DEFINITIONS	SURVEY QUESTIONS
RP1: The extranet has a positive impact on information sharing between suppliers and distributors.	<ol style="list-style-type: none"> 1. Extranet 2. Information sharing 	<ol style="list-style-type: none"> 1. Extranets are an Internet Protocol networks used for maintaining business relationships while enabling privacy, security, and customised communication. 2. Information sharing is the extent to which critical, and proprietary information has been communicated to the exchange party. 	<ol style="list-style-type: none"> 1. The impact of the extranet on information sharing is measured by the extent of agreement with statements in a Likert scale about how the extranet has affected the quality and quantity of information sharing between channel members. 	Question 2-4
RP2: The extranet has a positive impact on two-way communication between suppliers and distributors.	<ol style="list-style-type: none"> 1. Extranet 2. Two-way communication 	<ol style="list-style-type: none"> 1. See theoretical definition of the extranet in RP1. 2. Two-way communication is the give-and-take interaction where channel members are encouraged to exchange their feedback. 	<ol style="list-style-type: none"> 1. The impact of the extranet on two-way communication is measured by the extent of agreement with statements in a Likert scale. 	Questions 6-9
RP3: The extranet has a positive impact on an accessibility of certain information.	<ol style="list-style-type: none"> 1. Extranet 2. Accessibility of information 	<ol style="list-style-type: none"> 1. See theoretical definition of extranet in RP1. 2. Accessibility of information is an ability to obtain information for use in decision-makings. 	<ol style="list-style-type: none"> 1. The impact of the extranet on an accessibility of information is measured by the extent of agreement with statement in a Likert scale about whether the extranet has increased the distributor's accessibility of certain information. 	Question 11
RP4: The extranet has a positive impact on speed of communication	<ol style="list-style-type: none"> 1. Extranet 2. Speed of communication 	<ol style="list-style-type: none"> 1. See theoretical definition of extranet in RP1. 2. Speed of communication is time spent in either giving or obtaining information. 	<ol style="list-style-type: none"> 1. The impact of the extranet on speed of communication is measured by the extent of agreement with one statement in a Likert scale about whether the extranet has increased the speed of communication between channel members. 	Question 15
RP5: The extranet has a positive impact on an overall communication quality.	<ol style="list-style-type: none"> 1. Extranet 2. Communication Quality 	<ol style="list-style-type: none"> 1. See theoretical definition of extranet in RP1. 2. Communication quality is considered a key antecedent of trust. 	<ol style="list-style-type: none"> 1. The impact of the extranet on communication quality is measured with one statement in a Likert scale about whether the extranet has increased the overall communication quality. 	Question 23

TABLE 3.2 (Continued)
Research Propositions, Hypotheses, Concepts, Definitions and Survey Questions Used in this Research

HYPOTHESES/ PREPOSITION	MODEL CONCEPTS	THEORETICAL DEFINITIONS	OPERATIONAL DEFINITIONS	SURVEY QUESTION
RP6: The extranet has a negative impact on information overload	<ol style="list-style-type: none"> 1. Extranet 2. Information overload 	<ol style="list-style-type: none"> 1. See theoretical definition of extranet in RP1. 2. Information overload is the situation when there is too much incoming information, which can lead to information omission and deletion and information distortion at the point of message reception. 	<ol style="list-style-type: none"> 1. The impact of the extranet on information overload is measured with one statement in a Likert scale about whether the extranet has increased the amount of information so much that it cannot be used efficiently. 	Question 5
RP7: The perceived impact of the extranet on communication quality depends on the frequency of their face-to-face communication with the insurer.	<ol style="list-style-type: none"> 1. Communication quality 2. Face-to-face communication 	<ol style="list-style-type: none"> 1. See theoretical definition of communication quality in RP5. 2. Face-to-face communication provides immediate feedback and makes use of both visual and audio channels of communication. It is considered as an effective means of developing personal ties. 	<ol style="list-style-type: none"> 1. See operational definition of communication quality in RP5 2. The frequency of face-to-face communication is measured by Likert scale about how the extranet has decreased or increased the use of face-to-face communication. 	<ol style="list-style-type: none"> 1. Question 23 2. Question 24
RP8: The perceived impact of the extranet on communication quality depends on the frequency of extranet communication.	<ol style="list-style-type: none"> 1. Communication quality 2. Extranet communication 	<ol style="list-style-type: none"> 1. See theoretical definition of communication quality in RP5. 2. See theoretical definition of extranet in RP1. 	<ol style="list-style-type: none"> 1. See operational definition of communication quality in RP5. 2. The frequency of extranet communication is measured by Likert scale. 	<ol style="list-style-type: none"> 1. Question 23 2. Question 30
RP9: The perceived impact of the extranet on communication quality depends whether the information provided over the extranet is of good quality.	<ol style="list-style-type: none"> 1. Communication quality 2. Information quality 	<ol style="list-style-type: none"> 1. See theoretical definition of communication quality in RP5. 2. Information is of good quality when it is timely, accurate, adequate, complete, reliable, and regularly updated. 	<ol style="list-style-type: none"> 1. See operational definition of communication quality in RP5. 2. Information quality is measured by semantic differential scales. 	<ol style="list-style-type: none"> 1. Question 23 2. Questions 17-22

TABLE 3.2 (Continued)
Research Propositions, Hypotheses, Concepts, Definitions and Survey Questions Used in this Research

HYPOTHESES/ PREPOSITION	MODEL CONCEPTS	THEORETICAL DEFINITIONS	OPERATIONAL DEFINITIONS	SURVEY QUESTION
RP10: The extranet decreases the use of face-to-face communication between the IFA and insurer.	<ol style="list-style-type: none"> 1. Extranet 2. Face-to-face communication 	<ol style="list-style-type: none"> 1. See theoretical definition of extranet in RP1. 2. Face-to-face communication provides immediate feedback and makes use of both visual and audio channels of communication. It is considered as an effective means of developing personal ties. 	<ol style="list-style-type: none"> 1. The impact of the extranet on face-to-face communication is measured by Likert scale about how the extranet has decreased or increased the use of face-to-face communication. 	Question 42
RP11: The extranet decreases the use of telephone communication between the IFA and insurer.	<ol style="list-style-type: none"> 1. Extranet 2. Telephone communication 	<ol style="list-style-type: none"> 1. See theoretical definition of extranet in RP1. 2. Telephone communication is a means of communication that allows immediate feedback, the use of voice tone, the use of natural language and personalised message. 	<ol style="list-style-type: none"> 1. The impact of the extranet on telephone communication is measured by Likert scale about how the extranet has increased or decreased the use of telephone communication. 	Question 43
RP12: The extranet decreases the use of fax communication between the IFA and insurer.	<ol style="list-style-type: none"> 1. Extranet 2. Fax communication 	<ol style="list-style-type: none"> 1. See theoretical definition of extranet in RP1. 2. Fax communication is lower in richness than face-to-face and telephone communications because it does not allow immediate feedback and visual cues are limited. 	<ol style="list-style-type: none"> 1. The impact of the extranet on fax communication is measured by Likert scale about how the extranet has increased or decreased the use of fax communication. 	Question 44
RP13: The extranet decreases the use of mail communication between the IFA and insurer.	<ol style="list-style-type: none"> 1. Extranet 2. Mail communication 	<ol style="list-style-type: none"> 1. See theoretical definition of extranet in RP1. 2. Mail communication is lower in richness than fax communication because it takes longer time to transfer information. 	<ol style="list-style-type: none"> 1. The impact of the extranet on mail communication is measured by Likert scale about how the extranet has increased or decreased the use of mail communication. 	Question 45
RP14: The extranet decreases the use of courier communication between the IFA and insurer.	<ol style="list-style-type: none"> 1. Extranet 2. Courier 	<ol style="list-style-type: none"> 1. See theoretical definition of extranet in RP1. 2. Courier communication is higher in richness than mail communication because it takes shorter time to transfer information. 	<ol style="list-style-type: none"> 1. The impact of the extranet on courier communication is measured by Likert scale about how the extranet has increased or decreased the use of mail communication. 	Question 47
RP15: The extranet has a positive impact on trust.	<ol style="list-style-type: none"> 1. Extranet 2. Trust 	<ol style="list-style-type: none"> 1. See theoretical definition of extranet in RP1. 2. Trust is a confidence in an exchange partner's reliability and integrity. 	<ol style="list-style-type: none"> 1. The impact of the extranet on trust is measured by the extent of agreement with statements in a Likert scale. 	Questions 54-60

TABLE 3.2 (Continued)
Research Propositions, Hypotheses, Concepts, Definitions and Survey Questions Used in this Research

HYPOTHESES/ PREPOSITION	MODEL CONCEPTS	THEORETICAL DEFINITIONS	OPERATIONAL DEFINITIONS	SURVEY QUESTION
RP16: The extranet has a positive impact on commitment	1. Extranet 2. Commitment	1. See theoretical definition of extranet in RP1. 2. Commitment exists when an exchange partner believes that an ongoing relationship with another is so important as to warrant maximum efforts at maintaining it.	1. The impact of the extranet on commitment is measured by the extent of agreement with statements in a Likert scale.	Questions 66-72
RP17: The extranet has a positive impact on co-operation.	1. Extranet 2. Co-operation	1. See theoretical definition of extranet in RP1. 2. Co-operation is extent to which the work of two parties is co-ordinated.	1. The impact of the extranet on co-operation is measured by the extent of agreement with statements in a Likert scale.	Questions 61-63
RP18: The extranet has a negative impact on conflict	1. Extranet 2. Conflict	1. See theoretical definition of extranet in RP1. 2. Conflict is the behaviour that impedes, blocks, or frustrates another firm's goal pursuit.	1. The impact of the extranet on conflict is measured by the extent of agreement with statements in a Likert scale.	Question 64
RP19: The extranet has a negative impact on disagreement	1. Extranet 2. Disagreement	1. See theoretical definition of extranet in RP1. 2. Disagreement arises when firms have different goals and objectives.	1. The impact of the extranet on disagreement is measured by the extent of agreement with a statement in a Likert scale.	Question 65
RP20: The extranet has a positive impact on relationship quality	1. Extranet 2. Relationship quality	1. See theoretical definition of extranet in RP1. 2. Relationship quality is described as the overall depth and climate of the inter-firm relationship.	1. The impact of the extranet on relationship quality is measured by the extent of agreement with a statement in a Likert scale.	Question 73
H1: The impact of the extranet on communication quality is positively associated with the impact of the extranet on information sharing.	1. Communication quality 2. Information sharing	1. Communication quality is considered a key antecedent of trust. 2. Information sharing is the extent to which critical, and proprietary information has been communicated to the exchange party.	1. The impact of the extranet on communication quality is measured by the extent of agreement with one statement in a Likert scale. 2. The impact of the extranet on information sharing is measured by the extent of agreement with three statements in a Likert scale.	1. Question 23 2. Question 2-4

TABLE 3.2 (Continued)
Research Propositions, Hypotheses, Concepts, Definitions and Survey Questions Used in this Research

HYPOTHESES/ PROPOSITION	MODEL CONCEPTS	THEORETICAL DEFINITIONS	OPERATIONAL DEFINITIONS	SURVEY QUESTIONS
H2: The impact of the extranet on communication quality is positively associated with the impact of the extranet on two-way communication.	1. Communication quality 2. Two-way communication	1. See theoretical definition of communication quality in H1. 2. Two-way communication is the give-and-take interaction where channel members are encouraged to exchange their feedback.	1. See operational definition of communication quality in H1. 2. The impact of the extranet on two-way communication is measured by the extent of agreement with statements in a Likert scale	1. Question 23 2. Question 6-9
H3: The impact of the extranet on communication quality is positively associated with the impact of the extranet on information accessibility.	1. Communication quality 2. Information accessibility	1. See theoretical definition of communication quality in H1. 2. Accessibility of information is an ability to obtain information for use in decision-makings.	1. See operational definition of communication quality in H1. 2. The impact of the extranet on information accessibility is measured with a Likert scale about whether the extranet has increased the distributor's accessibility of certain information.	1. Question 23 2. Question 11
H4: The impact of the extranet on communication quality is positively associated with the impact of the extranet on communication speed.	1. Communication quality 2. Speed of communication	1. See theoretical definition of communication quality in H1. 2. Speed of communication is time spent in either giving or obtaining information.	1. See operational definition of communication quality in H1. 2. The impact of the extranet on speed of communication is measured with one statement in a Likert scale.	1. Question 23 2. Question 15
H5: The impact of the extranet on communication quality is positively associated with the impact of the extranet trust.	1. Communication quality 2. Trust	1. See theoretical definition of communication quality in H1. 2. Trust is a confidence in an exchange partner's credibility, benevolence and honesty.	1. See operational definition of communication quality in H1. 2. The impact of the extranet on trust is measured with seven statements in a Likert scale.	1. Question 23 2. Questions 54-60

TABLE 3.2 (Continued)
Research Propositions, Hypotheses, Concepts, Definitions and Survey Questions Used in this Research

HYPOTHESES/ PROPOSITION	MODEL CONCEPTS	THEORETICAL DEFINITIONS	OPERATIONAL DEFINITIONS	SURVEY QUESTIONS
H6: The impact of the extranet on communication quality is positively associated with the impact of the extranet commitment.	<ol style="list-style-type: none"> 1. Communication quality 2. Commitment 	<ol style="list-style-type: none"> 1. See theoretical definition of communication quality in H1. 2. Commitment exists when an exchange partner believes that an ongoing relationship with another is so important as to warrant maximum efforts at maintaining it. 	<ol style="list-style-type: none"> 1. See operational definitions of communication quality in H1. 2. The impact of the extranet on commitment is measured by the extent of agreement with statements in a Likert scale. 	<ol style="list-style-type: none"> 1. Question 23 2. Questions 66-72
H7: The impact of the extranet on communication quality is positively associated with the impact of the extranet co-operation.	<ol style="list-style-type: none"> 1. Communication quality 2. Co-operation 	<ol style="list-style-type: none"> 1. See theoretical definition of communication quality in H1. 2. Co-operation is extent to which the work of two parties is co-ordinated. 	<ol style="list-style-type: none"> 1. See operational definitions of communication quality in H1. 2. The impact of the extranet on co-operation is measured by the extent of agreement with statements in a Likert scale. 	<ol style="list-style-type: none"> 1. Question 23 2. Questions 61-63
H8: The impact of the extranet on communication quality is negatively associated with the impact of the extranet on conflict.	<ol style="list-style-type: none"> 1. Communication quality 3. Conflict 	<ol style="list-style-type: none"> 1. See theoretical definition of communication quality in H1. 2. Conflict is the behaviour that impedes, blocks, or frustrates another firm's goal pursuit. 	<ol style="list-style-type: none"> 1. See operational definitions of communication quality in H1. 2. The impact of the extranet on conflict is measured by the extent of agreement with a statement in a Likert scale. 	<ol style="list-style-type: none"> 1. Question 23 2. Question 64
H9: The impact of the extranet on communication quality is negatively associated with the impact of the extranet on disagreement.	<ol style="list-style-type: none"> 1. Communication quality 2. Disagreement 	<ol style="list-style-type: none"> 1. See theoretical definition of communication quality in H1. 2. Disagreement arises when firms have different goals and objectives. 	<ol style="list-style-type: none"> 1. See operational definitions of communication quality in H1. 2. The impact of the extranet on disagreement is measured by the extent of agreement with one statement in a Likert scale. 	<ol style="list-style-type: none"> 1. Question 22 2. Question 65

TABLE 3.2 (Continued)
Research Propositions, Hypotheses, Concepts, Definitions and Survey Questions Used in this Research

HYPOTHESES/ PREPOSITION	MODEL CONCEPTS	THEORETICAL DEFINITIONS	OPERATIONAL DEFINITIONS	SURVEY QUESTIONS
H10: The impact of the extranet on communication quality is positively associated with the impact of the extranet on relationship quality.	<ol style="list-style-type: none"> 1. Communication quality 2. Relationship quality 	<ol style="list-style-type: none"> 1. See theoretical definition of communication quality in H1. 2. Relationship quality is described as the overall depth and climate of the inter-firm relationship. 	<ol style="list-style-type: none"> 1. See operational definitions of communication quality in H1. 2. The impact of the extranet on relationship quality is measured by the extent of agreement with one statement in a Likert scale. 	<ol style="list-style-type: none"> 1. Question 22 2. Question 73
H11: There is a positive relationship between the impact of the extranet on trust and the impact of the extranet on relationship quality.	<ol style="list-style-type: none"> 1. Trust 2. Relationship quality 	<ol style="list-style-type: none"> 1. See theoretical definition of trust in RP15. 2. See theoretical definition of relationship quality in RP20. 	<ol style="list-style-type: none"> 1. See operational definitions of trust in RP15. 2. See operational definition of relationship quality in RP20. 	<ol style="list-style-type: none"> 1. Questions 54-60 2. Question 73
H12: There is a positive relationship between the impact of the extranet on commitment and the impact of the extranet on relationship quality.	<ol style="list-style-type: none"> 1. Commitment 2. Relationship quality 	<ol style="list-style-type: none"> 1. See theoretical definition of commitment in RP16. 2. See theoretical definition of relationship quality in RP20. 	<ol style="list-style-type: none"> 1. See operational definitions of commitment in RP16. 2. See operational definition of relationship quality in RP20. 	<ol style="list-style-type: none"> 1. Questions 66-72 2. Question 73
H13: There is a positive relationship between the impact of the extranet on co-operation and the impact of the extranet on relationship quality.	<ol style="list-style-type: none"> 1. Co-operation 2. Relationship quality 	<ol style="list-style-type: none"> 1. See theoretical definition of co-operation in RP17. 2. See theoretical definition of relationship quality in RP20. 	<ol style="list-style-type: none"> 1. See operational definitions of co-operation in RP17. 2. See operational definition of relationship quality in RP20. 	<ol style="list-style-type: none"> 1. Questions 61-63 2. Question 73
H14: There is a negative relationship between the impact of the extranet conflict and the impact of the extranet on relationship quality.	<ol style="list-style-type: none"> 1. Conflict 2. Relationship quality 	<ol style="list-style-type: none"> 1. See theoretical definition of conflict in RP18. 2. See theoretical definition of relationship quality in RP20. 	<ol style="list-style-type: none"> 1. See operational definitions of conflict in RP18. 2. See operational definition of relationship quality in RP20. 	<ol style="list-style-type: none"> 1. Question 64 2. Question 73

TABLE 3.2 (Continued)
Research Propositions, Hypotheses, Concepts, Definitions and Survey Questions Used in this Research

HYPOTHESES/ PREPOSITION	MODEL CONCEPTS	THEORETICAL DEFINITIONS	OPERATIONAL DEFINITIONS	SURVEY QUESTIONS
H15: There is a negative relationship between the impact of the extranet on disagreement and the impact of the extranet on relationship quality.	<ol style="list-style-type: none"> 1. Disagreement 2. Relationship quality 	<ol style="list-style-type: none"> 1. See theoretical definition of disagreement in RP19. 2. See theoretical definition of relationship quality in RP20. 	<ol style="list-style-type: none"> 1. See operational definitions of disagreement in RP19. 2. See operational definition of relationship quality in RP20. 	<ol style="list-style-type: none"> 1. Question 65 2. Question 73
H16: The perceived impact of the extranet on trust is an important factor that influences the IFA's perception toward the impact of the extranet on relationship quality.	<ol style="list-style-type: none"> 1. Trust 2. Relationship quality 	<ol style="list-style-type: none"> 1. See theoretical definition of trust in RP15. 2. See theoretical definition of relationship quality in RP20. 	<ol style="list-style-type: none"> 1. See operational definitions of Trust in RP15. 2. See operational definition of relationship quality in RP20. 	<ol style="list-style-type: none"> 1. Questions 54-60 2. Question 73
H17: The perceived impact of the extranet on commitment is an important factor that influences the IFA's perception toward the impact of the extranet on relationship quality.	<ol style="list-style-type: none"> 1. Commitment 2. Relationship quality 	<ol style="list-style-type: none"> 1. See theoretical definition of commitment in RP16. 2. See theoretical definition of relationship quality in RP20. 	<ol style="list-style-type: none"> 1. See operational definitions of commitment in RP16. 2. See operational definition of relationship quality in RP20. 	<ol style="list-style-type: none"> 1. Questions 66-72 2. Question 73
H18: The perceived impact of the extranet on co-operation is an important factor that influences the IFA's perception toward the impact of the extranet on relationship quality.	<ol style="list-style-type: none"> 1. Co-operation 2. Relationship quality 	<ol style="list-style-type: none"> 1. See theoretical definition of co-operation in RP17. 2. See theoretical definition of relationship quality in RP20. 	<ol style="list-style-type: none"> 1. See operational definitions of co-operation in RP17. 2. See operational definition of relationship quality in RP20. 	<ol style="list-style-type: none"> 1. Questions 61-63 2. Question 73
H19: The perceived impact of the extranet on conflict is an important factor that influences the IFA's perception toward the impact of the extranet on relationship quality.	<ol style="list-style-type: none"> 1. Conflict 2. Relationship quality 	<ol style="list-style-type: none"> 1. See theoretical definition of conflict in RP18. 2. See theoretical definition of relationship quality in RP20. 	<ol style="list-style-type: none"> 1. See operational definitions of conflict in RP18. 2. See operational definition of relationship quality in RP20. 	<ol style="list-style-type: none"> 1. Question 64 2. Question 73

TABLE 3.2 (Continued)
Research Propositions, Hypotheses, Concepts, Definitions and Survey Questions Used in this Research

HYPOTHESES/ PREPOSITION	MODEL CONCEPTS	THEORETICAL DEFINITIONS	OPERATIONAL DEFINITIONS	SURVEY QUESTIONS
H20: The perceived impact of the extranet on disagreement is an important factor that influences the IFA's perception toward the impact of the extranet on relationship quality.	<ol style="list-style-type: none"> 1. Disagreement 2. Relationship quality 	<ol style="list-style-type: none"> 1. See theoretical definition of disagreement in RP19. 2. See theoretical definition of relationship quality in RP20. 	<ol style="list-style-type: none"> 1. See operational definitions of disagreement in RP19. 2. See operational definition of relationship quality in RP20. 	<ol style="list-style-type: none"> 1. Question 65 2. Question 73
H21: The perceived impact of the extranet on communication quality is an important factor that influences the IFA's perception toward the impact of the extranet on relationship quality.	<ol style="list-style-type: none"> 1. Communication Quality 2. Relationship quality 	<ol style="list-style-type: none"> 1. See theoretical definition of communication quality in H1. 2. See theoretical definition of relationship quality in RP20. 	<ol style="list-style-type: none"> 1. See operational definitions of communication quality in H1. 2. See operational definition of relationship quality in RP20. 	<ol style="list-style-type: none"> 1. Question 22 2. Question 73

3.5.2 Survey Issues

After defining concepts, constructs, variables and measures above, this section aims to describe and justify the use of a mail survey to collect the quantitative data as it is also possible to obtain survey data by face-to-face interview, telephone, mail and internet (Malhotra, 1993). This section starts with definitions of survey methods, strengths and weaknesses of each type, followed by design and development of the questionnaire.

Survey Method: Survey is used most often to describe a method of gathering information from a sample of individuals. Unlike a census, where all members of the population are studied, surveys gather information from only a portion of a population of interest – the size of the sample depending on the purpose of the study.

Not only do surveys have a wide variety of purposes, they also can be conducted in many ways. Surveys can be classified by their method of data collection. Mail, telephone interview, and in-person interview surveys are the most common methods of survey. Extracting data from samples of particular sources is also frequently done. In newer methods of data collection, information is entered directly into computers either by a trained interviewer or, increasingly, by the respondent. Nonetheless, all surveys do have certain characteristics in common (Lynn, 1996).

Survey information is collected by means of standardised procedures so that every individual is asked the same questions in more or less the same way. The survey's intent is not to describe the particular individuals who, by chance, are part of the sample but to obtain a composite profile of the population. The industry standard for all reputable survey organizations is that individual respondents should never be identified in reporting survey findings. All of the survey's results should be presented in completely anonymous summaries, such as statistical tables and charts (Lynn, 1996).

Mail Survey

None of the survey methods is superior in all research situations and the choice of an appropriate method depends on a balance of research objectives and constraints (Malhotra, 1993). Indeed, each form of survey method has distinct advantages and disadvantages. For example, mail surveys can be relatively low in cost and most effective when directed at particular groups, such as subscribers to a specialised magazine or members of a professional association (Davis and Cosenza, 1993). Telephone interviews are an efficient method of collecting some types of data and are being increasingly used. They lend themselves particularly well to situations where timeliness is a factor and the length of the survey is limited (Malhotra, 1993). Finally, in-person interviews in a respondent's home or office are much more expensive than mail or telephone surveys. They may be necessary, however, especially when complex information is to be collected (Malhotra, 1993). Table 3.3 summarises the strengths and weaknesses of each type of survey method, which are discussed next in relation to this research.

Currently, mail surveys are the most common example of self-reported data collection. One reason is that these surveys can be relatively low in cost. This does not mean, however, they are necessarily easy to carry out. Planning the questionnaires for mail surveys is often more difficult than for surveys that use interviewers. For example, care is needed to anticipate issues that respondents may have and to deal with them ahead of time (Malhotra, 1993).

In addition to the reasons demonstrated in Table 3.3, this research has chosen a mail survey because the questionnaire is lengthy and complex. Accordingly, it requires of the respondents a fair amount of time to complete. Mail survey allows the respondents to sit down and complete the questionnaire in their own time. Secondly, as respondents have a very busy schedule, it is very difficult to arrange appointments with them. In addition, questions are very sensitive by nature; therefore, it is more suitable to use a mail survey than telephone or face-to-face survey. Finally, mail survey allows this research to obtain a large quantity of data through structured

questions from a specific sample under tight cost and time constraints (Sekaran, 1992).

Limitations of Mail Survey: According to Zikmund (1997), a mail survey is a self-reported questionnaire sent to a selected group of respondents and returned by postal mail. In this research, four-page-long survey questionnaires were distributed to seek large amounts of information. Some questions are diverse and complex. Although mail survey is not an ideal method for a complex questionnaire, effort was made and care was exercised prior to the distribution of the questionnaire. Firstly, questions on complex issues were carefully designed to be as straightforward as possible, and pre-tested to simplify responses. Secondly, as it is a mail survey, the IFAs can take time to complete the questionnaire (Zikmund, 1997). Finally, if the respondents had any questions or needed assistance in relation to the questionnaire, they were encouraged to contact the researcher either by telephone or e-mail. Only five out of 1,760 IFAs took advantage of this opportunity.

Other limitations of mail surveys are listed in Table 3.3. For example, it can be time-consuming (Malhotra, 1993). Further, the researcher may have little control over who fills in the questionnaire and the sample may have self-selection bias. However, appropriate strategies were adopted to counter these limitations, which will be discussed later in this section. In summary, the mail survey method is considered appropriate for this research.

Internet Survey

Given the nature of the subject matter, the researcher also considered the possibility of distributing the questionnaires via the Internet. After careful consideration, an Internet survey method was not adopted for several reasons. First, many IFAs did not include their e-mail address in their contact information. Second, the questionnaire was lengthy and complex, making it inconvenient and time-consuming for the IFAs to complete on the computer screen (Pitkow, 1994; Watt, 1997). The IFAs may have to print out the questionnaire before completing it which may have a negative

impact on the response rate. A broken-down printer or lack of printing paper is enough to discourage them to print out the questionnaire, let alone completing and returning it to the researcher. Third, if the IFAs print out the questionnaire, they need to scan the completed questionnaire into their computer in order to return it to the researcher via the Internet. This would be a problem if the IFAs do not have a scanner. If the IFAs want to return the questionnaire by normal post, they have to pay for the postage fee (White, 1996). In brief, to encourage an acceptable response rate, it was decided to distribute the questionnaires by post. The questionnaire package contained a copy of questionnaire, covering letter, and self-addressed envelope with stamp.

TABLES 3.3

Advantages and Disadvantages of Survey Methods

METHODS	ADVANTAGES	DISADVANTAGES
Mail Survey	<ol style="list-style-type: none"> 1. Relatively inexpensive 2. Lack of interviewer bias 3. Easier to answer sensitive questions 4. Can be completed at respondent's own pace 5. Less misinterpretation problems 6. Less validity problems 	<ol style="list-style-type: none"> 1. Low response rates 2. Self-selection bias 3. Time-consuming 4. Little control over who fills the questionnaire 5. Fixed question order 6. No clarification or probing possible 7. Restricts the use of visual aids 8. Respondent can alter earlier responses
Telephone	<ol style="list-style-type: none"> 1. Complex questionnaire structures are possible 2. Cheaper than face-to-face interview 3. Permits probing and clarification 4. Relatively quick to administer 5. Easy to monitor 6. Higher response rates 	<ol style="list-style-type: none"> 1. No use of visual aids 2. Restricts use of lengthy scales 3. Respondents may get tired 4. Respondents may not answer sensitive questions 5. Non-telephone or non-listed respondents are not sampled.
Face-to-face	<ol style="list-style-type: none"> 1. Highly flexible 2. Complex questions and questionnaire structures are possible 3. Permits probing and clarification 4. Larger quantity of data can be collected 5. Potential for extensive use of visual and demonstration aids 6. Highest response rates 7. Greatest sample control 	<ol style="list-style-type: none"> 1. Relatively expensive 2. Possible interviewer bias 3. Intercept Survey: Samples normally not representative and self-selected bias 4. Intercept Survey: Questionnaires have to be short.
Internet	<ol style="list-style-type: none"> 1. Very Cheap 2. Geographically disperse sample 3. Respondent anonymity 	<ol style="list-style-type: none"> 1. Possible rejection of computer technology. 2. Not suitable for complex questionnaires 3. No control of sample.
Mixed Methods Mail and Face-to-face (The questionnaire is mailed prior to a visit by the interviewer)	<ol style="list-style-type: none"> 1. Initial personal contact gives survey a human face. 2. Shares the advantages of mail and face-to-face methods 	<ol style="list-style-type: none"> 1. Survey forms may be lost in interval before calling back. 2. Expensive 3. Time consuming
Mixed Methods Mail and Telephone (The questionnaire is mailed prior to a telephone call by the interviewer)	<ol style="list-style-type: none"> 1. Gives a personal touch to a survey 2. Shares the advantages of mail and telephone methods 	<ol style="list-style-type: none"> 1. Share some of limitations of mail surveys 2. Relatively expensive 3. Time consuming

Source: Bourque and Fielder, 1995; Davis and Cosenza, 1993; Emory and Cooper, 1991; Lynn, 1996; Malhotra, 1993; Tull and Hawkins, 1980; Zikmund, 1997).

Questionnaire

Questionnaire Definition: The questionnaire is a structured technique for collecting primary data in a survey. It is a series of written or verbal questions for which the respondent provides answers. A well-designed questionnaire motivates the respondent to provide complete and accurate information (Jenkins and Dillman, 1995). The questionnaire should also provide instructions on how the questionnaire should be completed. In addition, it should facilitate administrative and data processing requirements (Malhotra, 1993).

The questionnaire provides a standardised data-gathering procedure. The effects of potential human errors (for example, altering the pattern of question asking, calling at inconvenient times, and bias) can be minimised by using a well-constructed questionnaire (Sudman and Bradburn, 1983). The use of a questionnaire also eliminates any bias introduced by the feelings of the respondents towards the interviewer (or vice versa). Although the point is debatable, it is believed the respondents will answer a questionnaire more frankly than they would answer an interviewer, because of a greater feeling of anonymity. The respondent has no one to impress with his/her answers and need have no fear of anyone hearing them. To maximise this feeling of privacy, it is important to guard, and emphasise, the respondent's anonymity (Schuman and Presser, 1981). The questionnaire used in this research appears in Appendix 3.2. Its design and development are discussed next.

Questionnaire Design and Development: Most problems with questionnaire analysis can be traced back to the design phase of the project. In 1980, Labaw argued that the greatest weakness of questionnaire design was lack of theory. Since then many books and articles have been written on the subject, and much research has been conducted into elements of the process (See Belson, 1981; Converse, 1982; de Vaus, 1991; Dillman and Dillman, 1995). Despite this, a coherent theory of questionnaire design still seems elusive. Nevertheless, ten steps of questionnaire design adopted in this research were synthesised from Hague (1993), Jenkins and Dillman

(1995), Belson (1981), and de Vaus (1991) as illustrated in Figure 3.6. Ten steps of questionnaire design and development are discussed next.

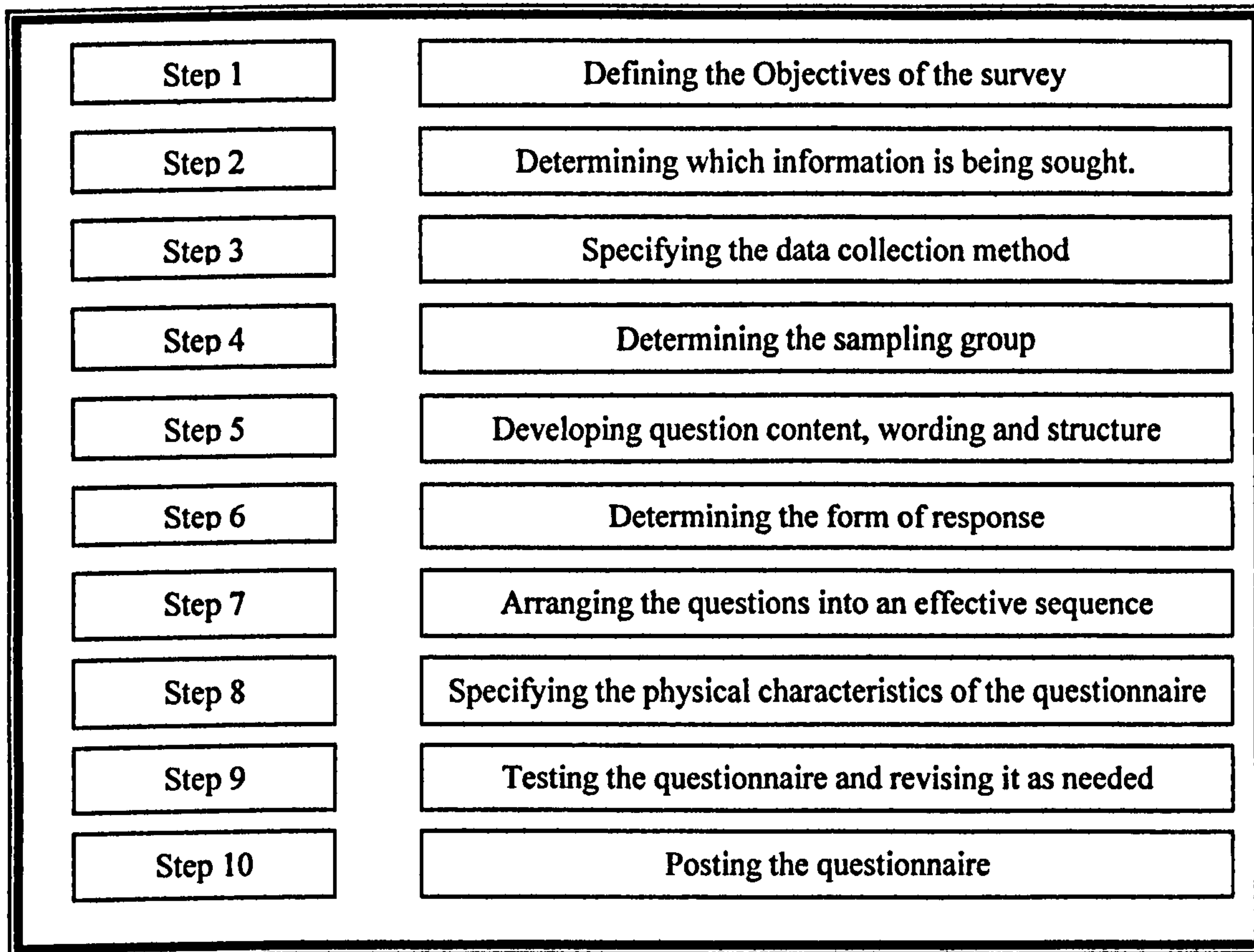
Step 1: Defining the objectives of the survey: The importance of well-defined objectives cannot be over emphasised. A questionnaire that is written without a clear goal and purpose is inevitably going to overlook important issues and waste respondents' time by asking useless questions (Hague, 1993). The questionnaire may lack a logical flow and thereby cause the respondents to lose interest. The problems of a poorly defined questionnaire do not end here, but continue on to the analysis stage (Belson, 1981). In this research, based on the research problem and issues, relevant concepts and theories were investigated. Key constructs were then identified, and their relationships were also established. After that, hypotheses were formed. Survey objectives were established in accordance with research propositions and hypotheses. See Table 3.2 for details.

Step 2: Determining which information is being sought: After identifying what issues needed to be addressed using the resulting information, research can determine exactly which information is needed. This provides a focus on what questions should be used. This research prioritised based upon the information "need" to know, and left behind the type of information that "would be nice" to know (Hague, 1993).

Step 3: Specifying the data collecting method: After determining what data is needed for testing research propositions and hypotheses, the decision concerning the data collecting method must be made. The choice will be made based on a variety of factors including the type of information to be gathered and the available resources for the experiment (Maholtra, 1993). This research adopted a mail survey method to collect quantitative data for answering research propositions and testing hypotheses. The justifications of this method were discussed earlier.

FIGURE 3.6

The Questionnaire Design Process in this Thesis



Step 4: Determining the Sampling Group: It is useful to determine from an early stage to whom the questionnaire is going to be sent because wordings or contents of the questionnaire may need to be adjusted when sent to different groups of samples (Schuman and Presser, 1981). In this research, the questionnaire was designed for UK independent financial advisors (IFAs).

Step 5: Developing Question Content, Wording and Structure: After formulating the objectives of the investigation, having decided what kind of data was to be measured, and which respondents' group to whom the questionnaire was to be sent, the next step was to develop questions. A number of principles of question design were adopted to minimise measurement error (Belson, 1981; Converse, 1982; Dillman and Dillman, 1995; Hague, 1993; Malhotra, 1993). These principles are illustrated in Table 3.4 together with an explanation of how each was applied to question design in this research. The principles of good question design were applied to the *content*, *wording*, and *structure* of each question.

- **Content:** Each question in the questionnaire has a specific purpose. Only questions needed to collect the data were asked. The goal of the questions was to obtain the required information. All questions were designed to be completed with a modest amount of effort (Sudman and Bradburn, 1983).
- **Wording:** The questions were worded so that they were clear, succinct and easily understood. Double-barrelled and sensitive questions were avoided. The goal was also to eliminate the chance that the question would mean different things to different people. Some marketing jargon and business terminology were stripped away.
- **Structure:** All questions were structured. Different types of structured questions were used, for example, Likert scale, semantic differential scale, and ranking scale. The scale questions were close-ended with specific ordered choices that were less demanding for respondent (Dillman and Dillman, 1995). “Neither Agree nor Disagree” category was also available in scale-type questions because sometimes “Neither Agree nor Disagree” would really represent some respondents' most honest answers to some questions. In the multiple-choice questions, every important alternative was listed including “Other” and “Never” categories when necessary. Finally, to ensure that measurement error in the design was minimised, the questionnaire was pre-tested with both academics and target markets and then adjusted accordingly.

Step 6: Determining the form of response: The measurement scales have been developed in conjunction with the concepts of numbers, units and levels of measurement. Statisticians categorize measurements according to levels. Each level corresponds to how this measurement can be treated mathematically (Malhotra, 1993). There are four fundamental "levels of measurement" in quantitative research. Three levels of measurement scales were used in this research: nominal, ordinal, and interval

TABLE 3.4
Question Content, Wording and Structure

QUESTION CONTENT	APPLICATION IN THIS RESEARCH
Does the questionnaire require a lot of time and effort of respondents?	The questionnaire can be completed in 10-15 minutes if the respondent is familiar with the extranet. Therefore, a reasonable effort was required from the respondent.
Is the question related explicitly to particular analysis objectives?	The questionnaire only contained the questions designed as a survey instrument to obtain required data for analysis. The obtained data was concerned with research topic, respondent characteristics and administrative data.
Is there recalled dependent question?	There was no unaided recall question. Question 1 asked the respondent to identify up to four the most useful extranet. The answers given to Question 2 – 74 by the respondents were based upon the answer given to Question 1.
Is the question applicable to all respondents?	Not in all cases. However, Question 1 is a filter question that filtered lack of experience and familiarity before questions about the impact of the extranet on channel communication and relationship were asked.
Does the question assume that the respondent can articulate certain types of responses?	Alternative descriptions of the answer were provided. Respondents were not expected to phrase their own answers.
Are alternatives adequately expressed?	Alternatives were made explicitly. “Neither Agree Nor Disagree” and “Others” categories were provided in most questions.

TABLE 3.4 (Continued)
Question Content, Wording and Structure

QUESTION WORDING	APPLICATION IN THIS RESEARCH
Are the words clearly understood?	The questionnaire was pre-tested with independent financial advisors and adjusted when needed to make sure that each question was easy to understand.
Does the key word mean the same thing to different respondents?	Technical terms such as "Extranet" were defined in the covering letter. In addition, the questionnaire was pre-tested with the target respondents and adjusted accordingly.
Is the question double-barrelled?	To avoid misunderstanding, care was exercised to make sure that each question only dealt with one topic.
Does the question have jargon or abbreviations?	The extranet was the only technical word in the questionnaire and its definition was given to the respondent. There was also one abbreviation in the questionnaire: IFA (Independent Financial Advisors). However, this abbreviation is always used in financial industry.
Does the question have an appropriate time reference?	When asked to indicate the frequency of communication with the key insurer, respondents were given time frame.
Is the question brief?	Unnecessary words were eliminated.
Is the question too sensitive?	Sensitive questions were avoided when possible. Personal questions were placed at the last section.
Are key words emphasised?	Key word was bold and underlined.
Are there double negatives?	No question contained double negatives.
Are there loaded or leading questions?	Care was exercised to make sure that no question caused the respondent's desirability bias.
Are there any "presumption" questions?	The questionnaire contained no presumption questions.
Does the questionnaire assume too much knowledge of the IFAs?	To be able to complete the questionnaire, the IFA needs to have some extranet experience. Question 1 filtered lack of the extranet experience. Thus, the respondent could guess if (s)he was able to complete the questionnaire.
Are there any hypothetical questions?	The questionnaire contained no hypothetical questions.

TABLE 3.4 (Continued)
Question Content, Wording and Structure

QUESTION STRUCTURE	APPLICATION IN THIS RESEARCH
Are all questions structured?	Every question was structured.
What types of structured questions were used?	All types of structured questions were used: closed-ended, open-ended, and multiple choice. Different types of scales were used: Likert Scale, Semantic Differential Scale, and Ranking Scale. They were closed-ended with ordered choices that were specific and less demanding. Multiple choice, ranking, and dichotomous were used in a classification section. In multiple choice questions, all relevant alternatives were listed including an "other" category.

Sources: (Emory and Cooper 1991; Davis and Cosenza 1993; Sekaran 1992; Malhotra 1993; Tull and Hawkin 1980).

- **Nominal:** Nominal variables allow for only qualitative classification. That is, they can be measured only in terms of whether the individual items belong to some distinctively different categories, but they cannot be quantified or even rank-ordered (Malhotra, 1993). This scale is, therefore, not suitable for calculating means, standard deviations or correlation. Accordingly, in this research, nominal scale was used with Questions 75, 77, and 78.
- **Ordinal:** Ordinal scales assign responses to categories such that scores in a higher category possess more of a characteristic of interest than scores in a lower category. The main characteristic of the ordinal scale is that the categories have a logical or ordered relationship to each other. This type of scale permits the measurement of degrees of difference, but not the specific amount of difference. The interval between values is not interpretable in an ordinal measure. Hence only the mode, median, and correlation can be calculated, but not the mean. The range and percentile ranking can also be calculated (Maholtra, 1993). Key ordinal scales used in this research are:

Likert: Likert scales are commonly used in attitudinal measurements. This type of scale uses a five-point scale ranging from strongly agree, agree, neither agree nor disagree, disagree, strongly disagree to rate people's attitudes. Variants of the Likert-scale exist that use any number of points between three and ten; however it is best to give at least four or five choices. (Ray, 1980). Although some researchers treat them as an interval scale, one cannot be sure that the distances between answer alternatives are equal. This research, Likert scales were used with Questions 2-16, and Questions 54-72. Means were also examined to assist with the interpretation of the frequencies and to compare and analyse the variables.

Semantic Differential: The semantic differential is a method for measuring the meaning of an object to an individual. It is a series of attitude scales. The subject rates a given concept on a series of seven-point bipolar rating scales (Malhotra, 1993). In this research, semantic

differential scales were used with Questions 17-31, and Questions 42-53, Questions 73-74. Means were calculated to assist with the interpretation of the frequencies and to compare and analyse the variables.

- **Interval:** In interval scales, numbers are assigned to indicate differences in the degree of a characteristic along a continuum such that the differences from number to number are equal across the range of the scale. In interval measurement the distance between attributes *does* have meaning. Although general social scientists accept that such Likert scales are approximately interval in character (Malhotra, 1993), the limitations of Likert scales as interval measurement cannot be ignored. That is, like ordinal scales, the distance from “strongly disagree” to “agree” may be different from the distance from “agree” to “neither agree nor disagree”. This research, however, categorised Likert and semantic differential scales as having ordinal properties. Accordingly, an interval scale was used with Question 76, and Questions 81-83.
- **Ratio:** Ratio variables are very similar to interval variables; in addition to all the properties of interval variables, they feature an identifiable absolute zero point; thus they allow for statements such as x is two times more than y . Typical examples of ratio scales are measures of time or space. Most statistical data analysis procedures do not distinguish between the interval and ratio properties of the measurement scales (Malhotra, 1993). This research, however, did not use ratio scale with any questions.

It has to be acknowledged that the level of scale measurement and its relation to appropriate statistical testing is a contested area. According to Sarle (1995), measurement theory cannot determine some single statistical method or model as appropriate for data at a specific level of measurement. But measurement theory does in fact show that some statistical methods are inappropriate for certain levels of measurement if the researcher wants to make meaningful inferences about the attribute being measured. Indeed, the

connection between measurement level and statistical analysis has been widely disputed in the psychometric and statistical literature by researchers who do not distinguish between inferences regarding the attribute and inferences regarding the measurements. If one is interested only in making inferences about the measurements without regard to their meaning, then measurement level is, of course, irrelevant to choice of statistical method (Sarle, 1995).

Hence, it is important to understand that the level of measurement of a variable does not mandate how that variable must appear in a statistical model. However, it does suggest reasonable ways to use a variable by default. Consider the analysis of fuel efficiency in cars. If the researchers are interested in the average distance that can be driven with a given amount of petrol, they should analyse miles per gallon. If they are interested in the average amount of petrol required to drive a given distance, they should analyse gallons per mile. Both miles per gallon and gallons per mile are measurements of fuel efficiency, but they may yield quite different results in a statistical analysis, and there may be no clear reason to use one rather than the other. So how can researchers make inferences regarding fuel efficiency that do not depend on the choice between these two scales of measurement? They can do so by recognising that both miles per gallon and gallons per mile are measurements of the same attribute on a log-interval scale, and hence the logarithm of either can be treated as a measurement on an interval scale (Sarle, 1995).

Problems in Scaling: Three main problems in scaling are discussed as follows:

- **Bias toward Central Tendency:** The bias toward central tendency exists because respondents may be wary of placing themselves at the extremes of opinion. This often occurs because the extremes of the rating or ranking scale utilizing the words 'always' or 'never'. Such response items tend to be not chosen because of their rather absolute nature (Emory and Cooper, 1991). In this research, the central biasing is, however, a response, not a scaling problem. The respondents were

given the choice of “Neither Agreed Nor Disagreed” which was located at the middle point of the measurement scale.

- **Response Set:** The larger the number of points on a response scale, the better it represents this underlying, latent continuum and the more accurate it reflects the variation. Scales with relatively few response alternatives force respondents to categorise their reaction towards an attitude object instead of directly mapping it onto the response continuum, thus causing information loss. Early research has already shown that respondents differentiate more between objects when offered response scales with greater numbers of categories (Garner, 1960). The larger the number of points, the more powerful the scale is in discriminating, but at a certain point respondents become unable to make fine distinctions. This research offered the respondents five to seven choices of answer which are recommended by the literature (Maholtra, 1993).
- **Halo Effect:** The halo effect is present where a favourable response to one question causes a favourable response to one or more other questions. The halo effect also exists where the respondent is favourably inclined toward the general subject of the instrument, causing favourable answers to all questions. It can work in the reverse direction, resulting in generally unfavourable responses (Emory and Cooper, 1991).
- **Hawthorne Effect:** The Hawthorne effect has a dual nature. First, it can mean that respondents' answers are modified because they know that they are under investigation. Secondly, it can mean respondents are answering in ways thought to be desired by the investigator (Emory and Cooper, 1991).

Step 7: Arranging the questions into an effective sequence:

- **Question Order:** It is suggested that the order in which questions are presented can affect the way that people respond (Bourque and Fielder

1995). For example, questions in the latter half of a questionnaire were more likely to be omitted, and contained fewer extreme responses. Indeed, respondents often send back partially completed questionnaires. Therefore, important items should be placed in the first half of the questionnaire.

In this research, the most important items were put at the beginning. That is, the respondents were made aware that this research focused on the insurer who provided them with the most *useful* extranet. Finally, classification questions were presented at the last section of the questionnaire.

- **Question Grouping:** This research grouped questionnaire items into logically coherent sections. Grouping questions that are similar will make the questionnaire easier to complete, and the respondent will feel more comfortable. Questions that use the same response formats or those that cover a specific topic also appeared together (Bourque and Fielder, 1995).
- **Transitions:** In this research, each question followed comfortably from the previous question. Transitions between questions should be smooth. Questionnaires that jump from one unrelated topic to another feel disjointed and are not likely to produce high response rates (Bourque and Fielder, 1995).

Step 8: Physical Characteristics of the Questionnaire: When designing a questionnaire, one should consider physical aspects such as page layout, font type and size, and question spacing. Bourque and Fielder (1995) suggest some guidelines concerning the physical characteristics of the questionnaire. This research tries to follow these guidelines as much as possible.

First of all, a short and meaningful title was given to the questionnaire because it is generally perceived that a questionnaire with a title is more

credible than one without (Bourque and Fielder, 1995). The title of this research's questionnaire is "*Extranet Survey*".

Clear and concise instructions on how to complete the questionnaire were then added after the title. Moreover, to make sure that the questionnaire was readable, font type and size were chosen with care to make sure that those who have less-than-perfect visual acuity could read all questions in the questionnaire. In order to eliminate misunderstandings, crucial words were *emphasised in each item by using bold, italics or underlining*. Also, numbers were used instead of boxes. In addition, to eliminate the need to *flip back and forth* between pages, the layout was designed so that a question at the bottom of the page did not need to be continued onto the next page. Furthermore, the name of the researcher and return address were printed on the questionnaire itself as questionnaires often get separated from the reply envelopes. Finally, this questionnaire was limited to four pages to keep within the suggested length of mail surveys (Bourque and Fielder, 1995).

Step 9: Testing the questionnaire and revise it as needed: According to Salant and Dillman (1994), the questionnaire should be pre-tested in two stages before distributing. In the first stage, it should be administered using personal interviews in order to get better feedback on problems such as ambiguous questions. Then, it should be tested in the same way it will be administered. In this research, the questionnaire was pre-tested in two stages. Initially, the researcher arranged face-to-face interviews with two independent financial advisors; first of all, to find out how long it would take respondents to complete the questionnaire. Independent financial advisors were asked to complete the questionnaire in the presence of the researcher. The results were satisfying. Both independent financial advisors spent about 10 minutes to complete the questionnaire. Then both independent advisors were asked to go through the questionnaire with the researcher. Both independent financial advisors provided the researcher with valuable feedback. Their suggestions were taken into account and appropriate revisions to problem words, phrases, and questions were made. In the second stage, the revised questionnaire was sent to a group of three independent financial advisors and three academic staff. Problems were not

found at this stage and the final draft of questionnaire was printed. Also a self-addressed postage-paid envelope was included in this mailing.

Step 10: Posting the questionnaire: According to Salant and Dillman (1994), to secure a high response rate, questionnaires should be posted out in four separate occasions. However, because of cost restrictions on printing, postage, and return mailing for 1760 IFAs and limitation of time, only one mailing was possible. The questionnaire was posted with a personalised covering letter from the researcher. The importance of the covering letter should not be underestimated. It can provide the best chance to persuade the respondents to complete the survey (Salant and Dillman, 1994). An example of the researcher's covering letter appears in Appendix 3.4.

Reliability and Validity of Measurement

Measurement Reliability: Reliability is concerned with the consistency of the measurements. If the measurements cannot provide the same pattern of results each time they are used, then they are not reliable. In other words, measurements are considered reliable when they allow repeatable results, suggesting small random error. Reliability may be increased by clearly conceptualising constructs, by ensuring precise measurements, by using multiple indicators of constructs and by pre-testing and replicating measurements (Neuman, 1994). The importance of measurement reliability is demonstrated by the fact that a measuring strategy can be reliable and not valid, but if the instrument is not reliable, it is also not valid (Emory and Cooper, 1991).

In this research, clear constitutive and operational definitions of concepts were developed as noted in Table 3.2. In addition, high levels of measurement were used when possible. Also apart from communication quality and relationship quality constructs, the concepts in the regression model were operationalised by previously tested, multiple item indicators. Finally, the questionnaire was pre-tested and modified before being

distributed to the respondents. Indeed, reliability was highly emphasised in this research.

Measurement validity: Measurement validity is the extent to which a measure captures the concepts of interest. To be specific, measurement validity is concerned with its accuracy. The measurements are valid if they measure what they are supposed to measure (Davis and Cosenza, 1993). According to Davis and Cosenza (1993), validity of a measurement refers to how well it is able to capture the real or true meaning of a construct. Researchers often find that it is more difficult to have validity than reliability. In fact, it is always difficult to have absolute confidence in the validity of a measure. There are four major types of validity that need attention when a measurement is constructed or used: face validity, content validity, criterion validity, and construct validity.

- **Face validity:** Face validity refers to the extent that a measure appears to measure what it aims at measuring. In other words, the researcher has to look at the operationalisation and see whether “on its face” it seems like a good translation of the construct (Lacity and Jansen, 1994).
- **Content validity:** Content validity refers to the extent that the concept to be measured is adequately covered by inadequate items or questions. The operationalisation must be checked against the relevant content domain for the construct (Angoff, 1988).
- **Criterion validity:** Criterion validity examines the association between the results of a measurement scale and a standard that is known to accurately measure the variable. In other words, it seeks to determine if a measure correlates with other measures of the same concepts (Angoff, 1988).
- **Construct validity:** Construct validity refers to the extent to which a theoretical concept is adequately or successfully measured. It examines whether the items in a composite measure relate logically to one another. If they are, that measurement has construct validity. The two

subcategories of construct validity are: convergent validity and discriminant validity. Convergent validity is demonstrated by the extent to which the measure correlates with other measures designed to assess similar constructs. Discriminant validity refers to the degree to which the scale does not correlate with other measures designed to assess dissimilar constructs. When an indicator is expressed in terms of multiple items of an instrument, factor analysis is used for construct validation (Angoff, 1988; Cronbach, 1971). These issues are discussed later.

Relationship between Reliability and Validity: The relationship between reliability and validity is a simple one to understand: a measurement can be reliable, but not valid. However, a measurement must first be reliable before it can be valid. Thus reliability is a necessary, but not sufficient, condition of validity. In other words, a measurement may consistently assess phenomena (or outcome), but unless that measurement tests what it is supposed to, it is not valid (Angoff, 1988).

Sensitivity of Measurement: Sensitivity is referred to the ability of the measurement scales to indicate changes or differences (Emory and Cooper, 1991). A sensitive scale should accurately measure the variability of responses. By adding more categories to the scale and more questions, sensitivity can increase (Zikmund, 1997). According to Fink (1995a), five to seven point scales are considered adequate for the majority of surveys using ordered responses. Therefore, seven categories of ordinal scales and multi-items questions were used in this research.

Practicality of Measurement: The practicality of measurement is referred to the issues of economy, convenience, and interpretability. However, the trade-off between the ideal research project and practical factors is unavoidable (Emory and Cooper, 1991). Although a preliminary notification and repeated follow up contacts to enhance response rates were desirable, this research could only have one survey mailing because of limited time frame and budget.

Measurement Error: Measurement error refers to the discrepancies between the real result and the observed result obtained from measuring a variable. A measure may be invalid because it does not capture the entire intended concept, or because it captures the intended concept and unintended concepts as well (Davis and Cosenza, 1993). In fact, no measurement is totally free of error. There are two major types of errors: systematic error and random error. **Systematic error** refers to certain stable qualities of the respondents that influence their responses. It is caused by any factors that systematically affect measurement of the variable across the sample. Unlike random error, systematic errors tend to be consistently either positive or negative – therefore, systematic error is sometimes considered to be *bias* in measurement. **Random error** refers to the unknown or uncontrolled factors. Random error does not have any consistent effects across the entire sample (Emory and Cooper, 1991).

This research tried to control for accurate and unambiguous measurement of the variables of interest, and eliminate or neutralise systematic and random error (Emory and Cooper 1991). The crucial criterion suggested by Likert himself was kept in mind in collating statements. That is statements in the questionnaire were essentially expressions of *desire behaviour* not statements of fact. The IFAs were given a statement that is a judgement of value rather than a judgment of fact. These statements have to do with wants, desires, cognitive dispositions of the IFAs, not with their opinions regarding matters of fact (Malhotra, 1993). Two persons with decidedly different attitudes may, nevertheless, agree on questions of fact. Although many validated scales may appear to be statements of fact, this research uses Likert statements to measure the present attitude of the IFAs toward the impact of the extranet on their communication and relationships with insurers.

To reduce measurement errors in this research – both random and systematic – the questionnaire was pilot tested with a group of independent financial advisors and academic staff members. Feedback was received from respondents regarding how easy or hard the measures were and information about how the testing environment affected their performance

was taken into consideration. Secondly, all data was double-checked. All data entry for computer analysis was done twice and compared. Finally, some statistical procedures were used to adjust for measurement error.

Validity and Reliability of Independent Variables in the Model: There are five independent variables in the multiple regression model of this research: (impact of the extranet on) trust, commitment, co-operation, conflict, and communication quality. Measurement scales of each variable were discussed in detail in Section 2.2.4. The next part discusses the reliability and validity of these measurement scales.

- **Trust:** The measurement scales of trust were taken from Donney and Cannon's (1997), which have a theoretical base and also estimates of reliability and validity. In their research, trust consists of seven items measured on a seven-point Likert scale, anchored with the statements "strongly disagree" and "strongly agree". Coefficient alpha was very high, suggesting that the indicators are reliable measures of trust. Their operational definition of trust was used in this research because the items appear to have sound measurement properties, and reflect the conceptual definition of trust, emphasising on credibility, benevolence, and honesty aspects. However, this research does not aim to measure trust itself, but the impact of the extranet on trust. Therefore, each measurement item of trust scale was adjusted to suit the context and meet the objectives of the research. For example, one of the original statements in trust scales is

"This supplier keeps promises it makes to our firm."

The same item was, then, adjusted to

"The extranet increases your belief that this insurer keeps promises it makes to your company".

After obtaining the quantitative data from returned questionnaires, reliability testing was conducted again in SPSS to re-ensure that the

measurement scales of trust were indeed appropriate for this research. The result was highly satisfactory with coefficient alpha of 0.83. (See Appendix 3.3.1)

- **Commitment:** Measurement scales of commitment were taken from Morgan and Hunt (1994). Relationship commitment consists of seven items measured on a seven-point Likert scale anchored with the statement “strongly disagree” and “strongly agree”. The operational definition of commitment suggested by Morgan and Hunt (1994) was used in this research because the items appear to have sound measurement properties. Nevertheless, as this research aims to measure the impact of the extranet on commitment rather than commitment itself, measurement items was adjusted. For example, one of the original statements in trust scales is

“The relationship that my firm has with my major supplier deserves our firm’s maximum effort to maintain.”

The same item was, then, changed to

“The extranet increases your belief that this relationship deserves your maximum effort to maintain”.

After obtaining the quantitative data from returned questionnaires, reliability testing was conducted again in SPSS to re-ensure that the measurement scales of commitment were indeed appropriate for this research. The reliability test’s result was highly satisfactory with coefficient alpha of 0.940. (See Appendix 3.3.2)

- **Co-operation:** Measurement scales for construct co-operation were taken from Jap (1999). Co-operation consists of three items measured on a seven point Likert scale anchored with the statement “strongly disagree” and “strongly agree”. Coefficient alpha of this measurement in the research conducted by Jap (1999) was very high suggesting that the indicators are reliable measures of co-operation. As the objective of this research is to measure the impact of the extranet on co-operation not the

co-operation itself, measurement items of co-operation construct had to be adjusted. For example, one of the original statements in co-operation scales is

“Both companies are always looking for synergistic ways to do business together”.

The same statement was then changed to

“The extranet helps you and this insurer find synergistic ways to do business together”.

After obtaining the quantitative data from returned questionnaires, reliability testing was conducted again in SPSS to re-ensure that the measurement scales of co-operation were indeed appropriate for this research. The result of the reliability test was highly satisfactory with coefficient alpha of 0.911. (See Appendix 3.3.3)

- **Conflict:** Measurement scales of conflict were taken from Kumar, Scheer and Steenkamp (1995). Conflict consists of two items measured on a seven point Likert scale anchored with the statement “strongly disagree” and “strongly agree”. The measurement’s coefficient alpha from previous research was very high suggesting that the indicators are reliable measures of co-operation. The operational definition of co-operation suggested by Kumar Scheer and Steenkap (1995) was also used in this research because the items appear to have sound measurement properties. Measurement items of conflict construct was also adapted. For example, one of the original statements in conflict measurement scales is

“A high degree of conflict exists between the supplier and our firm”.

The statement was, then, adjusted to

“The extranet helps decrease conflict between you and this insurer”.

After obtaining quantitative data from returned questionnaires, reliability testing was conducted again in SPSS to re-ensure that the measurement scales of conflict were appropriate for this research. The result, however, was unexpectedly negative. The Coefficient alpha was extremely low suggesting that one of these indicators is not a reliable measurement of the impact of the extranet on conflict. Accordingly, one measurement item was taken away to form a new independent variable – *disagreement* –, leaving the measurement scale of conflict with one global measurement scale. Although multi-item scales are preferred in marketing research (Churchill, 1979), some variables are unidimensional and can be directly accessible (Selnes, 1996). Therefore, the use of a single global scale to measure the impact of the extranet on conflict is justified. (See Appendix 3.3.4)

- **Disagreement:** The impact of the extranet on disagreement was accessed by a single item taken from the conflict measurement scale. Although the reliability result suggests that the statement concerning the impact of the extranet on the disagreement between the IFAs and the insurer is not the reliable measurement of variable Conflict, it does not mean that this statement should not be considered as a separate measurement of a new independent variable. The adjusted measurement item of *Disagreement* is:

“The extranet intensifies major disagreements regarding certain key issues between you and this insurer.”

- **Communication Quality:** While communication consists of different aspects as discussed in Chapter 2, this research posits that the impact of the extranet on perceived overall *communication quality* can be accessed by a single item. The researcher argues that overall communication quality is unidimensional and can be directly accessed for the respondents and thus a multi-item scale may not be necessary. Several multi-item scales of communication quality, for example the one suggested by Mohr and Sohi (1995), include quality of information

transferred as a measure of communication quality itself. That is, they use timeliness, accuracy, adequateness, completeness, and credibility as a measure of communication quality. This research argues that these are sources or antecedents, and by themselves not part of the construct. This parallels a discussion raised by the measurement of power (Howell, 1987), where researchers have been criticised because they do not measure power but rather sources of power.

Thus, the IFAs were asked to evaluate on a seven-point scale to what degree they think that the extranet has impacted on communication quality between them and their key supplier.

“Do you feel that the quality of your communication with this insurer has increased or decreased due to the introduction of the extranet?”

It has to be emphasised here that the above statement is an expression of “desired behaviour” rather than “fact”. The responses to this statement are classified as “subjective” data which result from an individual IFA's personal opinion and not from some external measure. “Objective data” on the other hand are “external to the mind” and concern facts and the precise measurement of things or concepts that actually exist (Malhotra, 1993).

Validity and Reliability of Dependent Variables in the Model

There is one dependent variable in the regression model of this research: impact of the extranet on relationship quality. The measurement scale of this variable will be discussed next:

- **Relationship Quality:** In this research, the impact of the extranet on relationship quality was accessed by a single item. Past research includes trust, commitment, co-operation and conflict resolution as a measure of relationship quality itself (See Kumar et al., 1995). This research, however, argues that trust, commitment, co-operation, and conflict resolution are actually sources or antecedents of relationship

quality and by themselves not part of the construct. Thus, the respondents were asked to evaluate on a seven-point scale to what degree they think that the extranet has impacted on relationship quality between them and their key supplier.

“Do you feel that the quality of your relationship with this insurer has increased or decreased due to the introduction of the extranet?”

Validity and Reliability of Non- Regression Model Variable

There were other variables, not included in the regression model of this research, but they were equally important as they provided some insight into the impact of the extranet on other aspects of communication and relationship. These variables are purpose of the extranet use, quality of the extranet’s website, (impact of the extranet on) communication mediums, information sharing, communication frequency, two-way communication, information quality, and information overload. Measurement scales of each variable were already discussed in detail in Sections 2.2.4.1 and 2.3.5.

Validity of Responses

Response bias occurs when respondents answer questionnaire items with certain inclinations (Zikmund, 1997).

Social desirability bias is the tendency of individuals to make themselves look good according to current societal norms when answering the researcher’s questions. In social research, social desirability bias has been a complex and controversial issue, typically viewed as a contaminating response bias (Zikmund, 1997). To reduce the impact of social desirability bias in this research, confidentiality and anonymity aspects were emphasised in both the covering letter and questionnaire sent to respondents. Sensitive questions were phrased to allow a positive answer. Finally, the researcher also considers whether social desirability bias could explain some of the findings (Zikmund, 1997).

Acquiescence response is the tendency to say "Yes" indiscriminately in answer to questions (Toner, 1987). Acquiescence response can constitute a serious problem. According to Ray (1980), the balanced Likert scales are a viable solution to the problem of acquiescent response bias. In this research, to minimise the impact of acquiescence response, respondents were given no indication, which answers were most desired by the researcher and were encouraged to answer honestly (Toner, 1987).

Negative affectivity bias is the tendency to experience emotional distress and the inability to cope effectively with stress. Negative affectivity bias could operate as an inflator, suppressor or moderator variable (Malhotra, 1993). In this research, some hostility to financial services institutions was detected in the face-to-face interviews. To minimise the impact of negative affectivity bias, the survey respondents were given an opportunity to express their emotion in the last question.

The level of questionnaire difficulty can also affect the validity of the measurement instrument to the extent that respondents fail to understand the instructions, specific questions, and response alternatives (Malhotra, 1993). To reduce the impact of questionnaire difficulty in this research, care and attention were given to design and pre-testing.

Non-response bias is an important issue in survey research. The failure of a substantial portion of mail survey recipients to respond to invitations to participate in research projects raises issues of non-response error. Since this error is difficult to quantify, survey researchers seek high rates of return to signal legitimacy and reduce questions regarding non-response bias (Malhotra, 1993). In this research, the proportions of IFAs selected who refuse to co-operate in the survey are called non-respondents.

Many studies have attempted to determine if there is a difference between respondents and non-respondents. Some researchers have reported that people who respond to surveys answer questions differently than those who do not. Others have found that late responders answer differently than early responders, and that the differences may be due to the different levels of

interest in the subject matter. Demographic characteristics of non-respondents have been investigated by many researchers. Most studies have found that non-response is associated with low level of education. However, it is also discovered that demographic characteristics such as age, education, and employment status were the same for respondents and non-respondents. Most researchers view non-response bias as a continuum, ranging from fast responders to slow responders – with non-responders defining the end of the continuum (Emory and Cooper, 1991). Another group of researchers argue that non-response should not be viewed as a continuum, and that late respondents do not provide a suitable basis for estimating the characteristics of non-respondents (Fink, 1995a).

As there are positive and negative aspects of non-response, there is no agreed minimum acceptable response rate (Fink, 1995a; Fowler, 1988). For example, non-response bias may be considered positive because respondents disqualify themselves from the survey due to the fact that the topic is irrelevant to them, or because they may have difficulty in answering the questions, or feel that they do not know enough about the topic (Fowler, 1988).

It is now understood that response rates to mail surveys have been declining, both in the US and in most of the industrialised world, for at least several decades (de Leeuw and de Heer, 2002). These declining rates have led to concerns that non-response error may render survey estimates irretrievably biased. Increasing non-response has also encouraged some critics of survey research to challenge its legitimacy as a valid research methodology (Huffington, 1998). A causal examination of the professional academic literature at a broader level suggests that the reporting of information regarding survey response rates is inconsistent and often incomplete. A recent audit of response rate reporting in eight social science journals found that only 11.5% of the 571 articles using survey data that were published between 1998-2001 provided a response rate and at least a partial definition and only 2.5% reported an AAPOR's (American Association for Public Opinion Research) response rate (Smith, 2002a). Low response rates jeopardize research validity and make it difficult to relate the results to the

larger population. Perhaps, according to de Leeuw and de Heer (2002), that's why many survey reports fail to mention the response rate or provide readers with the information necessary to calculate one. In fact, response rates vary according to subject studied and techniques used. Response rates to mail survey can vary from 5 per cent to over 50 per cent (B2B International). Mail surveys in the UK do not tend to generate more than a 5-10% response rate. Although a second mailing to prompt or remind respondents tends to improve response rates, most end up with about a 5% to 15% response rate (Business Research UK). According to BT Market Research Guide, a mail survey return rate of 10% of the questionnaires mailed is considered good. Hence, the response rate of 11.4% which the researcher's mail survey obtained should be considered satisfactory. As there are not many similar studies, it is difficult to make a comparison between this research response rate and the rates achieved elsewhere. Although Vlosky et al. (2000) conducted a survey research to explore the impact of the extranet on communication and relationships between channel members; the survey they carried out was not a postal survey but an internet survey. Angeles (2001) also discussed the key issues in extranet implementation based on the author's case studies. In brief, as no prior research has been published on the impact of the extranet on communication and relationship using the same kind of sampling group and survey method, it was not possible to compare the response rate of this survey with rates achieved in previous studies.

As response rates do not indicate whether respondents are representative of the original sample, there is no guarantee that increasing response rates may reduce non-response errors (Malhotra, 1993). In addition, to collect data from non-respondents to make comparisons with survey participants would be very costly. Due to these reasons no test was conducted to determine non-response bias. Indeed, this research cannot be certain that 89% of IFAs who did not participate in this survey are different from those who did. This issue is one of the limitations of this research.

Response bias is also an important issue in survey research. According to Malhotra (1993), not only do survey researchers have to be concerned about

non-response rate errors, but they also have to be concerned about the response bias. Response bias occurs when respondents deliberately falsify their responses. This error greatly jeopardises the validity of a survey's measurements.

- **Response order bias** occurs when a respondent loses track of all options and picks one that comes easily to mind rather than the most accurate.
- **Response set bias** occurs when respondents do not consider each question and just answer all the questions with the same response. For example, they answer "disagree" or "no" to all questions.

These response errors can seriously distort a survey's results. Unfortunately, according to Zikmund (1997), response bias is difficult to eliminate; even if the same respondent is questioned repeatedly, he or she may continue to falsify responses. Response order bias and response set errors, however, can be reduced through careful development of the survey questionnaire.

Item non-response occurs when data for an item is not available from some cases in the sample, but as long as missing data is randomly distributed throughout the sample, the researcher can justifiably generalise from the subset of cases with complete data to all the cases in the achieved sample (Emory and Cooper, 1991).

Increasing response rates: A variety of techniques are used in this survey to increase response rates. The covering letter explains why the study is so important. Also, the sponsorship of a survey by prestigious organisations such as universities may significantly influence response rates (Zikmund, 1997). In addition, response rates may increase if incentives are used (Fink, 1995a). In this research, the researcher offered a copy of general research results. Although it is suggested that follow-ups or reminders can increase the response rate, this strategy was not adopted due to limited time and budget.

Sampling

Sampling is the act, process, or technique of selecting a suitable sample, or a representative part of a population for the purpose of determining parameters or characteristics of the whole population while a sample is a finite part of a statistical population whose properties are studied to gain information about the whole (Salant and Dillman, 1994). When dealing with people, it can be defined as a set of respondents selected from a larger population for the purpose of a survey.

To draw conclusions about populations from samples, inferential statistics are used to enable the researcher to determine a population's characteristics by directly observing only a portion (or sample) of the population. Researchers normally use a sample, rather than a census of the population for several reasons such as economy, timeliness, the large size of many populations, inaccessibility of some of the population, destructiveness of the observation and accuracy (Malhotra, 1993). However, there are also some dangers of using samples. Sampling errors are discussed next.

Errors and Bias in Sampling: A sample is expected to mirror the population from which it comes; however, there is no guarantee that any sample will be precisely representative of the population from which it comes. In practice, it is rarely known when a sample is unrepresentative and should be discarded. Sampling error comprises the differences between the sample and the population that are due solely to the particular units that happen to have been selected. There are two basic causes for sampling error: chance and sampling bias (Emory and Cooper, 1991).

- **Chance:** According to Webster (1985), chance is the error that occurs due to bad luck. This may result in untypical choices. Unusual units in a population do exist and there is always a possibility that an abnormally large number of them will be chosen. Other scholars such as Barnett and Lewis (1995), argue that chance can be a “rare” event syndrome – extreme observations that for some legitimate reason do not fit within the typical range of other data values. Such unusual observations might

include a 70 degree day in January in Oregon or a 500 point rise/drop in a stock market index. These events may be quite unusual, but they're still part of the overall picture. Barnett and Lewis (1995), suggest that the decision to treat the outlier – chance – is based on understanding the cause of the outlier and the impact it is having on the results.

Despite the difficulties, exploring why outliers exist can provide many clues to the development of better models. In fact, many great discoveries in human history can be traced to a researcher exploring some outlying or unusual value. Outliers may indicate that an important range of the data has been ignored that is worth knowing about. If the outlier is an unusual but probable value, it should not be considered an error and should be retained in the data set.

- **Sampling bias** is a tendency to favour the selection of units that have particular characteristics. Sampling bias is usually the result of a poor sampling plan. The most notable is the bias of non-response when for some reason some units have no chance of appearing in the sample (Zikmund, 1997).

Sampling Process: The procedures in selecting the subjects to obtain appropriate information for the research problem are discussed next.

Step 1: Defining Populations: According to Malhotra (1993), a group that the research wishes to generalise to is often called population. A population is a group from which samples are taken for measurement. Information about the population may be obtained by taking a census of all members of the population or by selecting a sample of the population and making inferences about the population (Fink, 1995a). The most suitable sample is the one that represent the population the best. In this research, a sample was preferred to a census because of economy, timeliness, and accessibility. Most importantly, a well-selected sample can give sufficiently accurate results (Zikmund, 1997; Salant and Dillman, 1994).

This research aims to explore the impact of the extranet on IFA-insurer communication and relationship. There are approximately 36,000 individual

qualified IFAs in the UK, including those who used to be registered under the recognised professional bodies (Telephone inquiry was made to the FSA on September 29, 2003. Accordingly, the research population consists of all UK independent financial advisors. (See Figure 3.7)

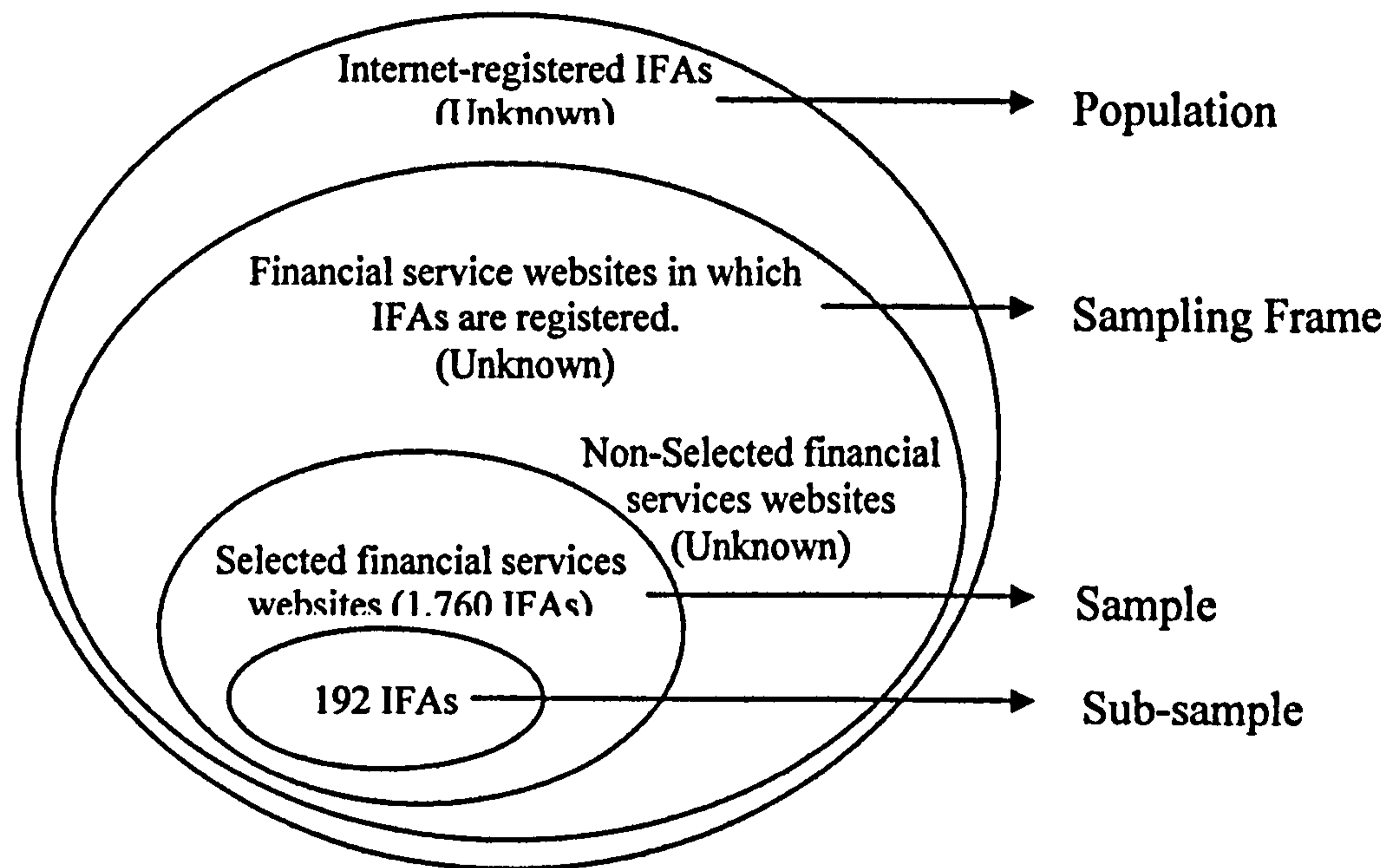
Step 2: Selecting a Sampling Frame: After the population has been identified, the next step is to draw a sample (Dillman and Dillman, 1995). To be able to do so, the researcher must obtain a list of the members of the accessible population. The listing of the accessible population from which the sample will be taken for measurement is called the sampling frame.

This research population included all IFAs who were registered on the Internet as at 30th March 2002. The sampling frame of this research was a group of conveniently selected financial services websites in which IFAs were registered as at 30th March 2002. To be able to complete the questionnaire, the IFAs must be using the extranet to communicate with insurance companies. As the extranet operates on the Internet platform, this research assumed that IFAs who were not registered on the Internet might not have access to the Internet, and in turn might not be using the insurers extranet. Accordingly, using the Internet as a sampling frame helped screen the suitability of the research sample. The research sample was conveniently selected. This might not be the most appropriate way to sample. However, it was extremely difficult, time-consuming, and expensive for the researcher at that time to obtain the list of all financial services websites registered on the Internet to produce a random sampling.

This research is also aware that the Internet-registered IFAs are keener to adopt new technologies to assist them with their work. Accordingly, this research assumes that the results of this research will reflect the perceptions of independent financial advisors who are aware of the importance of the Internet technology. (See Figure 3.7)

FIGURE 3.7

Population, Sampling Frame, and Sample



Step 3: Selecting a Sampling Technique: Research needs a suitable sampling technique to draw the sample. The desirability of a sampling technique depends on both its vulnerability to error and its cost. However, economy and reliability are competing ends. Sampling error can be controlled by exercising care in determining the method for choosing the sample. Random error exists no matter how carefully the selection procedures are implemented, and the only way to minimise random error is to select a sufficiently large sample. Sampling bias on the other hand may be minimised by the wise choice of a sampling procedure. There are three primary kinds of samples: the convenience, the judgement sample; and the random sample. They differ in the manner in which the elementary units are chosen (Malhotra, 1993).

- **The convenience sample** results when the more convenient elementary units are chosen from a population for observation.
- **The judgement sample:** is obtained according to the discretion of someone who is familiar with the relevant characteristics of the population.

- **The random sample:** allows a known probability that each elementary unit will be chosen. For this reason, it is sometimes referred to as a probability sample.

In this research, the sample was a convenience type, although ideally the random sample was the preferred one. The key reasons this research could not obtain a random sample is that it was extremely difficult and time-consuming to obtain the complete list of all UK independent financial advisors who were registered on the Internet as at 30th March 2002. The researcher made an inquiry regarding this issue to the Financial Services Authority (FSA). Unfortunately, while the FSA had the information of all registered IFAs (approximately 36,000) in the UK, they could not confirm how many IFAs were registered on the Internet. The FSA did not have information about the financial services websites either. Accordingly, to obtain the sample, the researcher entered an IFA-database search command in the Internet search engine (<http://www.google.co.uk>). The search results provided a list of websites where UK independent financial advisors were registered as at 30th March 2002. The researcher visited each website and printed out names and contact address of each IFA.

The researcher is aware that a great number of IFAs – registered on other web sites – did not have an opportunity to be included in the sample, and this research will never be certain if those IFAs have different characteristics. However, as the complete list of IFAs registered on the Internet was not available and the Financial Services Authority could not provide necessary information about the characteristics of the IFAs, this research was forced to be satisfied with the sample in hand.

Step 4: Determining sample size: Before deciding how large a sample should be, the research population must be defined (Zikmund, 1997). In general, sample size depends on the nature of the analysis to be performed, the desired precision of the estimates one wishes to achieve, the kind and number of comparisons that will be made, the number of variables that have to be examined simultaneously and how heterogenous a universe is sampled (Zikmund, 1997). The available funding may also pre-specify the sample

size. Theoretically speaking, the single most important factor in determining sample size is the variance in the population characteristic of interest. In practice, determining sample sizes involves financial, statistical and managerial issues (Davis and Cosenza, 1993). Usually, experienced researchers regard 100 or more respondents as the minimum sample size when the population is large (Bourque and Fielder, 1995). In this research, costs, time, and the requirements of the statistical techniques that the data analysis procedure used, suggested a desired sample size of 190-200.

To determine whether the respondents represented the research population, this research tried to compare the characteristics of these two groups. However, this also proved to be very difficult. The only knowledge about the population available to the researcher at the time was that there were approximately 36,000 qualified IFAs across UK. Information about their age, gender, financial experience, firm's size, location, etc. was not available at that time the data was collected. In addition, there is always a trade-off between gaining characteristics of the respondents and confidence that the questionnaire will be returned. Because of budget and time constraints, this research could not risk causing IFAs' doubts. Hence, this research did not ask the IFAs to give their name and details unless they wanted the survey results. In addition, the questionnaire was not pre-coded to help identify which IFA did or did not return the questionnaire. Accordingly, it was impossible for this research to be certain if the sample is representative of the population. Likewise, it was also difficult to conduct a non-response analysis.

The questionnaires were posted to 1760 IFAs. The total mailing was completed within a few days. 80% of the responses were returned within 1 week. In all, 196 questionnaires were returned, representing in total an 11% response rate from 1,760 questionnaires mailed.

Ethical Issues

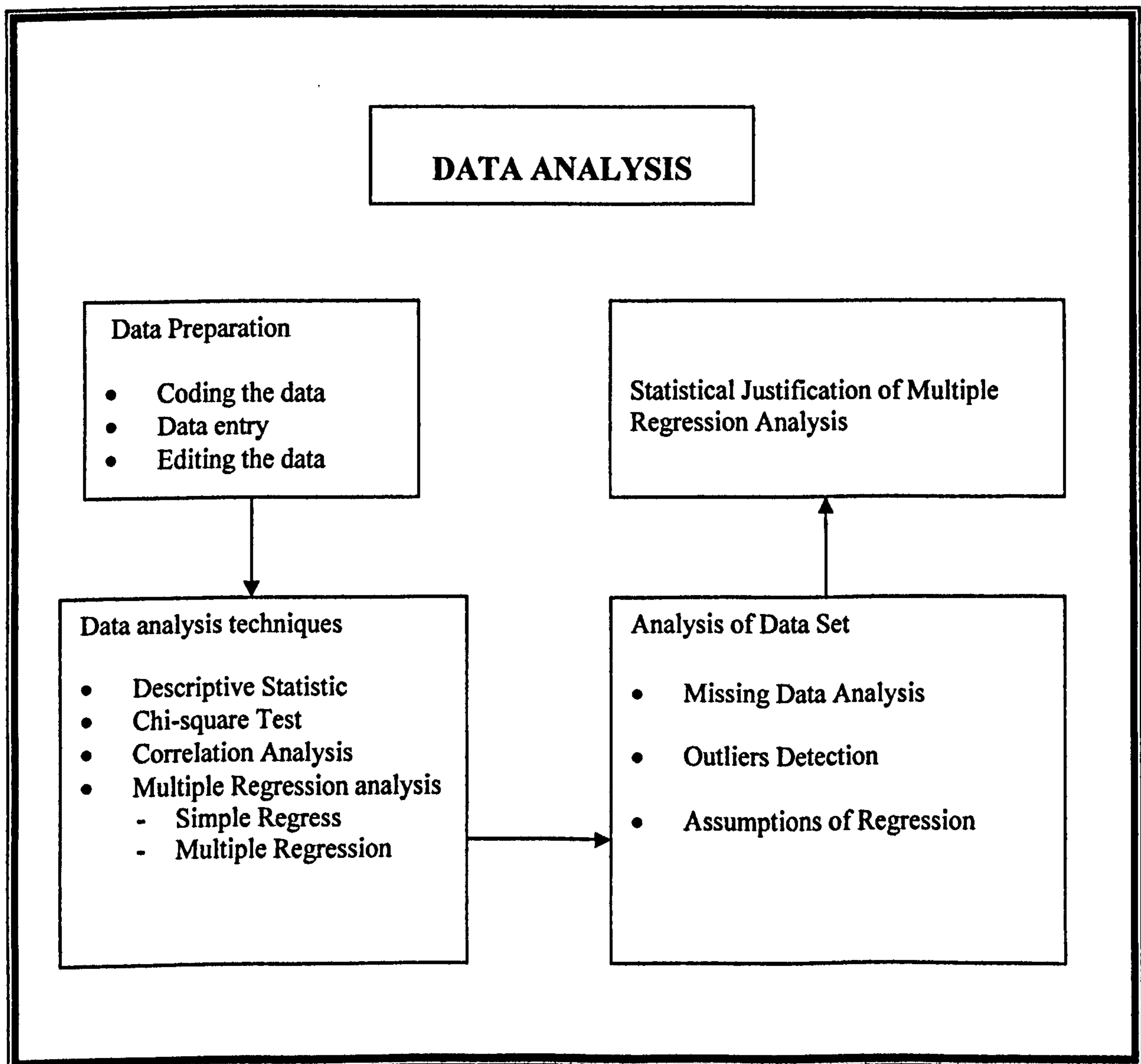
The ethics of how the data is collected is discussed in this section. Ethics is concerned with the conduct of human beings. According to Zikmund (1997), it is not easy to define ethical research. However, there are procedures for the conduct of ethical research and this study followed the ethics guidelines of the University of Gloucestershire. According to Salant and Dillman (1994), survey research will be considered ethical if respondents are not forced or pressured to respond to the survey. In contrast, they should be encouraged to respond to the survey. The right of individuals to refuse to complete the questionnaire must also be respected. More importantly, their confidentiality and anonymity must be reassured. The identity of individual respondents must not be disclosed to the third party. In addition, they must be protected from misrepresentation and exploitation. In this research, all survey participants were given the purpose of the survey. They were, then, offered the incentive (a copy of the general research result) and encouraged to respond to the survey. They were not pressured to do so. In addition, their confidentiality is strictly preserved. Respondents were not asked for their name and address. However, if they would like to have a copy of general research results, they have to provide details on where the results can be sent.

3.5.3 Data Analysis

The final part of this chapter discusses the methodology of data analysis. This section first describes data preparation, which includes coding, transcribing and cleaning the data for analysis. The second part, discusses the statistical analysis techniques used in this research. The third part is concerned with the suitability of the data set. In this part, the data set was examined to see whether it is feasible for the chosen analytical techniques. The final part, then discusses the justification of the use of multiple regression technique. The structure of this section is shown in Figure 3.8.

FIGURE 3.8

Structure of Data Analysis Section



Data Preparation

Data preparation is the process that transforms raw data from a questionnaire into a form that computer can read and that is suitable for statistical analysis (Fielding and Gilbert, 2000). This process involves coding, entering the data into a computer database, and cleaning the data for accuracy and accounting for missing responses (Bourque and Fielder, 1995; Malhotra, 1993). The time and effort involved in performing statistical analyses can be greatly reduced if the data preparation is handled appropriately (Fielding and Gilbert, 2000). Each of these aspects of data preparation is now discussed in relation to this research.

Coding the data: Coding the data is the process of assigning a code to each possible response to each question in the survey (Malhotra, 1993). To be specific, coding involves grouping and assigning values to various responses from the survey instrument. Numeric codes are normally designed into the questionnaire from the beginning. They may range from 0 to 9, for example. Sometimes, however, actual responses cannot be coded initially and a master code must be constructed (Fielding and Gilbert, 2000). In this research, most questions in the questionnaire were closed-ended and pre-coded, although a few contained “other” category. Answers to the “other” category were examined and no major impact of these answers on the results of the pre-coded data was found.

Data entry: Data entry is the process involved with the input of the coded data into some specified software package that will ultimately allow the researchers to manipulate and transform the raw data into useful information (Malhotra, 1993). In this research, the data was transferred into Microsoft Word first, and then saved as a text only file. Then the data file was opened from Microsoft Excel Version 4 and some adjustments of format made. The data file was then saved as Excel-Version-4-format file. Finally, this file was transferred into SPSS programme.

Editing the data: The next process after data entry is editing the data. According to Malhotra (1993), data editing is a final inspection-correction

method. Data should be edited before being presented as information. Data editing is an iterative and interactive process that includes procedures for detecting and correcting errors in the data. It also helps identify missing and invalid entries. The aims of data editing are 1) to ensure that the information provided is accurate, complete and consistent, 2) to establish guidelines to reduce potential bias, and 3) to simplify analysis by substituting values for missing or inconsistent data in a data set (Malhotra, 1993). Typical data editing includes range checks, validity checks, consistency checks and checks for duplicate records. It can be performed manually, or with the assistance of computer programming or a combination of both techniques (Bryman and Cramer, 1997). In this research, the editing process was carried out through checks of the individual data records. As a result, missing data was identified. Missing data is discussed next.

Missing data: Missing data is a very important issue, because most multivariate analysis requires complete data on all the variables, otherwise cases with missing values will be not be analysed (Afifi and Clark, 1996). In fact, missing data are a part of almost all research. Researchers have to decide how to deal with it from time to time (Afifi and Clark, 1996). In this research, two types of missing data were identified: data missed by the researcher and respondent missing data. Data missed by the researcher was corrected during editing process.

Statistical Techniques

This section discusses methods used in this research to analyse the data set. In brief, this section describes the descriptive statistics initially used in data analysis, followed by chi-square, correlations and regression analysis.

Descriptive Statistics: Descriptive statistics are used to describe the basic features of the data in this study. They provide simple summaries about the sample and the measures such as frequencies, percentages, and means. Together with simple graphics analysis, they form the basis of virtually every quantitative analysis of data (Bryman and Cramer, 1997).

Descriptive Statistics do not only present quantitative descriptions in a manageable form, they also provide guidance for conducting multivariate analysis (Malhotra, 1993). The results of descriptive statistics will be discussed in Chapter 4.

Chi-Square: Test of Independence: The chi-square test for independence asks whether there is an association between the variable that defines the rows and the variable that defines the columns. A large value of chi-square means that there is a large discrepancy. This research used a Chi-Square test of independence to measure the relationship between nominal and ordinal variables (Bryman and Cramer, 1997)

Correlations: Correlation is a measure of association between two variables. The variables are not designated as dependent or independent. The two most popular correlation coefficients are: Pearson's product-moment correlation coefficient and Spearman's correlation coefficient rho. Pearson's technique is more appropriate for interval or ratio-type data. Pearson correlation calculations are based on the assumption that both X and Y values are sampled from populations that follow a Gaussian distribution, at least approximately. With large samples, this assumption is not too important. Spearman's correlation, however, is based on ranking the two variables, and so makes no assumption about the distribution of the values (Sekaran, 1992). This research used Spearman's technique because the data is ordinal (Bryman and Cramer, 1997).

The value of a correlation coefficient can vary from minus one to plus one. A minus one indicates a perfect negative correlation, while a plus one indicates a perfect positive correlation. A correlation of zero means there is no relationship between the two variables. When there is a negative correlation between two variables, as the value of one variable increases, the value of the other variable decreases, and vice versa. When there is a positive correlation between two variables, as the value of one variable increases, the value of the other variable also increases. The variables move together (Bryman and Cramer, 1997).

The standard error of a correlation coefficient is used to determine the confidence intervals around a true correlation of zero. The significance of the correlation coefficient is determined from the t-statistic (Diamond and Jefferies 2001; Sirkin 1995). In this research, correlations were calculated to measure the relationships or associations between variables with the assistance of SPSS. The results of correlation analysis will be discussed in Chapter 4

Regression Analysis: Although a correlation coefficient can explain that some sort of relation exists between the variables, it does not explain anything about the form of the relationship between variables. When the observations are not perfectly correlated, many different lines may be drawn through the data. To select a line that describes the data, as close as possible to the points, regression analysis, based on the least-squares principle, should be employed. There are two types of regression analysis: simple and multiple. Simple regression involves two variables, the dependent variable and one independent variable. Multiple regressions involve many variables, one dependent variable and many independent variables (Knibb, 1996).

This research used both simple and multiple regression analysis to examine the relationship between independent or predictor variable(s) and a dependent or criterion variable. It is important to be aware that regression is inherently a correlational technique. It cannot, by itself, tell us anything about the causality of a given situation (Tabachnick and Fidell 1996).

Simple regression analysis: This technique is used for testing hypotheses about the relationship between independent variable, Y , and an independent or explanatory variable, X , and for prediction. Simple linear regression analysis usually begins by plotting the set of XY values on a scatter diagram and determining by inspection if an approximate linear relationship exists (Tabachnick and Fidell, 1996). The simple regression equation is:

$$\hat{y} = a + bx$$

Multiple Regression Analysis: This research uses multiple regression to examine the relationship between several independent or predictor variables and a dependent or criterion variable (Tabachnick and Fidell, 1996). The equation of multiple regression is:

$$\hat{y} = a + b_1x_1 + b_2x_2 + b_3x_3 + \dots + b_nx_n$$

Multiple regression analysis is normally employed to answer five main questions about a set of data. First, how well do the independent variables, taken together, explain the variation in the dependent variable? This is assessed by the value of R^2_{adj} . Secondly, whether the independent variables, taken together, are significantly associated with the dependent variable. This is assessed by the statistic F in the "Analysis of Variance" or ANOVA part of the regression output. Thirdly, what relationship does each independent variable have with the dependent variable when all other independent variables are held constant? Fourthly, which independent variable has most effect on the dependent variable? The usual way of addressing the question is to look at the standardised regression coefficients or beta weights for each variable. Finally, are the relationships of each independent variable with the dependent variable statistically significant, with all other independent variables taken into account? This is answered by looking at the t values in the table of regression coefficients (Aiken and West, 1991; Knibb, 1996).

Analysis of Data Set

Missing Data Analysis: Item non-response occurs when a respondent completes most of the questionnaire but does not answer one or more individual questions (Malhotra, 1993). Data from respondents can be missing for at least two reasons. They can be missing at random. In this situation, there is no particular reason to think that the data collected is substantially different from the data that was not collected. On the other hand, data is often missing in a non-random fashion (Bryman and Cramer, 1997). In fact, analyses are often expected to demonstrate that those who have complete data do not differ on other variables from those who have not complete data (Malhotra, 1993).

There were some non-response items in this research. The most common approach is to simply omit those cases with missing data and to run analyses on what remains. However, ignoring missing data or assuming that excluding missing data is sufficient can risk getting invalid and insignificant results (Malhotra, 1993). This research, however, took another approach. The procedures in conducting missing value analysis in this research can be divided into 3 steps as follows:

Step 3: Identifying patterns of missing values: Nom. & frequency

Step 1: Identifying missing data for all cases and all variables: The first set of tasks in conducting missing value analysis in this research involved identifying cases with large concentrations of missing data as candidates for elimination from the analysis. In this research, missing value analysis was conducted with variables in the regression model, using SPSS. As a result, missing pattern analysis shows four cases where the proportion of missing values exceeds 10% (case 12, 73, 180 and 183). Accordingly, these four cases were removed, leaving a total of 192 cases for further analysis (See Table 3.5).

Missing Values of Variables in Multiple Regression Model

TABLE 3.5
Missing Cases Analysis

ID	VARIABLES																			
	T1	T2	T3	T4	T5	T6	T7	CM1	CM2	CM3	CM4	CM5	CM6	CM7	RELA	CON	CO1	CO2	CO3	CMQ
10							A													
41							A													
65							A													
48							A													A
11																				A
190																				A
80														A						A
161									A											A
139																		A		
72														A						
114												A	A							
52						A														
12																A	A	A	A	
73					A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
183	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
180	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A

A = cases and variables are sorted on missing patterns

Step 2: Identifying variables with many missing cases: After removing cases with large concentrations of missing data, a frequency distribution was

conducted for the remaining cases to see if any variables have so many missing cases that the variable should be considered a candidate for exclusion. The analysis shows that none of the proportion of missing values exceeds 10%. The highest is only 2.6% (communication quality variable), indicating that missing values of variables in the multiple regression model in this research do not pose problems in treatment as suggested by Malhotra (1993) (See Table 3.6).

Step 3: Identifying patterns of missing values: Next, a frequency distribution for the pattern variable was conducted to identify missing patterns that occur often in the data, indicating a problematic missing data process. According to Table 3.7 there were 180 cases that had no missing values in the selected variables. There were 4 cases that had missing values for Question 7 of trust and 5 cases that had missing values for the question of communication quality. Indeed, no problematic missing patterns were found in this research.

TABLE 3.6

Missing Values of Variables in Multiple Regression Model

	N	Missing	
		Count	Percent
COMQUAL	187	5	2.6
TRUST1	192	0	0.0
TRUST2	192	0	0.0
TRUST3	192	0	0.0
TRUST4	192	0	0.0
TRUST5	192	0	0.0
TRUST6	191	1	0.5
TRUST7	188	4	2.1
COOP1	192	0	0.0
COOP2	191	1	0.5
COOP3	192	0	0.0
CONFLIC	192	0	0.0
DISAGREE	191	1	0.5
COMMIT1	192	0	0.0
COMMIT2	192	0	0.0
COMMIT3	191	1	0.5
COMMIT4	192	0	0.0
COMMIT5	191	1	0.5
COMMIT6	190	2	1.0
COMMIT7	191	1	0.5
RELQUA	192	0	0.0

TABLE 3.7

Analysis of Missing Patterns

No. Of Cases	MISSING PATERNS																				
	T1	T2	T3	T4	T5	T6	T7	CO1	CO2	CO3	CON	CM1	CM2	CM3	CM4	CM5	CM6	CM7	REL	CMQ	
180																					
4							X														
5																					X

Patterns with less than 1% cases (1 or fewer) are not displayed.

A: Variables are sorted on missing patterns.

B: Number of complete cases if variables missing in that pattern (marked with X) are not used.

Step 4: Testing if the missing cases are statistically different from the valid cases:

The next step is to examine whether or not the missing cases are statistically different from the valid cases for all of the other variables in the analysis. If the variable is metric, a t-test is used for group differences. However, if the variable is non-metric, then a chi-square test of independence is used to detect group differences. Likert-scale and semantic differential scores are usually treated as discrete metric variables by convention, even though they are only designed to be an ordinal scale (Bryman and Cramer, 1997). Accordingly, a t-test on the null hypothesis that missing cases were not statistically different from the valid cases was carried out.

If the null hypothesis was established as reasonable, this research would assume that data was missing at random and it could go ahead comparing the rest of the groups with more confidence. However, if the test result showed that the non-responders differed systematically from others, this research would, then, take that into account in interpreting differences among the remaining groups (Afifi and Clark, 1996).

t-test: In this research, t-test with groups formed by indicator variables was conducted in SPSS. As the proportion of missing values are quite small, variables were randomly selected. Variables that were missing less than 1%

of cases were excluded from the analysis. Variable Commitment6 was randomly chosen as an indicator variable. Table 3.8 reports the results of t-tests.

TABLE 3.8
t-test Results

		CON	T1	T5	CO1	CO3	CM1	COM7
COMM6	t	-1.2	1.2	1.0	-0.9	1.0	1.4	2.8
	df	1.1	1.1	1.0	189.0	1.1	189.0	1.1
	P(2-tail)	0.4	0.4	0.5	0.4	0.5	0.2	0.2
	# Present	190	190	190	190	190	190	189
	# Missing	2	2	2	2	2	2	2
	Mean(Present)	3.9	4.1	4.0	3.9	4.0	4.1	2.9
	Mean(Missing)	4.5	3.5	3.0	4.0	3.5	4.0	1.5

The t-test results show that the mean differences between the missing-data group and valid-data group on selected variables are very small. The highest difference is only 1.4 while the lowest difference is 0.1. The value of 2-tail significance is also greater than the standard criteria for a significant result ($p < 0.05$). Therefore, a conclusion can be drawn that the very small differences in means between the two groups are not statistically significant. In other words, the differences between the two groups can be explained by chance implying that missing data is missing at random.

Outliers Analysis: Outliers are cases that have an atypical score either for a single variable (univariate outliers) or for a combination of variables (multivariate outliers). The main concern with outliers is to answer the question of whether the analysis is more valid with the outlier case included or more valid with the outlier case excluded (Afifi and Clark, 1996). To answer this question, it is necessary to have methods for detecting and assessing outliers. The method for detecting univariate outliers is to convert the scores of the variable to standard scores (Z scores) and scan for very large positive and negative standard scores. The detection of multivariate outliers is used to detect unusual cases for the combined set of metric independent variables, using a multivariate distance measure analogous to standard score distance from the mean of the sample (Afifi and Clark, 1996).

- **Univariate Detection:** According to Bryman and Cramer (1997), in a sample size of 80 or more, Z-scores in the range of 3 to 4 should be considered as potential outliers. In this research, SPSS was used to calculate Z scores for all the variables used in the models. Three outliers were identified in one variable: relationship quality. See Table 3.9 for more detail.

TABLE 3.9

Outlier Detection Using Z scores

Variable	Question	Case Number	Z Score
Relationship Quality	1	135	- 3.136
		157	- 3.136
		191	- 3.136

- **Multivariate Detection:** Mahalanobis is a measure of how much a case's values on the independent variables differ from the average of all cases. This method is necessary because while some observations are not outliers on individual variables, they may be when several variables are combined (Barnett and Lewis 1995). A large Mahalanobis distance identifies a case as having extreme values on one or more of the independent variables (Barnett and Lewis 1995).

According to Tabachnick and Fidell (1996), Mahalanobis Distance is evaluated with a probability estimate of $p < .001$. Therefore, cases that have probability values less than 0.001 are considered as potential outliers. Table 3.10 identifies 17 multivariate outliers.

- **Handling outliers:** After outliers have been identified, they may be retained for data analysis or removed depending on the information they provide to the research (Barnett and Lewis 1995). The decision to exclude or retain the outlier case is based on understanding the cause of the outlier and the impact it is having on the results. If the outlier is a data entry error or an obvious mis-statement by a respondent, it probably should be excluded. If the outlier is an unusual but probable value, it should be retained (Barnett and Lewis 1995). In fact, to improve understanding of the impact of the outlier, this research ran the

analysis twice, once with the outlier included and again with the outlier excluded. The results did not show much difference. As there was no explicit evidence that any of the small numbers outliers in the model was unusual, all outliers were retained.

TABLE 3.10
Mahalanobis Distance of Outliers

Case Number	Mahalanobis d^2	Probability Value
156	97.68527	.0001
32	68.60795	.0001
28	60.51182	.0001
194	60.14649	.0001
74	58.81146	.0001
103	57.41011	.0001
167	53.76797	.0001
150	53.10793	.0001
71	51.50445	.0001
105	46.14981	.0001
31	45.26789	.0001
110	43.87824	.0001
133	41.65660	.0001
194	41.52950	.0001
35	41.14188	.0001
57	40.19995	.0001
22	40.03303	.0001

Assumptions of multiple regressions Analysis: Multiple regression has some conditions that have to be followed if it is to be useful: random sample, interval or near-interval data, linearity of relationships, the same level of relationship throughout the range of the independent variable ("homoscedasticity"), and data whose range is not truncated. It is important that the model being tested is correctly specified. The exclusion of important causal variables or the inclusion of extraneous variables can change markedly the beta weights and hence the interpretation of the importance of the independent variables. In addition, multivariate analysis requires that the assumptions be tested twice: first, for the separate variables while preparing to do the analysis, and second, for the multivariate model, which acts collectively for the variables in the analysis and thus must meet the same assumptions as individual variables (Knibb, 1996).

- **Random sample:** The units observed should be a random sample from some well-defined population (Pedhazur and Schmelkin, 1991). In reality, it is extremely difficult to obtain the sample randomly, especially when the access to the *population* and *sampling frame* is limited. Accordingly, this research used a convenience sample of 1,760 IFAs, although the random sample would have been a preferred choice. The researcher took IFAs available on the Internet rather than selecting them from the entire population. The researcher is aware that some IFAs registered on the Internet had no chance of being sampled; therefore, the extent to which a convenience sample actually represents the entire population cannot be known.
- **Independent variables:** The linear regression model requires no assumptions regarding the measurement of the independent variables. Independent variables can be dichotomous, nominal, ordinal, or continuous. In most cases, however, methodologists simply use a rule-of-thumb that there must be a certain minimum number of classes in the ordinal independent. For example, Achen (1991) argues that there should be at least 5 numbers of classes while Berry (1993) states that five or fewer is not appropriate. Others have insisted on 7 or more. In this research, all independent variables were measured on seven-point Likert scales.
- **Dependent variable:** Conventionally speaking, ordinal dependents are more problematic because their discreteness violates the regression assumptions of the normal distribution of error with constant variance (Achen, 1991). According to Achen (1991), the use of ordinal dependents are allowed as long as the number of response categories is not very small – at least 5 or 7 (Achen, 1991) and the responses are not highly concentrated in a very small number of response categories. In this research, the dependent variable was measured on a seven-point Likert scale and responses spread over seven categories.
- **Multicollinearity:** Multi-collinearity is the inter-correlation of independent variables. A correlation coefficient near 1 violates the

assumption of no perfect collinearity, increases the standard error of the beta coefficients and makes assessment of the unique role of each independent difficult or impossible (Berry, 1993). High multicollinearity does not change the estimates of the coefficients, only their reliability. Indeed, multiple regression models are highly sensitive to high correlations among the independent variables. However, in practice, there are always some correlations between independent variables. Appendix 3.5 reports the results by a correlation matrix. This research used a correlation matrix to detect multicollinearity between manifest variables. The results from Table 3.11 demonstrate that some independent manifest variables are highly correlated. The correlation matrix reveals only bivariate multicollinearity. To assess multivariate multicollinearity, this research also used tolerance, the variance-inflation factor (VIF), which builds in the regressing of each independent on all the others and collinearity diagnostics table to investigate multicollinearity in the multiple regression model.

TABLE 3.11
Multi-collinearity between Manifest Variables

	TRUST4	TRUST5	TRUST6	Sig. (2-tailed)			
TRUST4	1.000	0.704	0.607	0.000			
TRUST5	0.704	1.000	0.752	0.000			
TRUST6	0.607	0.752	1.000	0.000			
	COOP1	COOP2	COOP3	Sig. (2-tailed)			
COOP1	1.000	0.772	0.696	0.000			
COOP2	0.772	1.000	0.787	0.000			
COOP3	0.696	0.787	1.000	0.000			
	COMMIT1	COMMIT2	COMMIT3	COMMIT4	COMMIT5	COMMIT6	Sig. (2-tailed)
COMMIT1	1.000	0.755	0.702	0.657	0.672	0.590	0.000
COMMIT2	0.755	1.000	0.755	0.777	0.746	0.693	0.000
COMMIT3	0.702	0.755	1.000	0.799	0.747	0.742	0.000
COMMIT4	0.657	0.777	0.799	1.000	0.863	0.815	0.000
COMMIT5	0.672	0.746	0.747	0.863	1.000	0.826	0.000
COMMIT6	0.590	0.693	0.742	0.815	0.826	1.000	0.000

- **Tolerance:** is $1 - R^2$ for the regression of that independent variable on all the other independents, ignoring the dependent. There will be as many tolerance coefficients as there are independents. The higher the intercorrelation of the independents, the more the tolerance will approach zero. As a rule of thumb, if tolerance is less than 0.20, a problem with multicollinearity is indicated (Berry, 1993).

- **Variance-inflation Factor:** The variance-inflation factor (VIF) is simply the reciprocal of tolerance. When the VIF is high, there is high multicollinearity and instability of the b and beta coefficients. Many researchers use the cut-off of 5.0 (if $VIF \geq 5$, then multicollinearity is a problem). When this situation arises, the research may have to consider dropping one variable, combining the two variables into one, or just being very careful in interpreting the regression model (Berry, 1993).

Table 3.12 reports the results of tolerance and VIF.

TABLE 3.12
Multivariate Multicollinearity

Independent Variables	Collinearity Statistics	
	Tolerance	VIF
COMQUAL	0.581	1.721
TRUST1	0.485	2.063
TRUST2	0.798	1.253
TRUST3	0.492	2.032
TRUST4	0.341	2.933
TRUST5	0.237	4.219
TRUST6	0.307	3.255
TRUST7	0.677	1.477
COOP1	0.283	3.535
COOP2	0.230	4.346
COOP3	0.303	3.296
CONFLIC1	0.533	1.875
DISAGREE	0.574	1.742
COMMIT1	0.295	3.386
COMMIT2	0.207	4.825
COMMIT3	0.226	4.429
COMMIT4	0.145	6.886
COMMIT5	0.161	6.209
COMMIT6	0.159	6.295
COMMIT7	0.547	1.827

Dependent Variable: Relationship Quality

According to Table 3.12, the tolerance values of commitment 4, commitment 5 and commitment 6 are close to zero, and their VIF value is also over 0.5, indicating that there is high multicollinearity of these three variables with other independents.

- **Collinearity diagnostics table:** This is an alternative method of assessing if there is too much multicollinearity in the model. To simplify, crossproducts of the independent variables are factored. High eigenvalues indicate dimensions (factors), which account for a lot of the variance in the crossproduct matrix. Eigenvalues close to 0 indicate dimensions which explain little variance. Multiple eigenvalues close to 0 indicate an ill-conditioned *crossproduct matrix*, meaning there may be a problem with multicollinearity and the condition indices should be examined (Berry, 1993). Table 3.13 shows some results from the collinearity diagnostics table.

TABLE 3.13
Collinearity Diagnostics Table

Model	Dimension	Eigenvalue	Condition Index
1	1	19.832	1.000
	2	0.251	8.881
	3	0.162	11.067
	4	0.118	12.939
	5	0.100	14.078
	6	0.079	15.836
	7	0.059	18.386
	8	0.053	19.345
	9	0.049	20.115
	10	0.046	20.758
	11	0.041	21.983
	12	0.032	24.798
	13	0.032	25.032
	14	0.027	26.941
	15	0.026	27.793
	16	0.021	30.811
	17	0.019	32.316
	18	0.016	34.918
	19	0.014	37.720
	20	0.011	41.686
	21	0.011	42.991

Table 3.13 shows that multiple eigenvalues are close to 0, indicating problems with multicollinearity. There are 6 variables whose condition indices are over 30, suggesting serious collinearity problems and 10 variables whose condition indices over 15, suggesting possible collinearity problems.

- **Handling Multi-collinearity problems:** The key problem in this data set is **multi-collinearity**. There are several simple methods to handle this problem. Increasing the sample size is a common first step. This method can partially offset the problem that high multi-collinearity leads to high standard errors of the b and beta coefficients. This approach, however, is not suitable for this research due to the restriction of time and budgets. It is important to understand the cause of multi-collinearity. In this research, multi-collinearity is caused by the fact that some variables are measured by a multi-items scale. The multi-items scale normally consists of a number of items measuring the same variable; therefore, they are bound to be highly correlated. Accordingly, this research handled the multi-collinearity problem by conducting a principle component analysis on each variable that used a multi-items scale – trust, commitment, and co-operation. The principle component analysis produced two factors for trust, 1 factor for commitment, and 1 factor for co-operation. The same multi-collinearity tests were, then, conducted against these new variables. The results were satisfactory. Accordingly, these factors were used as independent variables in multiple regression analysis.
- **Normality:** The underlying assumption of most multivariate analysis and statistical tests is the assumptions of normality. The distributions of all the variables should be normal. If they are not approximately normal, this can often be corrected by using an appropriate transformation (e.g. taking logarithms of all the measurements). When the assumption is met the residuals are normally distributed and independent, the differences between predicted and obtained scores (the errors) are symmetrically distributed around a mean of zero and there is no pattern to the errors. Screening for normality may be undertaken in

either statistical or graphical methods (Berry, 1993). Determining whether the distribution of values for a variable complies with the definition of a normal curve can be tested in several ways:

Skewness and Kurtosis: According to Tabachnick and Fidell (1996), a distribution is normal if the values of skewness and kurtosis are zero. Kurtosis is related to the peakedness of a distribution, either too peaked or too flat. Skewness is related to the symmetry of the distribution, the location of the mean of the distribution. A skewed variable is one whose mean is not in the centre of the distribution. In this research, Z-score was used to test Skewness and Kurtosis of the distribution. To interpret its significance, the skewness was divided by the standard error of skewness as shown:

$$\frac{\text{Skewness}}{\text{Standard Error of Skewness}} = \text{Standardised Score of Skewness}$$

As a result, a standardised score was created. Similarly, a standardised score of the kurtosis was created by dividing the kurtosis by the standard error of kurtosis.

$$\frac{\text{Kurtosis}}{\text{Standard Error of Kurtosis}} = \text{Standardised Score of Kurtosis}$$

It is important to calculate this value, as the degree of skewness and kurtosis is a criterion used in selecting an appropriate statistical test. If Z value exceeds the critical value of +/- 1.96, which corresponds to a significance level of 0.05, it will lead to the hypothesis of normality being rejected (Hair et al., 1995). In this research, no variable has standardised scores above +/-1.96 on both skewness and kurtosis; two variables have standardised above +/-1.96 on kurtosis only; and four variables have standardised scores above +/-1.96 on skewness only. See Table 3.14 for details.

Residual Analysis: Error, represented by the residuals, should be normally distributed for each set of values of the independents. A histogram of standardised residuals should show a roughly normal curve. An alternative for the same purpose is the normal probability plot. A 45-degree line will appear when observed residuals conform to normally expected. See Figures 3.9 and 3.10

TABLE 3.14

Critical Values of Skewness and Kurtosis

Variables	N	Skewness		Stdz score skewness	Kurtosis		Stdz score kurtosis
		Statistic	Std. Error		Statistic	Std. Error	
TF1	187	-0.439	0.178	-2.466	0.520	0.354	1.468
TF2	187	0.205	0.178	1.51	0.148	0.354	0.41
CONFLIC1	192	-0.585	0.175	-3.334	-0.077	0.349	-0.222
DISAGREE	191	0.014	0.176	0.079	-0.789	0.350	-2.254
COOP	191	-0.384	0.176	-2.18	-0.082	0.350	-0.23
COMMIT	188	-0.427	0.177	-2.41	0.143	0.353	0.40
COMQUAL	187	-0.287	0.178	-1.617	0.063	0.354	0.177
RELQUAL	192	-0.333	0.175	-1.896	0.872	0.349	2.499

FIGURE 3.9

Residual Analysis

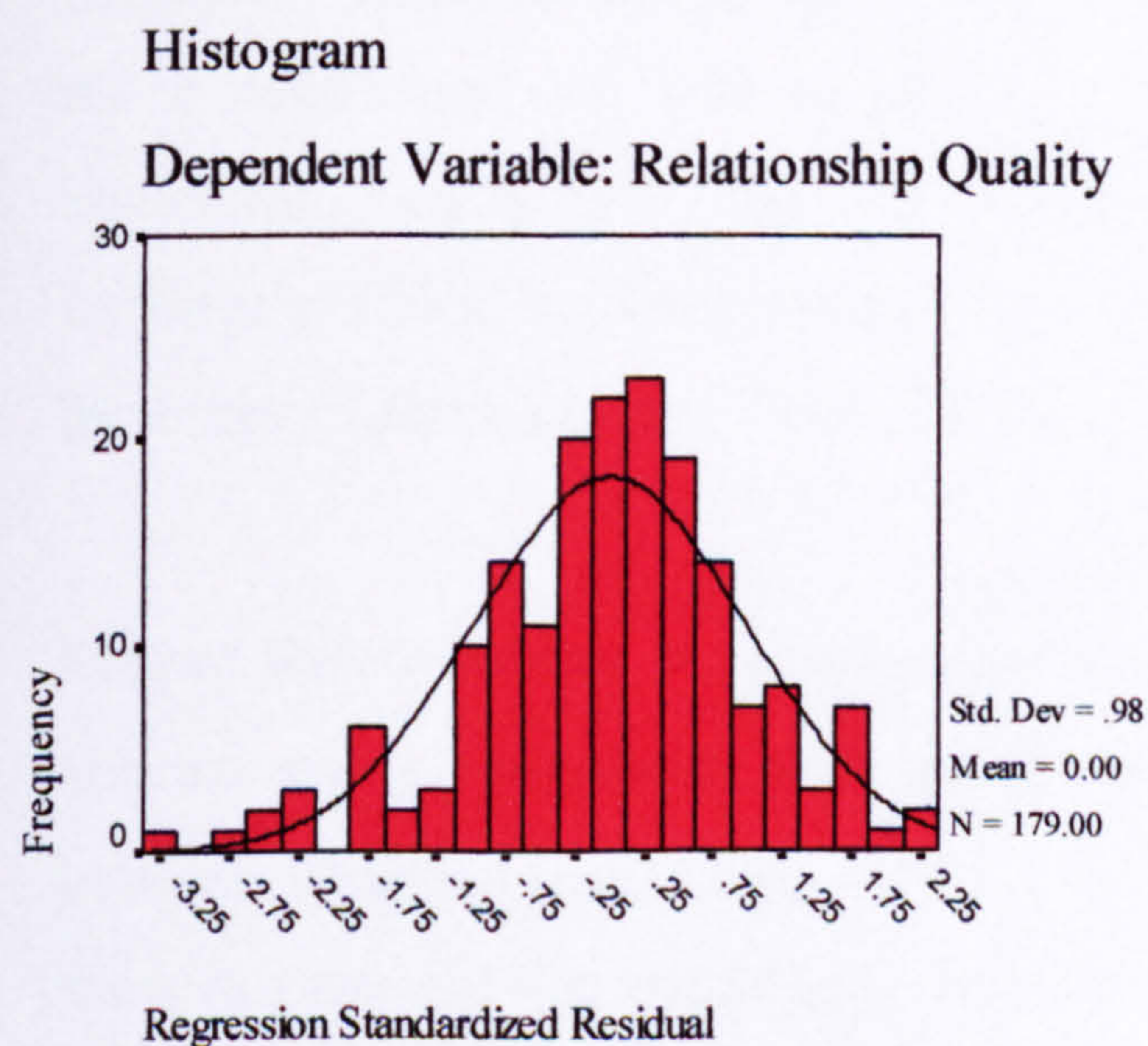
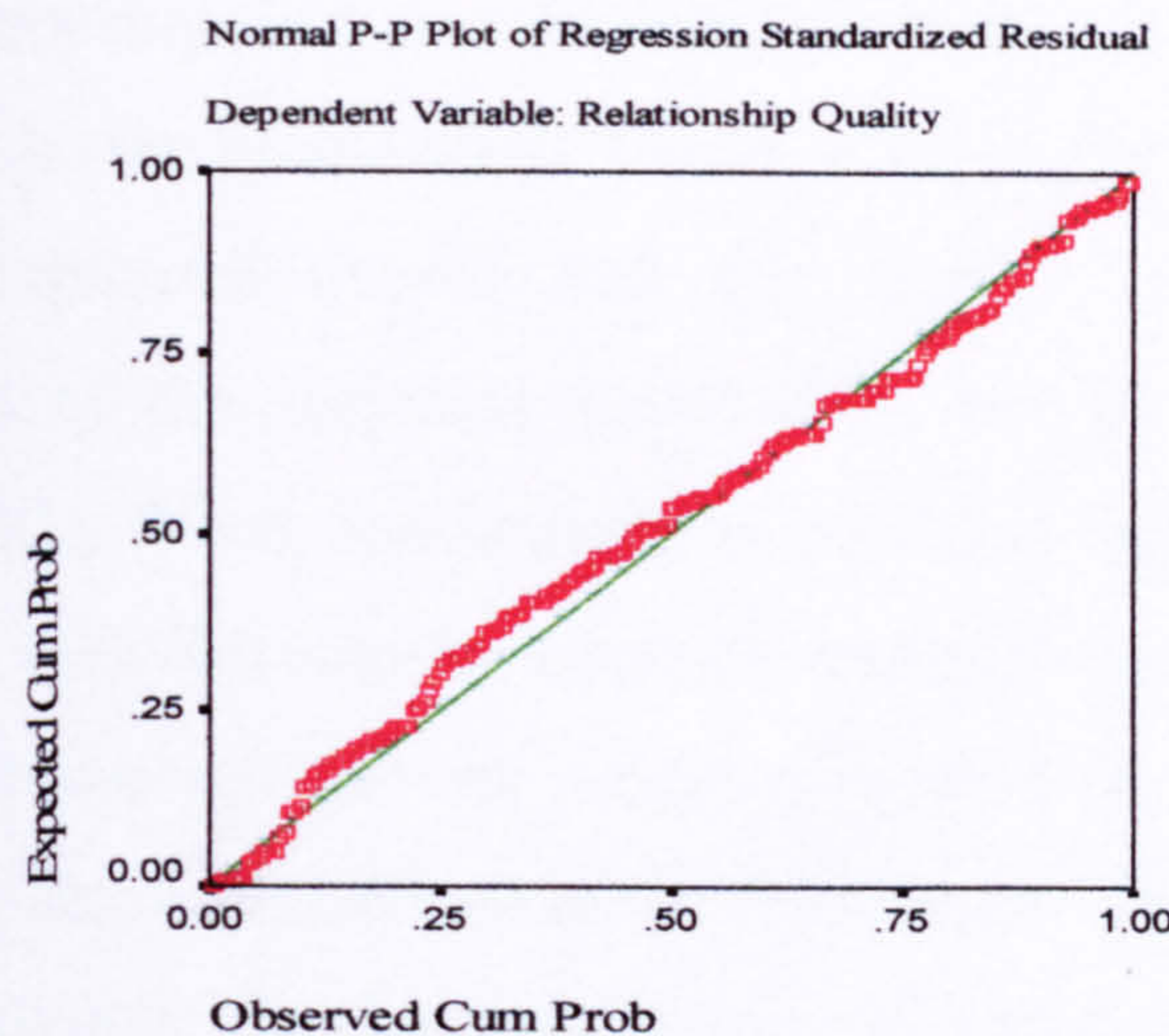


FIGURE 3.10
Normal P-P Plot



In brief, the distribution of some variables in this research does not appear to be normal. However, residual analysis rendered a reasonably satisfactory result and normal probability plot satisfies a 45-degree expectation. Although, the result could have been better, this research concluded that the distribution of residuals was close enough to normal for each set of values of the independent variables.

This research also used data transformation to verify these points. The transformed data, however, did not render a better result. Nonetheless, even if residuals are not normally distributed, when the sample size is reasonably large, as it is in this research, the sampling distribution of the b coefficient will still be normal. Therefore violations of this assumption usually have little or no impact on substantive conclusions for large samples, but when sample size is small, tests of normality are important (Tabachnick and Fidell, 2001).

- **Linear Relationships:** It is important to assess linearity of variables because multiple regression analysis examines only linear relationships between variables (Hair et al., 1995). Linearity is the assumption that there is a straight-line relationship between the dependent variable and the independent variable. That is, it should be possible to draw a rough straight line through an x-y scattergram of the observed points. As is evident in the name multiple linear regression, it is assumed that the

relationship between variables is linear. In practice this assumption can virtually never be confirmed (Hair et al., 1995). To the extent that non-linear relationships are present, conventional regression analysis will underestimate the relationship. That is, R-square will underestimate the variance explained overall and the betas will underestimate the importance of the variables involved in the non-linear relationship (Berry, 1993). When non-linearity is present, nonlinear transformation of selected variables may be a pre-processing step. However, this is not common because it runs the danger of over-fitting the model to what are, in fact, chance variations in the data (Berry, 1993). In regression, as a rule of thumb, non-linearity is generally not a problem when the standard deviation of the dependent is more than the standard deviation of the residuals (Berry, 1993). In this research, the standard deviation of the dependent variable, relationship quality, is greater than the standard deviation of the residuals. Therefore, non-linearity should not pose a problem. See Table 3.15.

TABLE 3.15

Non-linearity Analysis

Residuals Statistics	Std. Deviation
Standardised Residual	1.017
Studentised Residual	1.053
Dependent Variable: Relationship Quality	1.140

- **Homoscedasticity:** Multiple regression analysis also assumes homoscedasticity. Homoscedasticity is defined as constant variance (Berry, 1993). Homoscedasticity tests should be conducted to assure that the residuals are dispersed randomly throughout the range of the estimated dependent. In other words, the variance of residual error should be constant for all values of the independent(s). If not, separate models may be required for the different ranges. Also, when the homoscedasticity assumption is violated "conventionally computed confidence intervals and conventional t-tests for OLS estimators can no longer be justified" (Berry, 1993, p 81). Testing homoscedasticity can

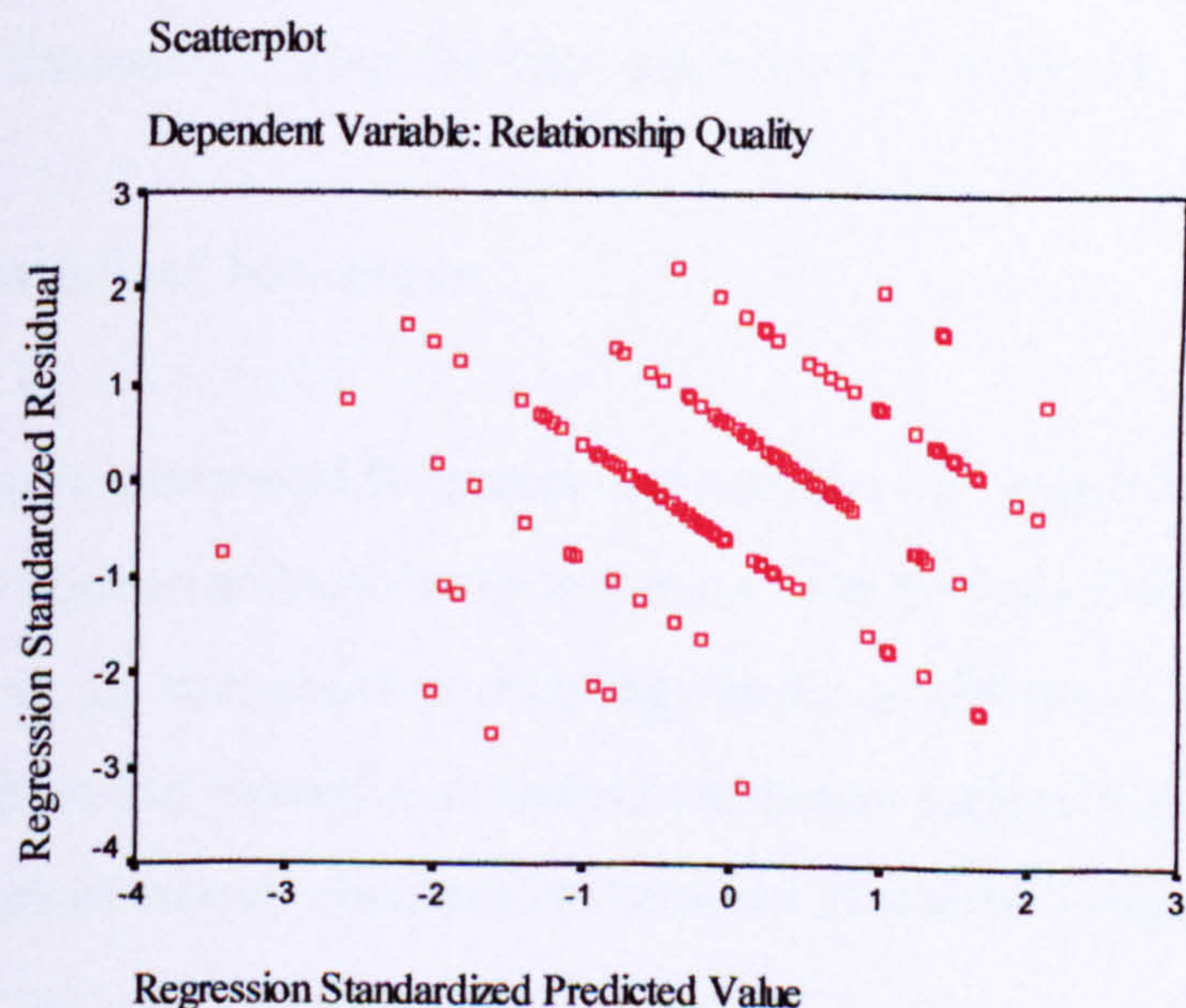
be conducted by carrying out analysis of the residuals. Residuals mean the difference between actual Y values and those predicted by the variant. Heteroscedasticity occurs when the pattern in residuals suggests non-homogeneity of variance (Sirkin, 1995).

Lack of homoscedasticity may mean (1) there is an interaction effect between a measured independent variable and an unmeasured independent variable not in the model; or (2) that some independent variables are skewed while others are not. Figure 3.12 illustrates the results of residual analysis.

The residual plot in Figure 3.12 shows the impact of the discrete coding for the dependent variable, but otherwise has the same general shape of the null plot for the continuous dependent variable. In fact, several conclusions could be drawn from Figure 3.12. For example, linearity is shown because points do not form a curve. Normality is also shown because points are equally above and below the Y-axis 0 line. Most importantly, homoscedasticity is also shown because points do not form a funnel or other shape showing variance differs as one moves along the Y-axis.

FIGURE 3.12

Homoscedasticity Analysis



3.6 Research Limitations

Constructs

Numbers of Constructs: Although it may be enough for PhD study to explore the impact of the extranet on a single relational construct, this study chose to explore the impact of the extranet on five relational constructs. The reasons are that, firstly, these five constructs are evidently crucial in channel relationship literature and practice, so it is difficult to avoid mentioning any of them while examining channel relationships. Accordingly, it is difficult to explore the impact of extranet on each relational construct in detail because of time and budget constraints. Nevertheless, the result of this research will provide the grounded theory for future research to look into each construct in greater detail.

Measurement

Measurement Scales: As mentioned earlier, the measurement scales chosen for this study may not be the most desirable ones. However, compromises had to be made for several reasons. First, the questionnaire had to be sent to independent financial advisors who did not want to spend a lot of time on completing the questionnaire. As this research examines five relational constructs, the items of each measurement scale had to be compromised; otherwise, the questionnaire would be too lengthy and time-consuming. (Comments during the pilot interviews confirmed this.)

Statistical Technique

Correlation and Regression Analysis: The major conceptual limitation of all regression techniques is that one can only ascertain *relationships*, but never be sure about underlying *causal* mechanisms. However, even a more robust and powerful statistical technique such as SEM cannot always explain causal relationships between variables ((Raykov and Penev, 2001).

Chi-square Test of Independence: As this research does not have a large data set to conduct a chi-square test between the variables measured on 7-point scale, the scales of these variables were collapsed to a 3-point scale in order to allow chi-square analysis. Although this may impact on the dispersion of the scores, the chi-square test can still produce an overall picture of the relationships between these variables.

Data Set

Multicollinearity: Multicollinearity was detected in the original model. This research used principle component analysis to handle this problem. Although the new model does not seem to be affected by multicollinearity, caution should still be exercised when interpreting the results in the next chapter.

Normality of Distribution: The distribution of some regression variables does not appear to be normal although residual analysis rendered a reasonably satisfactory result and normal probability plot satisfied a 45-degree plot.

Sampling

Sampling Frame: The sampling frame of this research included all UK financial services websites in which IFAs were registered as at March 30th, 2002. Hence, the results of this research does not represent the view of the IFAs who were not registered on the Internet as at March 30th, 2002.

Sampling Technique: The respondents were not selected at random but, in fact, taken from the Internet for convenience. Hence, there may be a question as to whether the sample is representative and the result can be generalised to the broader population of UK independent financial advisors.

Sample: As very little information about the characteristics of the population was available at the time the data was collected, and this research did not pre-code the questionnaire to identify the respondent's identity – as

a trade-off for the confidence that the questionnaire would be completed and returned –, it was impossible for this research to be certain if the characteristics of the respondents were the same as those of the population. For example, the vast majority of respondents worked in a small-size firm at the time when the survey was conducted. Accordingly, it cannot be sure whether this research can generalise the results to all UK Internet-registered IFAs or limit the generalisation only to a group of IFAs who worked for a small-sized firms. Further, respondents to the survey were asked to base their responses on the insurer who provided them with the most useful extranet. However, it is impossible to know exactly whether the respondents kept this point in mind while completing the questionnaire.

3.7 Conclusion

In summary, this chapter reviewed what data was collected, how it was collected, and whom the data was collected from and how it was analysed. Specifically, theoretical and operational definitions underlying the model constructs have been described and justified. The methodology of data collection was shown to be ethical. Sample selection followed processes outlined in the literature. The data collected for analysis in this research was coded, transcribed, and cleaned ready for analysis. Missing data was not a serious problem for this research and three cases were eliminated from further analysis. Some multivariate outliers were detected but there was no sound reason to delete these cases. Further, multicollinearity was also detected and handled in accordance with theoretical recommendations. Although there were some departures from normality in the data, the residuals analysis rendered a satisfactory result. The data was assessed for linearity. Most variables appear to be linearly related and non-linearity did not pose a serious problem. Homoscedasticity testing was carried out and the assumption was not violated. Finally, limitations of this research methodology were identified and cautions were given when drawing generalised conclusions about the research findings.

The next chapter discusses the analysis of both qualitative and quantitative results.

CHAPTER 4: DISCUSSION OF RESULTS

4.1 Introduction

This chapter reports the results of analysis for both qualitative and quantitative data. It is divided into four sections. Figure 4.1 illustrates the structure of this chapter. Section 4.1 introduces the chapter. Section 4.2 discusses the analysis of qualitative data, based on the face-to-face interviews. Section 4.3 focuses on the results of the quantitative analysis. Finally, Section 4.4 concludes the chapter. Before continuing to the next sections, the sources of data used for qualitative and quantitative analysis are now discussed.

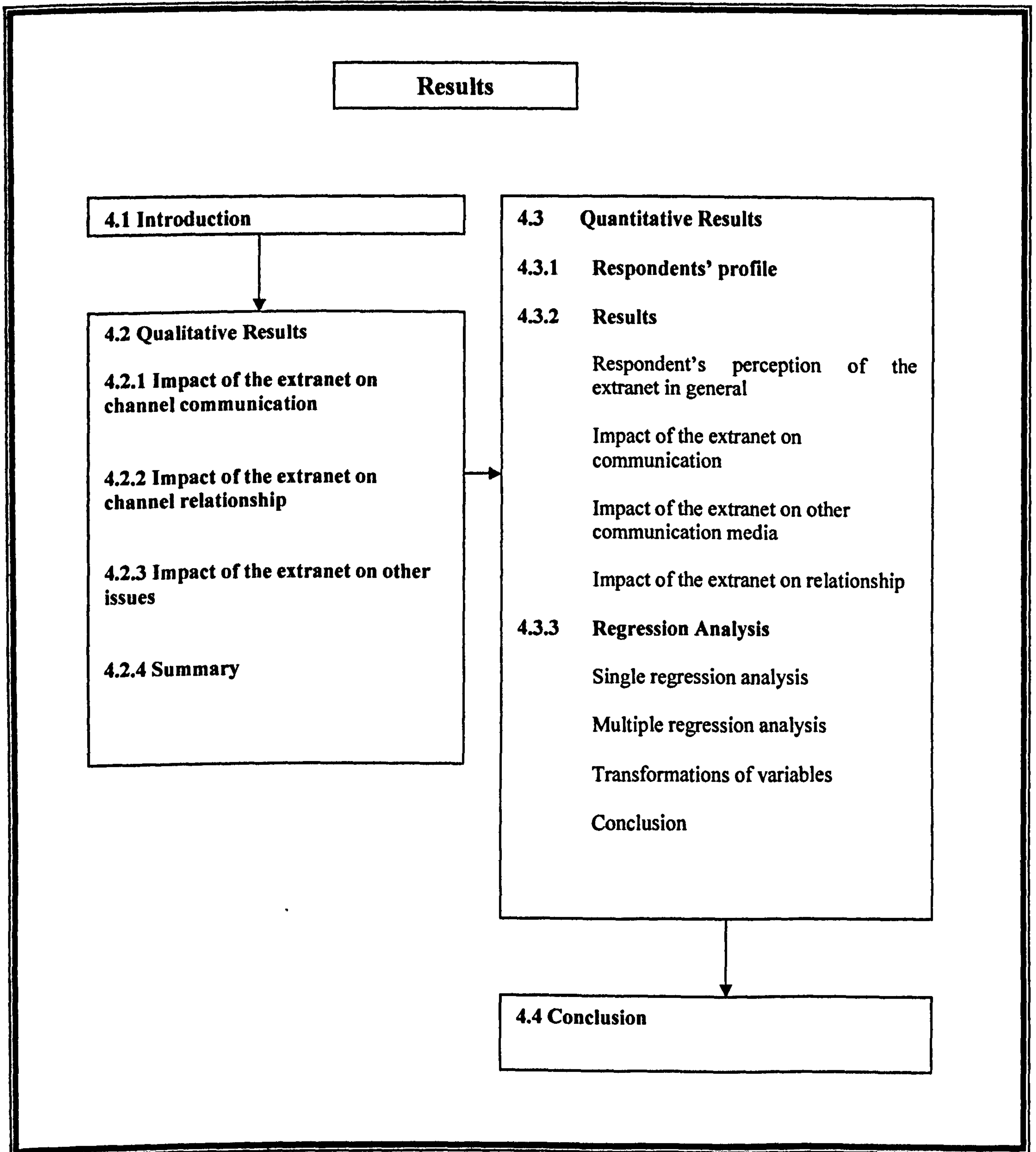
Sources of Data

- **Qualitative Analysis:** The data used for qualitative analysis was obtained from 10 face-to-face interviews with companies across a wide range of different industries. Appendix 3.1 contains transcriptions of two interviews.
- **Quantitative Analysis:** To obtain the data for quantitative analysis, a questionnaire was developed from the grounded theories and in-depth interviews to explore the IFA's perception of the impact of the extranet on their communication and relationship with the insurer. A copy of the questionnaire is attached as an Appendix 3.2. The questionnaire was then distributed to 1,760 independent financial advisors across the UK, including Northern Ireland and Channel Islands. The IFAs were asked to identify the insurer who provided them with the most *helpful extranet*. Then, they were asked to complete the questionnaire in relation to this insurer.

The analysis of both qualitative and quantitative data was guided by the research objective, research propositions and hypotheses.

FIGURE 4.1

Structure of Chapter 4



4.2 Qualitative Results

This section reports the results of the qualitative analysis using information obtained from 10 in-depth face-to-face interviews with both suppliers and distributors. The analysis was strictly guided by the research objective; that is, to explore the impact of the extranet on communication and the relationship between suppliers and distributors.

This section is divided into 4 parts. The first part discusses the impact of the extranet on channel communications. The second part discusses the impact of the extranet on channel relationships. The third part focuses on the impact of the extranet on other issues. Finally, the fourth part concludes this section.

4.2.1 Impact of the Extranet on Channel Communication

The impact of the extranet on channel communication is divided into 3 main categories: the impact of the extranet on 1) information sharing, 2) communication frequency, and 3) the use of other communication media.

Information sharing: The results suggest that the extranet can facilitate information sharing. Distributors can get some materials such as collateral brochures, promotional materials, or sales support materials from the extranet directly. They no longer have to wait until supplier representatives come or spend a lot of time on the telephone or fax. The extranet also provides distributors with a better access to current and timely information such as product information or pricing.

“... Most certainly, we think that it is a real advantage rather than having to ring up and getting a fax out. Having information available saves us having to call and saves the manufacturer having to answer.” (IFA, Exeter)

“...Information is available and up to date, you know, promotional information is there and all this stuff you know, pricing is always there. Our distributors know they can get a data sheet from there. They don't have to

call somebody and wait for it to be posted, they can always get it.”
(Director, Oil Company in London)

Communication frequency: As the extranet has replaced some tasks that used to be done by supplier representatives, distributors feel that face-to-face communication between them and some supplier representatives has decreased after the introduction of the extranet. Although distributors are beginning to use the extranet more frequently, they do not feel that the overall communication between them and their suppliers increases.

“...There is still an account manager who has the accountability for face-to-face relationship with smaller companies like us; however, the frequency of their calls is less. We are not seeing the person very much...” (IFA, Exeter)

Use of other communication media: Distributors feel that some suppliers try to increase the use of the extranet among their distributors by providing certain information via the extranet only. Although these distributors enjoy the benefits of the extranet, they still value traditional communication media. In their view, the extranet should be used to supplement other means of communication rather than replacing them.

“...Some financial service providers now only communicate certain things via an extranet where formerly we would have been given the information in the other ways so we are almost forced to use the extranet. From their perspective, unless we start to learn to use the extranet, we can't benefit the value that they believe we need to develop our businesses further. So in many respects we are required to use the extranet. If we are not using it well, we are not going to be as competitive as one of the other IFAs down the road.” (IFA, Exeter)

4.2.2 Impact of the Extranet on Channel Relationships

Both suppliers and distributors agree that extranets help smooth their communication and facilitate co-operation between them. Whilst the extranet has been perceived as the demonstration of suppliers' commitment

to the distributors, both suppliers and distributors do not feel that better communication via the extranet will increase distributors' commitment. In terms of conflicts, although suppliers agree that the extranet will decrease misunderstanding caused by communication difficulties, they do not feel that the extranet will decrease conflicts between them and their suppliers. In terms of trust, both distributors and suppliers do not feel that extranets can enhance trust. Suppliers perceive trust as a very human concept and therefore it is not likely to be enhanced via a non-human tool in the same way as the extranet. According to Granovetter (1985), trust emerges through social interactions between exchange partners while concrete personal relationships and networks are also essential in generating trust and discouraging malfeasance. Whilst the extranet seems to improve several aspects of communication, which facilitate channel co-operation, it may take away something, which is essential for building trust.

Trust

"In terms of trust, I don't know. I mean... I'm not sure if it really does a great deal to build trust, I mean, I think trust is a very human concept and I think to build trust on-line, well, I don't know, it's hard to say, I think, for instance, we do these things like giving people quotes on-line so they are getting something that is trustworthy. Whether that builds trust in the vendor, I mean, I guess, well, if you look at these four elements, probably building trust through the extranet is pretty tough, I think." (Manager, Computer firm in London)

"Ummm, to me, I'm not sure if the extranet is going to really help you a lot in terms of trust." (E-Marketing manager, Office Printing Company in London)

Commitment

"So clearly the extranet can demonstrate great commitment because if we are investing in building a partner extranet, we must be pretty interested in the recipients." (Director, Data logger Company in Surrey)

“I don’t think the extranet can improve our commitment to financial service providers. I think it’s a lot more about personal relationships...” (IFA, Exeter)

Co-operation:

“In terms of co-operation, by providing tools on-line that they can interact with which helps them do business so, you know, we are sort of ending up co-operating in their business development.” (Director, Oil Company in London)

“I think it demonstrates to our distributors that when we say that we want to be of value, when we say that we want to provide them with tools to help them do their business more effectively, then by giving them an extranet, it demonstrates we are serious about that. So yes, I think from that perspective the extranet can facilitate co-operation between us and our distributors.” (E-Marketing manager, Office Printing Company in London)

Conflict:

“Well, I’m not sure. No, I think any conflict in communication with distributors largely comes around why we are not getting as good a price deal as this guy around the corner, a lot of conflict is not around communication. So getting an extranet is not going to solve the problems. I wouldn’t consider it as a vehicle for fixing any communication conflicts because that’s largely around relationships.” (Director, Oil Company in London)

“Well, so in terms of the extranet, I don’t think it’s ahh I’m struggling to say whether it decreases conflict between us and our distributors.” (Director, Data logger Company in Surrey)

4.2.3 Impact of the Extranet on Other Issues

This section discusses the impact of the extranet on key issues discovered in face-to-face interviews. Despite the fact that these issues were not emphasised in the marketing channel literature during the time face-to-face interviews were conducted, they appeared to be key issues that influenced the perception of either suppliers or distributors towards the role of the extranet in distribution channels.

Reducing error and speeding up communication: In the past, supplier representatives spent a lot of time dealing with a lot of paper work. Now suppliers open up their extranet services to distributors who can type their orders straight into the system. This helps speed up the process. Since information is keyed in only once, fewer mistakes can be made. If mistakes have been made, it is easy to trace from where they come. Most importantly, the extranet helps supplier representatives concentrate on getting new businesses and building closer relationships with distributors.

“One impact it’s having is obviously receiving more things electronically rather than on paper and quicker” (IFA, Exeter)

“From the IFA’s perspective, it reduces our paper work and all that sort of stuff because we can actually save stuff, save it in a favourite order and just reproduce those and all that sort of stuff...” (IFA, Exeter)

“...so we can go onto the site and place orders, check the status of our orders, our outstanding orders. We will see when they are shipped and when they are scheduled to ship and some more of the history, all that sort of thing.” (Manager, Computer Company in London)

Targeting the right distributors: Both suppliers and distributors feel that they are able to react quickly, cheaply and efficiently to suggestions or requests from each other. Combining with e-mail, the extranet enables suppliers to direct their communication to specific distributors and these distributors, in turn, can act upon it quickly.

“We can direct our communication to the people who need to know about it and they can act upon it quickly. So it’s a special tool for our promotion. It is important to be able to push information quickly to people who need to know...The extranet allows us to be very reactive to suggestions or criticisms for making the information available and we can probably think and decide something now and do it in half an hour”. (Extranet manager, Office Printing Company in London)

Shifting the control of information: The control of information has been shifted to distributors. Distributors are the ones who decide when they want to get a supplier’s information. Extranets allow distributors to access suppliers’ information 24 hours a day, 7 days a week.

“It provides us with additional convenience, 24 by 7 access, more timely and accurate information regularly available on-line. Information is available and up to date, you know...” (IFA, Exeter)

Supporting relationship building: Suppliers are using the extranet to provide extra value for their distributors. Suppliers realise that they cannot always win on price. Therefore, they are looking for some type of on-line service that would allow their distributors to view their plans and submit their orders - something that would increase their effectiveness. By giving the distributors extra value, suppliers hope that they can tie them in. The extranet allows suppliers to provide their distributors with certain services they might not have been able to do efficiently in the past. Also, the extranet can be integrated into the programmes that aim to build stronger relationships with the distributors.

“With an extranet, typically, we want to improve the customer services. We want to tie in our customers. We know that we cannot always win on price, sometimes we want to tie in the customer and get some repeated business but we find it’s very difficult because every time we compete it is just all about price, few can be changed so we say to our customers if we can provide some type of on-line service that would allow them to view their plans, submit their orders, something that would speed up their

effectiveness, then we are giving someone value and by value adding them, hopefully, we can tie them in. So it is not necessarily about getting new customers. I think it's to keep the old ones and to tie them in." (Director, Oil Company in London)

"I think the extranet has been used by the channel account managers to deepen their relationship with our distributors because we have been able to provide value and support through some elements of our focus programme, through on-line." (E-Marketing manager, Office Printing Company in London)

Reshaping the role of supplier representatives: There is a job to be done internally to educate the supplier representatives about the changing nature of their roles. Although suppliers may not aim to replace face-to-face contacts with the extranet, the extranet has significantly reshaped the role of supplier representatives as it has taken away some parts of the supplier representatives' responsibility. Supplier representatives do not have to visit distributors with a bag of promotional literature and price lists any more because distributors can acquire these on the extranet. This will enable supplier representatives and distributors to work on driving the mutual business between them.

"... Quite often, you know, we send leads to dealers and quite often the excuse to visit a dealer is I have got this pack of leads, here is your leads for this month, but now somebody enquires on our website, goes to dealer update, all done electronically with no human intervention. So the salesman hasn't got his bag of samples in his case to sell. So their reason to visit now, they can say right, you have got all this, let's talk about our future business relationship but I am not sure they are there yet." (E-Marketing manager, Office Printing Company in London)

"By the nature of having this process oriented stuff available at your fingertips, it does force the relationship, the person-to-person relationship hopefully away from the process oriented stuff." (E-Marketing manager, Office Printing Company in London)

Building relationships in a segment of a market which was previously expensive to do: Suppliers have to make a choice on which segment of the market place they are going to focus. The most common criteria are the amount of cash and sales volume that distributors can generate. This often results in a large number of “non-qualified” distributors. This group of distributors were previously managed by infrequent telephone calls or mailshots as it was too expensive for the firm to provide these distributors with more personal contacts. However, extranets enable these distributors to get closer to the company by providing them with information that can help them to do business. The distributors can now get the latest information from the company via the extranet. They will be kept more updated than they were before the extranet was implemented.

“...They don't hear about us by any other way, if they get this. They don't get a visit from our account managers. That electronic stuff is the way we communicate with them. So this is the relationship and it's important that it's written like that.” (Director, Data logger Company in Surrey)

4.2.4 Summary

This section reports the results of qualitative analysis regarding the impact of the extranet on channel communications, channel relationships, and other issues. In sum, the extranet appears to facilitate information sharing between suppliers and distributors and provides distributors with access to more timely and up-to-dated information. However, there is some caution that channel members have to bear in mind. The extranet should not be used as a replacement for other communication media, purely for the purpose of cost saving. Trust, in particular, can suffer if the wrong mode of communication is used. In addition, suppliers need to look at the nature of their business, distribution network and the market in which they operate before designing their extranet strategies. Effective extranet strategies should integrate well into the company's overall channel strategies. In short, whilst the extranet can link business together and build a strong collaborative relationship in a distribution channel, like all other communication tools, if it is applied

inappropriately, it may, on the contrary, deteriorate relationships between suppliers and distributors.

4.3 Quantitative Results

The analysis of quantitative data is based on 192 questionnaires exploring the IFA's perception of the impact of the extranet on their communication and relationships with the insurer who provided them with *the most helpful* extranet. This section is divided into 4 parts. The first part discusses the respondents' profiles with the use of descriptive statistics. The second part discusses the results of research problems, research proposition and hypotheses with the use of descriptive statistics, chi-square tests of independence and correlation. The third part discusses the results obtained from regression analysis. The last part concludes this section.

4.3.1 Respondents' Profile

According to Bryman and Cramer (1997), descriptive statistics are simply summary scores for sets of data and as such characterise various aspects of respondents. Descriptive statistics can also help provide guidance for conducting multivariate analysis (Malhotra, 1993). In this research, descriptive statistics help form the *respondents' demographic profile* and the *respondents' profile as extranet users*; and help generate some results. Each of these is discussed next. Table 4.1 reports the summary of the respondents' demographic profile.

Respondent's Demographic Profile

The respondent's demographic profile was made up of data on: 1) the respondent's job title, 2) numbers of qualified IFAs, 3) type of respondent's company, 4) membership of the respondent's company, 5) respondent's knowledge of computers, 6) respondent's experience in financial business, 7) length of relationship, and 8) respondent's relationship with the insurer before the extranet. See Table 4.1.

TABLE 4.1
Summary of Respondents' Demographic Profile

1.	Job Title N = 190	IFA	87%
		Administrative staff	13%
2.	No. of IFAs N = 192	1-5	80%
		6-10	9%
		11-20	5%
		Over 20	6%
3.	Company Type N = 192	Fee based	5%
		Commission based	44%
		Both	51%
4.	Membership of a Bigger Network N = 190	Yes	55%
		No	45%
5.	Computer Knowledge N = 192	Good	69%
		Medium	28%
		Poor	3%
6.	Experience in Financial Business N = 192	Less than a year	1%
		1-5 years	12%
		6-10 years	16%
		11-20 years	45%
		Over 20 years	25%
7.	Length of Relationship with the Insurer N = 192	Less than a year	5%
		1-5 years	34%
		6-10 years	31%
		11-20 years	23%
		Over 20 years	7%
8.	Relationship before the Extranet N = 190	Negative	16%
		Neutral	37%
		Positive	47%

Job Title: According to Table 4.1, the majority of respondents (87%) are independent financial advisors (IFA) while only 13% of respondents are administrative staff.

The objective of this research is to explore the IFAs' perception toward the impact of the extranet on their communication and relationship with the insurer. Although the administrative staff are using the insurer's extranet extensively to acquire certain information for the IFAs, their ability to comment on the impact of the extranet on relationship may be limited due to a lack of direct interaction and shorter length of relationship with the insurer. Hence, the data provided by the administrative staff is used to investigate the impact of the extranet on communication only. It will not be used for the analysis of the impact of the extranet on relationship.

Numbers of Qualified IFAs: 80% of respondents are small companies, having only 1-5 qualified IFAs in their offices while 9% have between 6-10, 5% have between 11-20, and 6% have over 20.

Type of Company: 51% of respondents are employees of fee-and-commission-based firms while 44% work for commission-based only firms. Only 5% of respondents are members of fee-based only firms. In brief, the majority of respondents work for fee-and-commission based companies and commission-only based companies.

Membership: 55% of respondents' companies are part of a bigger network while 45% are not.

Knowledge of Computers: 69% of respondents have a good knowledge of computers, while 28% describe their knowledge of computers as medium. Only 3% of respondents accept that their knowledge of computers is poor.

Experience in Financial Business: 45% of respondents have been in financial business between 10-20 years, while 25% over 20 years, 16% between 5-10 years, and 12% between 1-5 years.

Length of Relationship: 34% of respondents have dealt with the insurer for a period of 1-5 years, while 31% have done so for 5-10 years, and 23% for 10-20 years.

Relationships before the Extranet: 37% of respondents described their relationship with the insurer before the introduction of the extranet as moderate. However, 47% of respondents viewed their relationship with the insurer before the introduction of the extranet as positive or rather positive. 16% reckon that it was negative or rather negative. Only 1% of respondents considered their relationship with the insurer as poor and 3% described their relationship with the insurer as excellent.

Discussion

This section examined the respondents' demographic profile. In summary, most respondents are independent financial advisors with good computer knowledge and 10 years or more of experience in financial business. These IFAs work for small-sized firms and had a rather good relationship with the insurer prior to the introduction of the extranet. Approximately, half of all respondent's firms are commission-based-only firms and half are commission-and-fee-based firms. Similarly, half of them are members of a bigger network and half of them are not.

Respondents' Profiles as Extranet Users

This profile was made up of data on 1) the frequency of communication provided by the insurers 2) general extranet usage 3) the respondents' purposes of extranet usage and 4) the respondents' perception of the extranet in general. Descriptive statistics were used for analyzing the data. Each aspect will be discussed next.

TABLE 4.2
Frequency of Communication Provided by the Insurer

Question	Frequency					N
	Mail	Phone	Extranet	Fax	Face-to-face	
In the past month, how frequently did this insurer provide information to you via the following communication mode?						
1 (never)	2%	7%	5%	25%	35%	191
2	5%	12%	8%	17%	15%	191
3	14%	12%	14%	18%	8%	187
4	19%	15%	21%	18%	19%	192
5	20%	28%	19%	12%	20%	186
6	24%	14%	21%	7%	24%	191
7 (very frequently)	16%	12%	11%	3%	5%	189

1. Frequency of Communications from the Insurers

This research measured the frequency of communication from the insurers via different communication media. See Table 4.2.

Extranet: Overall, about 95% of respondents agreed that the insurers with the *most helpful* extranet provided them with the information over the extranet in the past month. Over half of respondents (51%) received information over the extranet on a regular basis while 5% did not receive anything at all over the past month.

Face-to-face: While insurance companies actively used the extranet to provide information for the independent financial advisors, it appears that a significant number of respondents (35%) did not receive any information via face-to-face contact in the past month. In fact, face-to-face communication was the least used mode of communication for the insurers during the past month.

Mail: Over half of the respondents (60%) received information from the insurer via mail on a regular basis in the past month while very few (only 2%) did not receive anything at all. Overall, mail communication was the most used mode of communication for the insurers in the past month.

Telephone: Similarly, the majority of respondents (54%) received information from the insurer via telephone on a regular basis in the past month and very few (7%) did not receive anything at all. Telephone communication was the second most used mode of communication for the insurer during the past month.

Fax: Fax communication was the second least used mode of communication for the insurer in the past month. 22% of respondents received information via fax on a regular basis in the past month while 25% did not receive any information at all via fax.

Discussion

Overall, the level of communication initiated by the insurer is just above the midpoint (4.3 from a seven-point scale). Face-to-face and fax communications from the insurer are lower than average – both are ranked only 3 from a seven-point scale. Conclusively, the insurers, whose extranet are considered the *most helpful* one, are actively providing information to the IFAs over the extranet. These insurers seem to prefer to communicate with their small-sized IFAs via postal mail, extranet and telephone respectively. Face-to-face communication is very expensive; therefore, it is normally reserved for the most “profitable” IFAs. As 80% of the respondents work for a small-size firm, this research expected face-to-face

communication from the insurers would be quite low. In addition, as some information is now available on the extranet, the insurers do not have to fax it to the IFAs any more. This may explain why fax communication from the insurer decreased in the past month.

2. General Extranet Usage

TABLE 4.3

The Extranet Usage

1.	Frequency of extranet use N = 191	Daily	19%
		Weekly	49%
		Monthly	24%
		Other	8%
2.	Experience of Extranet N = 177	Less than a year	17%
		1 year	41%
		2 years	33%
		3 years	9%

Almost half of respondents (49%) use the extranet on a weekly basis. Although the majority does not use the extranet every day, they seem to use the extranet on a regular basis. In terms of experience in using the extranet, the majority of respondents (91%) have used the extranet for 2 years or less.

3. Purposes of Extranet Usage

According to Table 4.4, the respondents use the extranet mostly to obtain general information, illustrations and quotations, and sales & marketing materials. Further, 63% of the respondents already use the extranet to place orders while 54% also use the extranet to check order status. On the contrary, they hardly use the extranet to resolve conflicts or problems.

TABLE 4.4**Purposes of Extranet Usage**

In the past month, did you use the extranet of this insurer for the following purposes?	Never	Less than once a month	Once a month	2-3 times a month	1-3 times a week	Daily	N
Gain general information	6%	12%	14%	37%	29%	2%	191
Obtain sales & marketing materials	6%	14%	15%	42%	21%	2%	190
See catalogue of products	31%	20%	21%	17%	11%	0%	188
Obtain illustrations and quotations	15%	9%	11%	30%	30%	5%	191
Place an order	37%	20%	17%	18%	7%	1%	190
Check order status	46%	23%	11%	13%	6%	1%	189
Resolve problems	65%	18%	5%	9%	3%	0%	189
Resolve conflicts	73%	16%	7%	3%	2%	0%	190
Receive technical advice	43%	17%	18%	17%	5%	0%	190

Discussion

It seems that the extranet has been used mainly by the respondents for information-related purposes – to obtain general information, illustrations & quotations, and sales & marketing materials. A majority of respondents have never used the extranet for relationship-building-related purposes (to resolve problems and conflicts) before the data were gathered. In terms of business-operation-related purposes, the IFAs already use the extranet to place orders and check order status but this has not happened on a large scale.

Indeed, at the time when the data were gathered, 91% of the respondents had used the extranet for 2 years or less and 58% for a year or less (See Table 4.4). It is possible that independent financial advisors need more time to get used to the extranet, most importantly to trust its ability to perform its tasks.

4. Respondent's Perception of the Extranet in General

This section explores the respondent's perception toward 1) the quality of information obtained over the extranet, 2) the quality of the insurer's web site, and 3) the extranet's future trend.

Quality of information obtained via the extranet: According to Table 4.5, a majority of respondents agree that the information from the extranet is rather timely, accurate, adequate, credible, and regularly updated. The overall information quality ranked 2.7 on the seven-point scale (See Table 4.5). In fact, this result does not come as a surprise. The quality of information over the extranet was expected to be high because the evaluated extranet was considered the *most helpful extranet* at the time the data were gathered.

TABLE 4.5

Quality of Information Obtained via the Extranet

	1	2	3	4	5	6	7		N
Timely	22.2%	28.6%	25.4%	13.5%	6.5%	2.2%	1.6%	Untimely	185
Accurate	20.7%	44%	15.8%	10.3%	3.8%	3.8%	1.6%	Inaccurate	184
Adequate	14.2%	35.5%	24%	17.5%	4.9%	2.7%	1.1%	Inadequate	183
Complete	12.5%	29.9%	27.7%	19%	7.6%	1.6%	1.6%	Incomplete	184
Credible	17.4%	39.7%	21.7%	13.6%	3.8%	2.7%	1.1%	NOT credible	184
Regularly Updated	18.5%	36.4%	18.5%	16.8%	4.3%	3.3%	2.2%	NOT regularly Updated	184

Quality of the Insurer's Web Site: According to Table 4.6, the majority of the respondents have positive opinions about the quality of the insurer's web site. 72% confirmed that it was unlikely that the insurer's main extranet WWW pages would have a problem once a week. 67% also confirmed that it was unlikely that the insurer's main server was down once a month. Finally, 65% confirmed that it is unlikely that the insurer's main server was too busy to respond to all requests simultaneously once a day. In fact, the quality of the insurer's web site was expected to be high because the

evaluated extranet was considered the *most helpful extranet* at the time the data was gathered.

TABLE 4.6
Quality of the Insurer's Web Site

Statements	Extremely Likely				Extremely Unlikely			N
	1	2	3	4	5	6	7	
	1. Once a week one of this insurer's main extranet WWW pages is under construction.	1%	2%	10%	15%	20%	35%	
2. Once a month this insurer's main extranet server is down	3%	8%	9%	13%	20%	32%	15%	189
3. Once a day this insurer's main extranet server is too busy to respond to all requests simultaneously	2%	6%	11%	16%	14%	31%	20%	189

Perceived extranet's future trend: According to Table 4.7, 96% of the respondents felt that the extranet would be used more in financial business in the future. Further almost half of them believed that the use of the extranet would increase significantly.

TABLE 4.7
Extranet's Future Trend

Question	Significantly Decreased			Stayed the same		Significantly Increased		N
	1	2	3	4	5	6	7	
	Do you feel that the extranet will be used more or less in financial business in the future?	0%	1%	0%	3%	16%	31%	

Discussion

The respondent's perception toward the extranet in general is quite positive. Indeed, they perceived that the information over the extranet is of good

quality, the website's performance is quite reliable and the use of the extranet will increase in the future.

4.3.2 Results

This section reports the results of data analysis in accordance to research propositions and hypotheses. Relationships between variables were examined with use of the chi-square tests of dependence and non-parametric correlation analysis. Correlation analysis was performed to quantify the strength of association between two variables.

This section is divided into three parts: The first part was made up of data on the perceived impact of the extranet on communication – information sharing, two-way communication, information accessibility, communication speed, communication quality, and information overload. The second part was made up of data on the perceived impact of the extranet on other communication media – face-to-face, telephone, fax, mail, and courier. Finally, part three was made up of data on the perceived impact of the extranet on relationships – trust, commitment, co-operation, conflict, disagreement, and relationship quality. Each section will now be discussed.

TABLE 4.8

Impact of the Extranet on Communication

	Disagree	Neither Agreed nor Disagreed	Agreed	N
INFORMATION SHARING				
1. The extranet makes your company and this insurer share information that you would not have shared before the extranet was implemented.	41%	22%	37%	190
2. The extranet increases the exchange of information between you and this insurer.	29%	15%	56%	191
3. The extranet makes your company more likely to share information with this insurer.	33%	25%	42%	189
Information Sharing: The results of two statements out of three (67% suggest a positive impact of the extranet on information sharing. Statement One elicited the strongest level of disagreement while statement Two elicited the strongest level of disagreement.				
TWO-WAY COMMUNICATION				
1. The extranet increases the dialogue between your company and this insurer.	32%	30%	38%	186
2. This insurer responds more to your communication than they did before the extranet was implemented.	45%	28%	27%	191
3. This insurer provides you with more feedback than they did before the extranet was implemented.	38%	25%	37%	191
4. The extranet increases two-way communication between your company and this insurer.	34%	26%	40%	190
Two-way Communication: Statement Two elicited the strongest level of disagreement while statement Four elicited the strongest level of agreement.				
INFORMATION ACCESSIBILITY				
1. The extranet increases your access to certain information.	7%	5%	87%	188
Information accessibility: Comparing with other aspects of communications, more IFAs agreed with this statement than others.				
SPEED OF COMMUNICATION				
1. The extranet increases the speed of communication between you and this insurer.	13%	13%	74%	190
Speed of Communication: Apart from information accessibility, this statement elicited the highest agreed response.				
INFORMATION OVERLOAD				
1. The extranet increases the amount of information so much that you cannot efficiently use it. ®	54%	21%	25%	188
Information Overload: Over half of the respondents do not perceive the extranet as the cause of information overload.				

In total, the results of seven statements out of ten (70%) suggest the positive impact of the extranet on different aspects of communication.

COMMUNICATION QUALITY	Significantly increased	Stayed the Same	Significantly Increased	N
1. Do you feel that the quality of your communication with this insurer has increased or decreased due to the introduction of the extranet?	15%	29%	56%	187
Communication Quality: The result supports the above finding that the extranet has a positive impact on the overall quality of communication				

® = reversed measurement item

Impact of the Extranet on Communication

Research Proposition 1: *The extranet has a positive impact on information sharing between the insurer and IFAs.*

The overall results suggest that it is not conclusive whether the extranet would increase the information sharing between them and the insurer. Nevertheless, over half of the respondents (56%) agreed that the extranet could increase the volume and frequency of information's exchange between the insurer and respondents (see Statement 2). However, a majority of respondents (41%) were not convinced that the extranet made them and the insurer share information that they did not normally share before the extranet was implemented (see Statement 1). This might be due to the fact that instead of using the extranet to exchange information that was impossible or inconvenient to do so in the past, the insurers were, mainly, using the extranet to deliver the same information that was previously communicated via other modes of communication. Therefore, the respondents still received the same kind of information but via a different mode and with a different degree of frequency and different amount of volume (See Table 4.8).

Research Proposition 2: *The extranet has a positive impact on two-way communication between the insurer and IFA.*

On average, the respondents' perception of the impact of the extranet on two-way communication ranked 3.87 on a seven-item scale, suggesting that the extranet may not increase two-way communication between the insurer and the respondents. According to Table 4.8, 45% of the respondents did not think the insurer responded more to their communication than they did before the extranet was implemented (see Statement 2). Similarly, 39% of respondents did not feel the insurer provided them with more feedback than they did before the extranet was implemented (see Statement 3).

These results suggest the extranet was used by the insurers as a one-way communication tool, that is, the insurer gave the respondents access to the information stored in their network so that the respondents could obtain information straightaway without contacting them via telephone, fax, or mail which would normally take longer and cost more. The communication is one-way and mostly initiated by the respondents. Accordingly, although the respondents felt that they obtained more information than before, they did not necessarily feel that there was more interaction between them and the insurer.

Research Proposition 3: *The extranet has a positive impact on accessibility of certain information.*

Overwhelmingly, 87% of the respondents agreed that the extranet increased their ability to access certain information. It enabled them to conveniently obtain vital information in more detail. As the information was stored in the network system and could be obtained by the respondents directly – without going through a third person, the respondents felt that their access to certain information increased.

Research Proposition 4: *The extranet has a positive impact on speed of communication.*

According to Table 4.8, 74% of the respondents believed the extranet improved the speed of communication between them and the insurer. The respondents obtained information from the insurers directly without waiting for a fax to come through, mail to arrive or the telephone to be picked up. Accordingly, the respondents felt their communication with the insurers was speedier than before.

Research Proposition 5: *The extranet has a positive impact on an overall communication quality.*

Over half of the respondents (56%) felt that the extranet increased the quality of communication between the IFA and the insurer. Being able to

access the information they need for their clients is very crucial for them. 80% of the respondents work for small-sized firms and most of them did not receive much face-to-face communication from the insurer. In fact, most of them did not have frequent communication with the insurers during the time when the data was collected. Because of the extranet, the respondents heard more about the insurers and their products, had better access to certain information, and communicated with the insurer more frequently.

Research Proposition 6: *The extranet has a negative impact on information overload.*

According to the findings, 54% of the respondents did not feel that the extranet caused information overload. The measurement item ranked 3.38 on a seven-point scale (1 = strongly disagreed, 7 = strongly agreed). As the decision to acquire certain information was made by the respondents, they felt that they were more in control of what they had and did not have.

Research Proposition 7: *The perceived impact of the extranet on communication quality depends on the frequency of personal visit from the insurer.*

Chi-square tests of independence were conducted to examine the relationship between the frequency of face-to-face contact and the perceived impact of the extranet on communication quality. Pearson Chi-square value is 19.81. Degrees of freedom are 8 and the significance level is 0.001. These results suggest the respondents' perceptions of the impact of the extranet on communication quality depend on the frequency of personal visits from the insurer. To be specific, the respondents who did not receive or received limited personal visits from the insurers were more positive about the impact of the extranet on communication quality than the respondents who were visited frequently by the insurer's staff member.

The results confirm the findings in the earlier stage of this research, that is, the extranet can be used to build relationships via increased communication in a segment of a market which was previously expensive to do so. Indeed,

insurers have to make a choice on which segment of the market place they are going to focus. The most common criteria are the amount of cash and sales volume that IFAs can generate. This often results in a large number of “non-qualified” IFAs. This group of IFAs were previously managed by infrequent telephone calls or mail shots, as it was too expensive for the insurers to provide them with more personal and interactive means of communication. Indeed, the introduction of the extranet gave the small-sized IFAs an opportunity to establish a more interactive and intimate form of communication and relationship with the insurer. Nevertheless, nothing is as intimate and interactive as face-to-face communication and this explains why the respondents who were used to having a personal visit from the insurer’s representative did not believe that the extranet could improve the quality of communication between them and the insurer.

Research Proposition 8: *The perceived impact of the extranet on communication quality depends on the frequency of extranet communication.*

Chi-square test of independence was also conducted to examine the relationship between the frequency of extranet communication and the perceived impact of the extranet on communication quality. The Pearson Chi-square value is 31.98. Degrees of freedom are 8 and the significance level is 0.001. These results suggest the respondents’ perception of the impact of the extranet on communication quality depends on how frequently the insurer communicates with them over the extranet. In other words, the more frequently the insurer communicates with the respondents over the extranet, the more likely the respondents will perceive that the extranet can increase the quality of communication between them.

Research Proposition 9: *The perceived impact of the extranet on communication quality depends on whether the information provided over the extranet is of good quality.*

According to Mohr and Sohi (1995), the quality of information is a key attribute of communication quality. A Chi-square test of independence was

carried out to examine the relationship between the perceived quality of information obtained over the extranet and the perceived impact of the extranet on communication quality. The chi-square results suggest the perceived impact of the extranet on communication quality is associated with the perceived timeliness, accuracy, and credibility of information obtained from the extranet. To be specific, the respondents whose perception was that the information obtained from the extranet was timely, accurate, and credible tended to agree that the extranet could increase the quality of the overall communication.

Hypothesis 1: The perceived impact of the extranet on communication quality is positively associated with the impact of the extranet on information sharing.

According to Table 4.9, there is a moderate and positive relationship between the perceived impact on information sharing and the perceived impact of the extranet on communication quality. This association is significant at 0.01, suggesting that the probability of this relationship being a chance event is about 1 in a 100. Hence, this research concludes that if the insurers successfully use the extranet to improve the sharing of information between them and the respondents, there is a moderate chance that they can also use the extranet to improve the quality of their communication.

TABLE 4.9**Non-parametric Correlations**

Relationship between (the Impact of the Extranet on) Communication Quality, Information Sharing, Two-way Communication, Information Accessibility, and Communication Speed

		CMQ	INFO	2-WAY	ACCESS	SPEED
Spearman's rho	CMQ	1.000				
	N	187				
	INFO	0.360	1.000			
	N	184	188			
	2-WAY	0.468	0.533	1.000		
	N	182	183	186		
	ACCESS	0.400	0.390	0.235	1.000	
	N	184	185	184	188	
	SPEED	0.551	0.336	0.374	0.433	1.000
	N	187	187	185	187	190

Correlation is significant at the .01 level (1-tailed).

Hypothesis 2: *The perceived impact of the extranet on communication quality is positively associated with the impact of the extranet on two-way communication.*

According to Mohr and Sohi (1995), two-way communication is positively associated with communication quality. The correlation results reported in Table 4.9 suggest that there is a moderate and positive relationship between the impact of the extranet on communication quality and the impact of the extranet on two-way communication. This association is significant at 0.01. This research concludes that if the insurers successfully use the extranet to increase two-way communication with the respondents, there is a moderate chance that they can also use the extranet to enhance the quality of communication between them and the respondents.

Hypothesis 3: *The perceived impact of the extranet on communication quality is positively associated with the impact of the extranet on information accessibility*

According to Table 4.9, the perceived impact of the extranet on information accessibility is moderately and positively associated with the perceived

impact of the extranet on communication quality. This association is significant at 0.01 which means the level of confidence is 99% ($1 - 0.01 = 0.99$), suggesting that the probability of this relationship being a chance event is about 1 in a 100. This result suggests that if the insurers successfully use the extranet to give the respondents more access to certain information, there is a moderate chance that they can also use the extranet to increase the perceived quality of communication between them and the respondents.

Hypothesis 4: The perceived impact of the extranet on communication quality is positively associated with the impact of the extranet on speed of communication

The correlation results reported in Table 4.9 suggest the perceived impact of the extranet on communication speed is strongly associated with the perceived impact of the extranet on communication quality. Hence, this research concludes that if the insurers successfully use the extranet to increase the speed of communication between them and the respondents, there is a very strong chance that they can also use the extranet to increase the quality of communication between them and the respondents.

Summary

This section examined the impact of the extranet on communication issues. In terms of information sharing, the majority of the respondents believed that the extranet increased frequency of information sharing and the volume of information exchanged. However, it is not likely to motivate the respondents to share information that was not normally shared before the implementation of the extranet. In terms of two-way communication, it is still unclear whether the extranet has a positive impact on two-way communication. However, the results suggest that the extranet does not lead to information overload and has a positive impact on information accessibility, communication speed, information quality, and communication quality.

In terms of the relationship between the impact of the extranet on the different aspects of communication discussed above and the impact of the extranet on perceived communication quality, the results suggest that if the respondents believe that the extranet increases their access to certain information, and enhances the sharing of information, two-way communication, and speed of communication between them and the insurer, there is a moderate chance that the respondents will also perceive that the extranet improves the quality of their communication with the insurer.

Impact of the Extranet on Communication Media

Table 4.10 presents the results of the perceived impact of the extranet on other modes of communication.

Research Proposition 10: *The extranet has decreased the use of face-to-face communications between the IFA and insurer.*

The average score of the perceived impact of the extranet on face-to-face communication is 3.35 on a seven-point scale (1 = significantly decreased and 7 = significantly increased). This result suggests that on average, the extranet decreases face-to-face communication between the insurer and respondents slightly. According to Table 4.10, over half of the respondents (58.9%) felt that the extranet had no impact on face-to-face communication. However, 37.5% of respondents felt that the extranet decreased their face-to-face contacts with the insurer. It is extremely unlikely that the extranet will increase face-to-face communication between the respondents and insurer – only 3.7% believed that it would. According to the results obtained from the in-depth interviews, the extranet was used by many insurers to replace face-to-face communication.

TABLE 4.10**Impact of the Extranet on Other Modes of Communication**

How do you feel the extranet impact on the use of.....communication with this insurer?					
	Face-to-face	Telephone	Facsimile	Mail	Courier
Decreased	37%	43%	54%	33%	39%
Increased	4%	7%	4%	9%	0%
Stayed the same	59%	49%	42%	60%	61%
Total	100%	100%	100%	100%	100%
N	190	191	190	191	180

Research Proposition 11: *The extranet has decreased the use of telephone communications between the IFA and insurer.*

The average score of the perceived impact of the extranet on telephone communication is 3.43 on a seven-point scale (1 = significantly decreased and 7 = significantly increased). This result suggests that on average, the extranet decreases telephone communication between the insurer and the respondents slightly. According to Table 4.10, almost half of the respondents felt that the extranet had no impact on telephone communication (49%). However, 43% of the respondents felt that the extranet decreased their telephone communication between them and the insurers. The results also suggest that it is extremely unlikely that the extranet will increase the use of telephone communication between the respondents and insurer – only 7% suggested that it would.

Although the previous results suggest that the insurers still communicated with the respondents via telephone frequently, almost half of the respondents felt that their telephone communication with the insurers decreased after the extranet was implemented. This impact of the extranet on telephone communication is considered as positive. According to the results obtained from the in-depth interviews, while both insurers and independent financial advisors appreciated telephone communication, they also felt that telephone communication could be time-consuming and distracting. From the insurers' perspective, the extranet can be used to

replace or at least reduce telephone communication with the respondents so that they will have more time to deal with other issues. From the respondents' perspectives, the extranet helps them obtain certain information more easily. They do not have to spend so much time on the telephone, trying to get through to certain persons, or waiting for the insurer to contact them back.

Research Proposition 12: *The extranet has decreased the use of facsimile communication between the IFA and insurer.*

The average score of the perceived impact of the extranet on facsimile communication is 3.05 on a seven-point scale (1 = significantly decreased and 7 = significantly increased). This result suggests that on average, the extranet decreases facsimile communication between the insurer and respondents considerably. Consistent with the previous results, over half of respondents (54%) felt that their facsimile communication with the insurer decreased after the introduction of the extranet. Only 4% believed that the extranet increased facsimile communication between them and the insurers. Nevertheless, 42% felt that the extranet did not have any impact at all. According to the findings from qualitative analysis, reducing paper transactions is one of the insurers' key objectives. If the respondents obtain information from the insurer's extranet directly, then the facsimile communication is likely to be reduced.

Research Proposition 13: *The extranet has decreased the use of mail communication between the IFA and insurer.*

The average score of the perceived impact of the extranet on mail communication is 3.53 on a seven-point scale (1 = significantly decreased and 7 = significantly increased). This result suggests that on average, the extranet decreases mail communication between the insurer and respondents slightly. Over half of respondents (59%) felt the extranet had no impact on their mail communication with the insurer. Nevertheless, 33% of respondents were convinced their mail communication with the insurer had

decreased because of the extranet. Only 8% felt that the extranet increased their mail communication with the insurer.

According to the interviews with the respondents, the extranet cannot always replace mail communication. Although the extranet can replace mail communication in distributing information such as promotional literature, product catalogues, and quotations, it cannot replace the mail communication in distributing certain documentations for which signatures are required.

Research Proposition 14: *The extranet has decreased the use of courier communication between the IFA and insurer.*

Overwhelmingly, over half of the respondents (61%) felt the extranet did not have any impact on courier communication at all. 39% of respondents agreed the extranet decreased their courier communication with the insurer and none felt the extranet increased their courier communication with the insurer. The average score of the perceived impact of the extranet on face-to-face communication is 3.17, suggesting that on average, the extranet decreases courier communication between the insurer and respondents moderately.

Insurers and respondents normally use courier service to deliver different types of documentations including original copies of important documents. Both suppliers and distributors used courier service frequently in the past because it was considered as one of the swiftest and most reliable mode of communication at that time – especially when there was a great distance between the sender and recipient. However, the introduction of the extranet has reshaped channel member's perceptions of speed and reliability. Speedy communication means minutes not days. Reliability means a minute-guarantee not a day-guarantee.

Summary

This section examined the impact of the extranet on other modes of communication. In summary, the overall results show the extranet does not increase the use of other communication media. On the contrary, it is more likely that the extranet has a potential to decrease the use of certain communication media, especially, facsimile, telephone, courier and face-to-face. Further investigation was taken to understand whether there is a difference in pattern of answer (on the impact of the extranet on the use of other communication media) between the respondents who were members of a bigger network and those who were not. The results suggest that the perception of the respondents of the impact of the extranet on other communication media does not depend on whether the respondents are a member of a bigger network.

Impact of the Extranet on Relationships

Table 4.11 presents the results of the impact of the extranet on relationships as perceived by the IFAs.

TABLE 4.11

Impact of the Extranet on the Insurer-IFA Relationship

	Disagree	Neither Agreed nor Disagreed	Agreed	N
TRUST				
1. The extranet increases your belief that this insurer keeps promises it makes to your company.	19%	50%	31%	165
2. The extranet increases your belief that this insurer is NOT always honest with you. ®	52%	42%	6%	165
3. The extranet increases the reliability of the information that this insurer provides to your company.	11%	31%	58%	164
4. The extranet increases your belief that this insurer is genuinely concerned that your business succeeds.	22%	34%	44%	165
5. The extranet increases your trust in this insurer that it keeps your best interests in mind.	25%	39%	36%	165
6. The extranet increases your belief that this insurer considers your welfare as well as its own when making important decisions.	31%	41%	28%	164
7. The extranet increases your cautiousness when dealing with this insurer. ®	59%	30%	11%	161
Trust: The results of four statements out of seven (57%) suggest the positive impact of the extranet on different aspects of trust.				
COMMITMENT				
1. The extranet increases your commitment to this insurer.	26%	30%	44%	165
2. The extranet increases your willingness to maintain the relationship with this insurer indefinitely.	24%	22%	53%	165
3. The extranet increases your belief that this relationship deserves your maximum effort to maintain.	30%	39%	32%	164
4. The extranet increases your belief that the relationship with this insurer is very important to you.	23%	36%	41%	165
5. The extranet increases your belief that the relationship with this insurer is of great significance to you.	28%	33%	39%	164
6. The extranet increases your belief that the relationship with this insurer is something you should really care about.	30%	37%	33%	163
7. The extranet increases your belief that the relationship with this insurer is like 'family'	53%	35%	12%	164
Commitment: The results of four statements out of seven (57%) suggest the positive impact of the extranet on different aspects of commitment.				
CO-OPERATION				
1. The extranet helps you and this insurer work on joint projects tailored to both party's needs more efficiently.	32%	36%	32%	165
2. The extranet helps you and this insurer find synergistic ways to do business together.	29%	34%	37%	164
3. The extranet enables you and this insurer to work together to exploit unique opportunities more efficiently.	30%	33%	35%	165
Co-operation: The percentages of responses to each category of all three statements are very close.				
CONFLICT				
1. The extranet helps decrease conflict between you and this insurer. ®	27%	39%	34%	165
DISAGREEMENT				
1. The extranet intensifies major disagreements regarding certain key issues between you and this insurer.	58%	37%	5%	164
Disagreement: This statement elicited the lowest level of disagreed response.				
RELATIONSHIP QUALITY				
1. Do you feel that the quality of your relationship with this insurer has increased or decreased due to the introduction of the extranet?	Significantly Decreased	Stayed the Same	Significantly Increased	N
	12%	40%	48%	165

® = reversed measurement item

Research Proposition 15: *The extranet has a positive impact on trust.*

In this research, the impact of the extranet on trust was measured by seven statements, tapping on different aspects of trust: credibility, honesty, reliability of information, and benevolence.

Statement 1: The insurer's Credibility. Statement 1 focuses on the impact of the extranet on the insurer's credibility perceived by the IFAs. Half of the IFAs could not decide at this stage whether the extranet increased their belief in the insurer's credibility. Nevertheless, 31% of IFAs agreed with the statement that the extranet increased their belief in the insurer's credibility. However, 19% disagreed with the statement.

Statements 2 and 7: The insurer's Honesty. Statements 2 and 7 focus on the impact of the extranet on the insurer's honesty perceived by the IFAs. The findings from these two statements are very similar. Over half of IFAs (Statement 2 = 52%, Statement 7 = 59%) did not feel that the extranet increased their suspicion of the insurer's honesty. Nevertheless, another half of IFAs (Statement 2 = 42%, Statement 7 = 30%) could not decide at this stage whether the extranet increased their suspicion of the insurer's honesty. Only a few IFAs (Statement 2 = 6%, Statement 7 = 11%) felt that the extranet increased their mistrust in the insurer's honesty.

Statement 3: The Reliability of Information Provided by the Insurer. Over half of IFAs (58%) believed the extranet increased the reliability of the information with which the insurer provided them. Only 6% of IFAs felt the extranet did not increase the information reliability. In addition, 31% of IFAs could not decide whether the extranet impacted on the reliability of information provided by the insurer.

Statements 4 - 6: The Insurer's Benevolence. The majority of IFAs could not decide if the extranet had any impact on their perception of the insurer's benevolence. Nevertheless, a number of IFAs also claimed that the extranet increased their belief in the insurer's benevolence (Statement 4 = 43%; Statement 5 = 36% and Statement 6 = 28%). On the other hand, a few IFAs

claimed the extranet did not increase their belief in the insurer's benevolence (Statement 4 = 22%; Statement 5 = 25% and Statement 6 = 31%).

The average score of the perceived impact of the extranet on trust is 4.5 on a seven-point scale. This result suggests that on the average, the IFAs slightly agreed that the extranet increased their trust in the insurer.

Further Examination: In an attempt to explain why a significant number of IFAs could not specify whether the extranet has any impact on certain aspects of trust, a Chi-square test of independence and Spearman's correlation analysis were employed to find out whether the IFAs' perception (of the impact of the extranet on trust) depends on other factors – e.g. frequency of face-to-face contact; frequency of extranet use; and experience in using the extranet – as suggested by the literature and results obtained from face-to-face interviews in the earlier stage. The results suggest that there is no significant relationship between these variables.

Summary

To measure the impact of the extranet on the IFAs' trust in the insurer, four aspects of trust were explored: credibility, honesty, reliability of information, and benevolence. The results suggest that the extranet has a different impact on each attribute of trust. In terms of credibility, the majority of IFAs could not decide at this stage if the extranet increased the insurer's credibility. Although it appears that the extranet could increase the reliability of information provided by the insurer, it cannot be concluded whether the extranet had an impact on the insurer's benevolence. Finally, the averaged score of overall trust suggests that the IFAs slightly agreed that the extranet increased their trust in the insurer.

Research Proposition 16: *The extranet has a positive impact on commitment.*

In this study, seven statements were used to measure the impact of the extranet on commitment. See Table 4.11.

Statement 1: Global Scale. Statement 1 asked the IFAs directly whether they felt that the extranet increased their commitment to the insurer. Almost half of IFAs (44%) felt the extranet increased their commitment to the insurer. 26% disagreed, and 30% could not decide.

Statement 2: Willingness to Maintain the Relationship. Statement 2 focused on the IFAs' willingness to maintain the relationship with the insurer. Over half of IFAs (54%) believed the extranet increased their willingness to maintain the relationship with the insurer indefinitely. 24% disagreed and 22% could not say whether the extranet increased their willingness to continue their relationship with the insurer.

Statement 3: Maximum Effort to Maintain the Relationship. While Statement 2 explored the impact of the extranet on the IFAs' willingness to maintain their relationship with the insurer, Statement 3 went further, that is, could the extranet increase the IFAs' belief that this relationship deserved their *maximum effort* to maintain? Only 32% felt that the extranet could. The majority (39%) could not say whether the extranet could or could not and 29% felt that the extranet could not.

Statements 4-5: Importance/Significance of Relationship. Statements 4 and 5 asked the IFAs whether the extranet increased their belief that their relationship with the insurer was very important/ significant to them. The results of Statement 4 and 5 were very similar. That is, the majority of IFAs agreed that the extranet increased their belief that their relationship with the insurer was very important/ significant to them. Nevertheless, 23% (Statement four) and 28% (Statement five) disagreed. In addition, 33% (Statement five) to 36% (Statement four) neither agreed nor disagreed.

Statement 6: Care. Statement 6 centers on the emotional aspect of commitment. The IFAs were asked whether the extranet increased their belief that their relationship with the insurer was something they should really *care* about. 37% of the IFAs neither agreed nor disagreed with this statement. While, 33% agreed that the extranet increased their belief, 30% of IFAs disagreed.

Statement 7: Family. Statement 7 went further to find out if the extranet could increase the IFAs' belief that their relationship with this insurer was like a "family". Over half of IFAs (53%) did not think that extranet could. Only 12% felt that the extranet could. Nevertheless, 35% could not draw a conclusion at all.

The averaged score of the perceived impact of the extranet on commitment is 4 on a seven-point scale. This result suggests that on the average, the IFAs neither agreed nor disagreed that the extranet could increase commitment.

Further Examination: In an attempt to explain why a significant number of IFAs could not specify whether the extranet has any impact on commitment, a Chi-square test of independence and Spearman's correlation analysis was employed to explore the relationship between the impact of the extranet on commitment and other factors – e.g. frequency of face-to-face contact; frequency of extranet use and experience in using the extranet – as suggested by the literature. The results show that there is no significant relationship between these variables.

Summary

To measure the impact of the extranet on the IFAs' commitment to the insurer, seven statements developed by Morgan and Hunt (1994) were employed. It is still inconclusive whether the extranet can increase the IFAs' commitment to the insurer. Although the majority of the IFAs agreed that the extranet increased their willingness to continue the relationship with the insurer, they disagreed that the extranet increased their belief that their

relationship with the insurer was like a “family” (Statement 7); or something that they should really care about (Statement 6) and deserved their maximum effort to maintain (Statement 3).

Research Proposition 17: *The extranet has a positive impact on co-operation.*

In this study, three statements were used to measure the impact of the extranet on co-operation. The results of the three statements are very similar, that is, the proportion of IFAs for each category of answers – disagreed, neither agreed nor disagreed, and disagreed – is only slightly different for all three statements (See Table 4.11). The averaged score of the perceived impact of the extranet on co-operation is 4 on a seven-point scale. This result suggests that on the average, the IFAs did not know yet if the extranet could increase their co-operation to the insurer. These results might be caused by the fact that co-operation is a two-way process, which is normally facilitated by two-way communication and interaction. To be able to enhance co-operation between the IFA and insurer, the extranet needs to enhance the sharing of information and two-way communication between both parties. However, the findings in the previous sections suggest that it is still not conclusive whether the extranet can enhance two-way communication between the IFA and insurer. Consequently, the relationship between two-way communication and co-operation was investigated. The correlation results confirm that the perceived impact of the extranet on two-way communication is associated with the perceived impact of the extranet on co-operation.

Further Examination: Further investigation was carried out to understand why the proportion of IFAs for each category of answers was very similar. A Chi-square test of independence and Spearman’s correlation analysis were used to explore the relationship between the impact of the extranet on co-operation and 1) frequency of face-to-face contact, 2) frequency of extranet use, 3) and experience in using the extranet. The results suggest that there is no significant relationship between these variables.

Research Proposition 18: *The extranet has a negative impact on conflict.*

39% of the IFAs could not conclude whether the extranet helped decrease conflict between them and the insurer. Nevertheless, 34% felt that the extranet did help decrease their conflict with the insurer and 27% felt that the extranet did not help. Further investigation is also needed to gain an insight into the impact of the extranet conflict. The averaged score of the perceived impact of the extranet on conflict is 4 on a seven-point scale. This result suggests that on the average, the IFAs were undecided regarding the impact of the extranet on their conflict with the insurer.

Further Examination: A Chi-square test of independence and Spearman's correlation analysis were carried out to investigate the relationship between the perceived impact of the extranet on conflict and 1) frequency of face-to-face contact, 2) frequency of extranet use, 3) and experience in using the extranet. The results suggest that there is no significant relationship between these variables.

Research Proposition 19: *The extranet has a negative impact on disagreement.*

Over half of IFAs (58%) did not believe that the extranet would intensify major disagreements regarding certain key issues between them and the insurer. Only 5% felt that the extranet would. Nevertheless, 37% were still undecided. The averaged score of the perceived impact of the extranet on disagreement is 5 on a seven-point scale. This result suggests that on the average, the IFAs disagreed that the extranet intensified major disagreement between them and the insurer.

Research Proposition 20: *The extranet has a positive impact on relationship quality.*

Almost half of the IFAs (48%) felt that the extranet increased the quality of their relationship with the insurer. Nevertheless, 12% felt that the extranet decreased the quality of their relationship with the insurer and 40% were

still undecided. The averaged score of the perceived impact of the extranet on relationship quality is 4.5 on a seven-point scale. This result suggests that on the average, the IFAs slightly agreed that the extranet increased the quality of their relationship with the insurer.

Further Examination: A Chi-square test of independence and Spearman's correlation analysis were carried out to examine the relationship between the perceived impact of the extranet on relationship quality and 1) frequency of face-to-face contact, 2) frequency of extranet use, 3) and experience in using the extranet. The results suggest there is no significant relationship between these variables.

Hypothesis 5: *The impact of the extranet on communication quality is positively associated with the impact of the extranet on trust.*

According to Morgan and Hunt, (1994), communication is a key antecedent of trust. It is also suggested that when the communication quality increases, trust also increases. According to the analysis, the extranet could increase the quality of communication between the IFAs and insurer. This section investigates further if there is any relationship between the perceived impact of the extranet on trust and communication quality. Non-parametric correlations analysis (Spearman's rho) and chi-square test of independence were used. The results are divided into two parts. The first part examines the relationship between the perceived impact of the extranet on communication quality and each aspect of trust: credibility, honesty, reliability of information, and benevolence. The second part examines the relationship between the impact of the extranet on communication quality and the overall trust. See Table 4.12.

Communication quality and different aspects of trust: The results from Table 4.12 suggest there is a positive and moderate association between the perceived impact of extranet on communication quality and each aspect of trust: credibility; honesty; reliability of information and benevolence. These associations are significant at 0.01. These results suggest that if the IFAs perceive the quality of their communication with the insurer can be

enhanced by the extranet, there is a moderate probability that the insurer's credibility, honesty, benevolence and information reliability can also be enhanced by the extranet.

TABLE 4.12

Non-parametric Correlation Analysis

Relationship between (the Impact of the Extranet on) Communication Quality and Trust

		CMQ	CREDIT	INFREL	BENEVO	THONEST
Spearman's rho	CMQ	1.000 160				
	CREDIT	0.409 160	1.000 165			
	INFREL	0.407 160	0.549 164	1.000 165		
	BENEVO	0.454 157	0.602 160	0.560 164	1.000 164	
	HONEST	0.311 159	0.423 161	0.366 161	0.318 160	1.000 161

Correlation is significant at the .01 level (1-tailed).

Communication quality and overall trust: As trust is a latent variable, some adjustments are necessary before conducting correlation analysis between the impact of the extranet on communication quality and overall trust. First of all, principle component analysis was used to determine the number of factors of trust variable. This research selected the principle components that have the *eigenvalues* more than 1. The *Varimax Rotation* method was also used to maximise the variation of the loadings. This research argues that although principle component analysis extracted two factors from the trust variable, the value of the second component was so small that trust should be, instead, considered as unidimensional as suggested by Doney and Cannon (1997). Spearman's correlation analysis was then conducted in SPSS. See Table 4.13.

TABLE 4.13**Non-Parametric Correlation Analysis**

Relationships between (Impact of the Extranet on) Communication Quality and Relational Constructs (trust, commitment, co-operation, conflict, disagreement, and relationship quality)

		CMQ	TRUST	COMMIT	COOP	CONF	DISAG	RELQ
Spearman's rho	CMQ	1.000						
	N	160						
	TRUST	0.530	1.000					
	N	156	160					
	COMMIT	0.428		1.000				
	N	158		161				
	COOP	0.300			1.000			
	N	159			160			
	CONF	-0.480				1.000		
	N	160				160		
	DISAG	-0.213					1.000	
	N	159					160	
	RELQ	0.480						1.000
	N	160						160

Correlation is significant at the .01 level (1-tailed).

The results confirm the findings of previous studies (i.e. Anderson and Narus 1990; Morgan and Hunt 1994) suggesting a *strong* and *positive* relationship between the perceived impact of the extranet on trust and communication quality. Indeed, as the footnote says, the result is significant at the 0.01 level. This research concludes that if the insurers successfully use the extranet to enhance the quality of communication between them and the IFAs, there is a strong probability they can also use the extranet to increase the certain aspects of the IFAs' trust in them.

Hypothesis 6: *The impact of the extranet on communication quality is positively associated with the impact of the extranet on commitment.*

According to Anderson and Narus (1990), communication is a key antecedent of commitment. It is also suggested that when communication quality increases, commitment also increases. The analysis of the research Proposition 5 suggests that the extranet can, indeed, increase the quality of communication between the IFAs and insurer. This section investigates

whether there is any relationship between the impact of the extranet on commitment and communication quality.

The results from Table 4.13 suggest a positive and moderate relationship between the perceived impact of extranet on communication quality and the perceived impact of the extranet on commitment. The result is significant at the 0.01 level suggesting the probability of this relationship being a chance event is about 1 in a 100. This research concludes that if the perceived impact of the extranet on the quality of the Insurer-IFA communication increases, there is a moderate chance that the perceived impact of the extranet on the IFA's commitment also increases.

Hypothesis 7: The impact of the extranet on communication quality is positively associated with the impact of the extranet on co-operation.

This part investigates whether there is any association between the perceived impact of the extranet on communication quality and the perceived impact of the extranet on co-operation. Non-parametric correlations analysis (Spearman's rho) was conducted to examine the relationship. According to Table 4.13, there is a moderate but positive association between the perceived impact of the extranet on communication quality and the perceived impact of the extranet on co-operation. The correlations are significant at 0.01. Therefore, the null hypothesis can be rejected.

The results confirm the findings of previous studies (e.g. Jap, 1999), suggesting a relationship between co-operation and communication. Accordingly this research concludes that if the perceived impact of the extranet on the quality of the Insurer-IFA communication increases, there is a moderate chance that the perceived impact of the extranet on the Insurer-IFA co-operation also increases.

Hypothesis 8: *The impact of the extranet on communication quality is negatively associated with the impact of the extranet on conflict.*

This part investigates whether there is any relationship between the perceived impact of the extranet on communication quality and the perceived impact of the extranet on conflict. Non-parametric correlations analysis (Spearman's rho) was conducted to examine the relationship.

According to Table 4.13 the correlation coefficient is -0.480, suggesting that these two variables have a *moderate* and *negative* relationship. The association is significant at the 0.01 level, suggesting that the level of confidence is 99%. Therefore, the null hypothesis can be rejected. The results confirm the findings of previous studies, suggesting a negative relationship between conflict and communication. Accordingly, this research concludes that if the insurers successfully use the extranet to increase the quality of their communication with the IFAs, there is moderate chance that they can also use the extranet to decrease conflicts between them.

Hypothesis 9: *The impact of the extranet on communication quality is negatively associated with the impact of the extranet on disagreement.*

This part investigates whether there is any relationship between the perceived impact of the extranet on communication quality and the perceived impact of the extranet on disagreement.

According to Table 4.13, there is a *weak* and *negative* association between the perceived impact of extranet on communication quality and the perceived impact of the extranet on disagreement. The association is significant at the 0.01 level, suggesting that the level of confidence is 99%. This research concludes that if the IFAs perceive the extranet can enhance the quality of their communication with the insurer, there is a probability – although very slim – they may also perceive that the extranet is not going to intensify major disagreements with the insurer.

Hypothesis 10: *The impact of the extranet on communication quality is positively associated with the impact of the extranet on relationship quality.*

This part investigates if there is any association between the perceived impact of the extranet on communication quality and the perceived impact of the extranet on relationship quality. According to Table 4.13, correlation coefficient between the perceived impact of the extranet on communication quality and the perceived impact of the extranet on relationship quality is 0.480, suggesting that these two variables have a **moderate and positive** relationship. The result is significant at the 0.01, suggesting that the level of confidence is 99%. Therefore, the null hypothesis can be rejected. The findings suggest that if the insurers successfully use the extranet to improve the quality of their communication with the IFAs, there is a moderate probability that they can also use the extranet to improve the quality of their relationship with IFAs.

Hypothesis 11: *The impact of the extranet on trust is positively associated with the impact of the extranet on relationship quality.*

This part examines whether there is any association between the perceived impact of the extranet on trust and the perceived impact of the extranet on relationship quality. Table 4.14 presents the correlations results.

According to Table 4.14, there is a **strong and positive** association between the perceived impact of extranet on relationship quality and the perceived impact of the extranet on trust – correlation coefficient is 0.602. The correlation is significant at 0.01 (1-tailed). Hence, the null hypothesis is rejected. This research concludes that if the insurers successfully use the extranet to increase the IFA's trust in them, there is a strong probability that they can also use the extranet to improve the quality of their relationship with the IFAs. This result is consistent with the literature that trust is a key ingredient of the Insurer-IFA relationship (See Morgan and Hunt 1994).

TABLE 4.14**Non-Parametric Correlation Analysis****Relationship between (Impact of the Extranet on) Relationship Quality and Trust**

		RELQ	CREDIT	INFREL	HONEST	BENEVO	TRUST
Spearman's rho	RELQ	1.000					
	N	165					
	CREDIT	0.488	1.000				
	N	165	165				
	INFREL	0.480	0.549	1.000			
	N	165	165	165			
	HONEST	0.383	0.423	0.366	1.000		
	N	161	161	161	161		
	BENEVO	0.521	0.602	0.560	0.318	1.000	
	N	164	164	164	161	164	
	TRUST	0.602	0.758	0.715	0.488	0.932	1.000
	N	160	160	160	160	160	160

** Correlation is significant at the .01 level (1-tailed).

This part also examines the individual aspects of trust: credibility; honesty; benevolence and information reliability. Table 4.14 suggests that the perceived impact of the extranet benevolence has the strongest association with the perceived impact of the extranet on trust (0.932). This result suggests that if the insurers have enough time and resources to focus on just one aspect of trust, they should then focus on the benevolence aspect.

Hypothesis 12: *The impact of the extranet on commitment is positively associated with the impact of the extranet on relationship quality*

This section investigates whether there is any relationship between the perceived impact of the extranet on commitment and the perceived impact of the extranet on relationship quality. Table 4.15 presents the Spearman's correlation results.

TABLE 4.15**Non-Parametric Correlation Analysis****Relationship between (Impact of the Extranet on) Relationship Quality and Relational Constructs (commitment, co-operation, conflict, and disagreement)**

		RELQ	COMMIT	COOP	CONF	DISAG
Spearman's rho	RELQ	1.000				
	N	161				
	COMMIT	0.632	1.000			
	N	161	161			
	COOP	0.491		1.000		
	N	164		164		
	CONF	-0.464			1.000	
	N	165			165	
	DISAG	-0.422				1.000
	N	164				164

Correlation is significant at the .01 level (1-tailed).

The results from Table 4.15 suggest a *strong* and *positive* relationship between the perceived impact of extranet on relationship quality and the perceived impact of the extranet on commitment. The correlation is significant at 0.01 (1-tailed); therefore, the null hypothesis is rejected. This research concludes that if the insurers are successful at using the extranet to increase the IFA's commitment, there is a very strong chance that they can also use the extranet to enhance the quality of their relationship with the IFAs.

Hypothesis 13: *The impact of the extranet on co-operation is positively associated with the impact of the extranet on relationship quality*

The results from Table 4.15 suggest there is a *moderate* and *positive* relationship between the perceived impact of the extranet on co-operation and the perceived impact of the extranet on relationship quality. The correlation is significant at 0.01 (1-tailed); therefore, the null hypothesis is rejected. The results confirm the findings of previous studies, suggesting a strong relationship between co-operation and communication (See Anderson and Narus 1990). This research concludes that if the insurers successfully use the extranet to improve their co-operation with the IFAs, there is a

moderate chance that they can also use the extranet to improve the quality of their relationship with the IFAs.

Hypothesis 14: *The impact of the extranet on conflict is negatively associated with the impact of the extranet on relationship quality*

This part investigates whether there is any relationship between the perceived impact of the extranet on relationship quality and the perceived impact of the extranet on conflict. According to Table 4.15, the correlation coefficient is -0.464, suggesting that these two variables have a *moderate* but *negative* relationship. The correlation is significant at 0.01 (the level of confidence is 99%). Thus, the null hypothesis is rejected. The results confirm the findings of previous studies, suggesting the negative relationship between conflict and relationship quality. This research concludes that if the extranet can be employed to reduce conflicts, there is a moderate chance that it can be used to increase the quality of relationship between the insurer and IFAs.

Hypothesis 15: *The impact of the extranet on disagreement is negatively associated with the impact of the extranet on relationship quality.*

This part focuses on the relationship between the perceived impact of the extranet on relationship quality and the perceived impact of the extranet on disagreement. According to Table 4.15, there is a *moderate* but *negative* association between the impact of extranet on communication quality and the impact of the extranet on conflict. The correlation is significant at 0.01 (the level of confidence is 99%). Thus, the null hypothesis is rejected. This research concludes that if the extranet intensifies major disagreement between the insurer and IFAs, there is a moderate probability that it decreases the quality of relationship between the insurer and IFAs.

Conclusion

This section examined the impact of the extranet on relational constructs, namely trust, commitment, co-operation, conflict, disagreement, and relationship quality. The extranet appears to have a positive impact on individual aspects of trust and also overall trust. However, a significant number of IFAs are still unable to decide if the extranet has any impact on some other aspects of trust. While the positive impact of the extranet on trust can still be investigated further, this research shows that it is very unlikely that the extranet will have a negative impact on trust in general. In terms of commitment, the extranet generally appears to have a positive impact on commitment in general. However, the impact does not seem to be a very strong one. As for co-operation and conflict, the number of IFAs for each category of answers is not significantly different. Therefore, it is not possible to draw a precise conclusion regarding the impact of the extranet on co-operation and conflict. In terms of disagreement, it is highly unlikely that the extranet will intensify major disagreements between them and the insurer. Finally, the extranet appears to have a positive impact on relationship quality.

This section also investigated the relationship between the impact of the extranet on the relational constructs (trust, commitment, co-operation, conflict, disagreement, and relationship quality), also the impact of the extranet on communication and relationship quality. The results confirm that they are, indeed, associated.

4.3.3 Regression Analysis

Although a correlation coefficient can indicate that a relationship exists between the variables, it does not explain the form of the relationship. When the observations are not perfectly correlated, many different functional forms may be fitted through the data. To select a functional form that fits the data as close as possible, regression analysis, based on the least-squares principle, should be employed. There are two types of regression analysis namely simple and multiple regression. Simple regression involves two variables, one dependent variable and one independent variable. Multiple regression involves several independent variables and one dependent variable (Knibb 1996). Regression, however, is inherently a technique that indicates a relationship. It cannot, by itself, tell us anything about the causality of a given relationship.

This research uses both simple regression analysis and multiple regression analysis to test Hypotheses 16-21. Simple regression analysis helps the research understand the relationships and patterns in the data while multiple regression helps the research understand the complete model. It should be noted that the multiple regression technique is concerned with establishing joint relationships and a variable that appears unrelated univariately may be highly significant after accounting for one or more of the other independent variables. Conversely a significant association between one of the predictors and the outcome may be negated after accounting for the other predictors (Tabachnick and Fidell 2001).

This part of the chapter is divided into three parts. The first part discusses the transformation of variables. The second part reports the results of multiple regression analysis of the multivariate models. The final part discusses the choice of model.

1. Transformations of Variables

The analysis in Chapter 3 suggests that some regression variables are not normally distributed; this research had considered the transformation option. Accordingly the data was transformed using the logarithmic method. Regression analysis was then carried out with the transformed variables. The regression results of two sets of data – the transformed data and the original data – were compared. It appeared that both sets of data rendered similar results. According to Tabachnick and Fidell (2001), the scale of the data influences the utility of transformations. If a scale is arbitrary, transformations are more effective. As this research does not have an arbitrary scale, the transformation is not likely to have much impact on the data set. In addition, using transformed variables seem to pose more problems in the interpretation of the results. Accordingly, this research used the original data set for both simple and multiple regression analysis.

2. Analysis of the Multivariate Models

Multiple Regression

This research has conducted both general multiple regression and stepwise regression to test the research hypotheses. This part discusses the models obtained from general multiple regression analysis.

Model 1

Model 1 consists of six independent variables: (the perceived impact of the extranet on) trust, commitment, communication quality, co-operation, conflict, and disagreement and one dependent variable (the perceived impact of the extranet on relationship quality). Some independent variables are latent variables measured by manifest variables. Trust, for example, was measured by 7 manifest variables. These manifest variables are measurable indicators of trust; therefore, they are expected to be highly correlated. Hence, if this research includes all manifest variables in the multiple regression models, the model would face a multi-collinearity problem.

Accordingly, this research used principle component analysis to extract the key factors for 3 latent variables: trust, commitment, and co-operation. In addition, one-tail test was used for each coefficient in this model because the direction of the relationship between each independent variable and the dependent variable was well determined by the literature.

TABLE 4.16

Model Summary: Model 1

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.729	0.532	0.512	0.815
a	Predictors: (Constant), Communication quality, Trust, Commitment, Co-operation, Conflict and Disagreement			

According to Table 4.16, Model 1 explains 53% of the variance in the dependent variable.

TABLE 4.17

ANOVA: Model 1

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	109.454	6	18.242	27.444	0.001
	Residual	96.382	145	0.665		
	Total	205.836	151			

According to ANOVA Table 4.17, Model 1 has a significant R^2 and linear equation ($p < .01$). Scatter plot analysis was carried out between the predicted scores against residuals for the model to test for homoscedasticity. The result was satisfactory.

TABLE 4.18**Regression Coefficient: Model 1**

Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3.367	0.505		6.669	0.001		
	CMQ	0.100	0.060	0.118	1.674	0.048	0.653	1.532
	TRUST	0.028	0.112	0.025	0.247	0.402	0.325	3.078
	COMMIT	0.436	0.105	0.375	4.139	0.001	0.394	2.538
	COOP	0.150	0.093	0.127	1.621	0.053	0.527	1.897
	CONF	-0.096	0.068	-0.109	-1.423	0.078	0.551	1.816
	DISA	-0.209	0.056	0.239	-3.763	0.001	0.799	1.252

Dependent Variable: Relationship Quality

According to Table 4.18, the following points can be made from Model 1. First, four independent variables are the significant predictors of the dependent variable. These independent variables are (the perceived impact of the extranet on) communication quality, commitment, co-operation and disagreement ($p < 0.05$). Secondly, commitment appears to have the strongest influence on the dependent variable (beta = 0.375). Thirdly, collinearity statistics in Table 4.18 and the literature suggest that trust and commitment may be collinear. According to Berry (1993), when the tolerance value of independent variables is lower than 0.20, multicollinearity is a problem. Trust has a tolerance value of 0.32 while the tolerance value of commitment is 0.39. Table 4.19 presents the correlation matrix between the variables in Model 1.

FIGURE 4.2**Multiple Regression Equation of Model 1**

$$\hat{y} = a + b_1x_1 + b_2x_2 + b_3x_3 + \dots + b_nx_n$$

$$RQ = 3.367 + 0.100CMQ + 0.028TRUST + 0.436COMMIT + 0.150COOP - 0.096CONF - 0.209Disagree$$

(6.669) (1.674) (0.247) (4.139) (1.621) (1.423) (3.763)

According to the results, Model 1 is a good fit ($R^2_{adj} = 52\%$). Model 1 can explain 53% of the variation in the dependent variable. The independent variables, taken together, significantly associate with the dependent variable

($F_{6, 152} = 27.44, p < 0.05$). The independent variables (the perceived impact of the extranet on) commitment, disagreement and co-operation account for most of the 54 % of the common variation between the independent variables and dependent variable.

TABLE 4.19

Correlation Matrix: Communication Quality, Conflict, Disagreement, Trust, Commitment, Co-operation, and Relationship Quality

		CMQ	CONF	DISA	TRUST	COMMIT	COOP	RELQ
Spearman's rho	CMQ	1.000						
	CONF	0.480	1.000					
	DISA	0.213	0.170	1.000				
	TRUST	0.529	0.517	0.406	1.000			
	COMMIT	0.428	0.504	0.330	0.729	1.000		
	COOP	0.294	0.486	0.204	0.615	0.590	1.000	
	RELQ	0.480	0.464	0.422	0.602	0.630	0.491	1.000

According to Table 4.19, trust and commitment are strongly correlated ($R = 0.729$). Accordingly, principle component analysis was carried out to identify if trust and commitment would be recognised as separate factors. The result shows that only one factor was extracted.

Multicollinearity can have several implications for regression models. For example, the model may fit the data well, but a correlated independent variable may not necessarily make a significant contribution when added to the model whilst another variable is already included. In addition, the model fit would be much lower as a consequence of removing both variables (Aiken and West, 1991). In Model 1, trust did not make a significant contribution when it was added to the model with commitment.

To handle the multi-collinearity problem, it is important to understand the cause of multi-collinearity. The researcher can either try to solve the problem or ignore it especially when the model is otherwise adequate, i.e. statistically and in terms of each coefficient being of a plausible magnitude and having an appropriate sign. In some cases, removing one or more variables from the model will reduce multi-collinearity to an acceptable level; although the resulting model may well display biased coefficients. In

other cases, collecting more data, which is very difficult for this research, can solve the problem. Accordingly, this research formed Model 2 in which (the perceived impact of the extranet on) commitment was dropped and Model 3 in which (the perceived impact of the extranet on) trust was dropped.

Model 2

Model 2 consists of five independent variables: (the perceived impact of the extranet on) commitment, communication quality, co-operation, conflict, and disagreement and one dependent variable (the perceived impact of the extranet on relationship quality). Trust was dropped from the Model 2 so that this research could examine the influence that the perceived impact of the extranet on commitment – both alone and taken together with other independent variables – has on the perceived impact of the extranet on the Insurer-IFA relationship.

TABLE 4.20

Model Summary: Model 2

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
2	.727	0.528	0.512	0.81

a Predictors: (Constant), Communication quality, Commitment, Co-operation, Conflict and Disagreement

According to Table 4.20, Model 2 explains 52.8% of the variance in the dependent variable.

TABLE 4.21

ANOVA: Model 2

Model		Sum of Squares	df	Mean Square	F	Sig.
2	Regression	109.209	5	21.842	33.558	0.001
	Residual	97.630	150	0.651		
	Total	206.840	155			

According to ANOVA Table 4.21, Model 2 has a significant regression and linear equation ($p < .01$). Scatter plot analysis was carried out between the predicted scores against residuals for the model. The result was satisfactory.

TABLE 4.22

Regression Coefficient: Model 2

Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
2	(Constant)	4.967	0.484		10.256	0.001		
	CMQ	0.112	0.056	0.132	1.981	0.024	0.704	1.419
	COMMIT	0.441	0.091	0.380	4.862	0.001	0.514	1.944
	COOP	0.157	0.086	0.135	1.817	0.035	0.571	1.752
	CONF	-0.095	0.065	-0.111	-1.458	0.073	0.547	1.827
	DISA	-0.204	0.051	-0.237	-3.971	0.001	0.881	1.135

Dependent Variable: Relationship Quality

According to Table 4.22, the following points can be made for Model 2. First, four independent variables are the significant predictors of the dependent variable. These independent variables are (the perceived impact of the extranet on) communication quality, commitment, co-operation and disagreement ($p < 0.05$). Secondly, commitment appears to have the strongest influence on the dependent variable (beta = 0.380). Figure 4.3 illustrates the multiple regression equation of Model 2.

FIGURE 4.3

Multiple Regression Equation of Model 2

$$\hat{y} = a + b_1x_1 + b_2x_2 + b_3x_3 + \dots + b_nx_n$$

$$RQ = 4.967 + 0.112CMQ + 0.441COMMIT + 0.157COOP - 0.095CONF - 0.204Disagree$$

(10.256) (1.981) (4.862) (1.817) (1.458) (3.971)

According to the results, Model 2 is a good fit ($R^2_{adj} = 51\%$). Model 2 can explain 52.8% of the variation in the dependent variable. The independent variables, taken together, significantly associate with the dependent variable ($F_{6, 152} = 27.02, p < 0.05$). Indeed, dropping (the perceived impact of the extranet on) trust does not seem to make much difference to R^2 and R^2_{adj} . In

addition, the same independent variables: (the perceived impact of the extranet on) commitment; disagreement and co-operation, account for most of the 52.8% of the common variation between the independent variables and dependent variable. Finally, commitment is still the strongest predictor of the model.

Model 3

Model 3 consists of five independent variables: (the perceived impact of the extranet on) trust, communication quality, co-operation, conflict, and disagreement and one dependent variable (the perceived impact of the extranet on relationship quality). Commitment was dropped from Model 3 so that this research could examine the influence that the perceived impact of the extranet on trust – both alone and taken together with other independent variables – has on the perceived impact of the extranet on the Insurer-IFA relationship. See Table 4.

TABLE 4.23

Model Summary: Model 3

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
3	.691	0.477	0.460	0.85

a Predictors: (Constant), Communication quality, Trust, Co-operation, Conflict and Disagreement

According to Table 4.23, Model 3 explains 47.7% of the variation in the dependent variable.

TABLE 4.24

ANOVA: Model 3

Model		Sum of Squares	df	Mean Square	F	Sig.
3	Regression	98.503	5	19.701	27.024	0.001
	Residual	107.893	148	0.729		
	Total	206.396	153			

According to ANOVA Table 4.24, Model 3 has a significant regression and linear equation ($p < .01$). Scatter plot analysis was carried out between the predicted scores against residuals for the model. The result was satisfactory.

TABLE 4.25

Regression Coefficient: Model 3

Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
2	(Constant)	5.206	0.512		10.165	0.001		
	CMQ	0.110	0.062	0.130	1.770	0.039	0.659	1.518
	TRUST	0.249	0.102	0.223	-2.110	0.008	0.424	2.359
	COOP	0.232	0.196	0.196	-3.744	0.007	0.555	1.803
	CONF	-0.145	0.069	-0.165	2.451	0.018	0.578	1.730
	DISA	-0.218	0.058	-0.249	2.443	0.001	0.797	1.255

Dependent Variable: Relationship Quality

According to Table 4.25, the following points can be made from Model 3. First, all five independent variables are the significant predictors of the dependent variable. Secondly, disagreement appears to have the strongest influence on the dependent variable (beta = -0.249). Figure 4.4 illustrates the multiple regression equation of Model 3.

FIGURE 4.4

Multiple Regression Equation of Model 3

$$\hat{y} = a + b_1x_1 + b_2x_2 + b_3x_3 + \dots + b_nx_n$$

$$RQ = 5.206 + 0.110CMQ + 0.249TRUST + 0.232COOP - 0.145CONF - 0.218Disagree$$

(10.256) (1.981) (4.862) (1.817) (1.458) (3.971)

According to the results, Model 3 is a weaker fit ($R^2_{adj} = 46\%$), compared with Model 1 and Model 2. Model 3 can explain 47.7% of the variation in the dependent variable. The independent variables, taken together, significantly associate with the dependent variable ($F_{6, 152} = 27.024, p < 0.05$). Indeed, dropping (the perceived impact of the extranet on) commitment seems to have a slight effect on R^2 and R^2_{adj} . However, while the perceived impact of the extranet on trust in Model 1 is not a significant predictor of the dependent variable, in Model 3 (the impact of the extranet

on) trust together with co-operation and disagreement account for most of the 47.7% of the common variation between the independent variables and dependent variable. Finally, (the perceived impact of the extranet on) disagreement appears to be the strongest predictor of the dependent variable.

Stepwise Regression Analysis

This research also considered using stepwise analysis to test the research hypotheses. This part discusses the models obtained from stepwise regression analysis.

TABLE 4.26

Model Summary: Stepwise Model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.641 ^a	.411	.408	.88
2	.684 ^b	.469	.462	.84
3	.711 ^c	.505	.497	.81
4	.726 ^d	.528	.517	.79

a Predictors: (Constant), commitment

b Predictors: (Constant), commitment, disagreement

c Predictors: (Constant), commitment, disagreement, communication quality

d Predictors: (Constant), commitment, disagreement, communication quality, co-operation

TABLE 4.27: Regression Coefficients: Stepwise Regression

Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.534	.066		68.972	.000
	COMMIT	.726	.065	.641	11.115	.000
2	(Constant)	3.429	.261		13.136	.000
	COMMIT	.651	.065	.575	10.078	.000
	DISA	.217	.050	.249	4.362	.000
3	(Constant)	2.665	.329		8.089	.000
	COMMIT	.546	.069	.482	7.936	.000
	DISA	.200	.048	.229	4.132	.000
	CMQ	.181	.050	.216	3.611	.000
4	(Constant)	2.749	.324		8.480	.000
	COMMIT	.425	.080	.375	5.331	.000
	DISA	.197	.047	.226	4.160	.000
	CMQ	.164	.049	.196	3.312	.001
	COOP	.221	.077	.191	2.871	.005

Dependent Variable: Relationship Quality

TABLE 4.28: Excluded Variables

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	CONF	.145 ^a	2.123	.035	.158	.699
	DISA	.249 ^a	4.362	.000	.312	.929
	CMQ	.240 ^a	3.864	.000	.280	.797
	COOP	.227 ^a	3.182	.002	.233	.622
	TRUST	.292 ^a	3.483	.001	.254	.444
2	CONF	.191 ^b	2.930	.004	.216	.685
	CMQ	.216 ^b	3.611	.000	.263	.789
	COOP	.218 ^b	3.205	.002	.235	.622
	TRUST	.199 ^b	2.313	.022	.172	.400
3	CONF	.136 ^c	2.045	.042	.153	.630
	COOP	.191 ^c	2.871	.005	.213	.613
	TRUST	.144 ^c	1.288	.199	.097	.360
4.	CONF	.096 ^d	1.418	.158	.107	.593
	TRUST	.038 ^d	.417	.677	.032	.323

a Predictors: (Constant), commitment

b Predictors: (Constant), commitment, disagreement

c Predictors: (Constant), commitment, disagreement, communication quality

d Predictors: (Constant), commitment, disagreement, communication quality, co-operation

e Dependent Variable: Relationship Quality

FIGURE 4.5

Multiple Regression Equation of Stepwise Model

$$\hat{y} = a + b_1x_1 + b_2x_2 + b_3x_3 + \dots + b_nx_n$$

$$\text{RQ} = 2.749 + 0.425\text{COMMIT} + 0.164\text{CMQ} + 0.221\text{COOP} - 0.197\text{Disagree}$$

(8.480) (5.331) (3.312) (2.871) (4.160)

According to the results, stepwise model is a good fit ($R^2_{\text{adj}} = 52\%$). The model can explain 53% of the variance in the dependent variable. The independent variables, taken together, significantly associate with the dependent variable ($F_{6, 152} = 27.024, p < 0.05$). This model suggests that the perceived impact of the extranet on commitment appears to have the strongest effect on the impact of the extranet on relationship quality. This result agrees with the result obtain from standard multiple regression analysis. The stepwise model leaves out *trust* and *conflict*, suggesting that these two variables do not add significant additional explanatory power to the model. These results are, in fact, not different from Model 1 obtained from normal multiple regression analysis in which *trust* and *conflict* are the only two variables in the model that are not significant predictors of the model.

Stepwise Model

Stepwise Analysis is a very powerful method of regression analysis. However, it is very sensitive to the presence of multicollinearity (Ryan, 1997). It is evident that some predictors in the research model are highly correlated. Inevitably, stepwise method will leave out one of these variables. The researcher conducted further tests by running stepwise analysis in SPSS with 50% of randomly selected sample. Three tests were carried out in total. The results of two tests are discussed next.

FIRST TEST:

TABLE 4.29

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.607 ^a	.369	.364	.87
2	.652 ^b	.425	.415	.83

a Predictors: (Constant), commitment

b Predictors: (Constant), commitment, trust

TABLE 4.30

Regression Coefficients

Model		Unstandardised Coefficients		Standardised Coefficients Beta	t	Sig.
		B	Std. Error			
1	(Constant)	4.548	.080		57.144	.000
	COMMIT	.682	.082	.607	8.271	.000
2	(Constant)	4.537	.076		59.412	.000
	COMMIT	.395	.117	.352	3.387	.001
	TRUST	.406	.121	.348	3.357	.001

SECOND TEST:

TABLE 4.31

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.595 ^a	.355	.347	.88
2	.673 ^b	.452	.440	.81

a Predictors: (Constant), commitment

b Predictors: (Constant), commitment, communication quality

TABLE 4.32**Regression Coefficients**

Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.406	.093		47.501	.000
	COMMIT	.657	.093	.595	7.031	.000
2	(Constant)	2.879	.393		7.335	.000
	COMMIT	.436	.103	.395	4.237	.000
	CMQ	.314	.079	.372	3.988	.000

Each test rendered different results although *Commitment* always remained in each model. This suggests the sensitivity of stepwise analysis toward the multicollinearity between predictors. This, in turn, suggests the possibility that although trust and conflict were dropped out of the stepwise model, it does not necessary mean that they are not a significant predictor of *relationship quality*.

Model Selection

This research has introduced four models. The first three Models derived from multiple regression analysis. Model 1 is theory-driven while Model 2 and Model 3 were built as results of multi-collinearity diagnoses. Model 4 is, however, the result of stepwise regression analysis. This research has concluded Model 1 is the most appropriate model for understanding the impact of the extranet on the Insurer-IFA relationship. The reason for adopting this Model is now discussed.

First, if the research simply aims to predict the dependent variable from a set of independent variables, multicollinearity is not a problem. The predictions will still be accurate, and the overall R^2 (or adjusted R^2) can still quantify how well the model predicts the dependent values (Aiken and West, 1991). However, to understand how the independent variables impact on the dependent variable, then multicollinearity might be a problem. One problem is that the individual probability values (p value) can be misleading. That is, a p value can be high, even though the variable is

important. The second problem is that the confidence intervals on the regression coefficients will be very wide. The confidence intervals may even include zero, which means one cannot even be confident whether an increase in the independent variable is associated with an increase, or a decrease in the dependent variable (Aiken and West, 1991).

In Model 1, one-tail test was used for each coefficient where the direction of the relationship between each independent variable and the dependent variable was well determined by the literature. Two independent variables were found to be insignificant predictors of the dependent variable – (the perceived impact of the extranet on) trust and conflict. Being aware of a multicollinearity problem between independent variables, this research carried out a further test by dropping one of the highly correlated independent variables from the model. Accordingly, Model 2 (without the perceived impact of the extranet on trust) and Model 3 (without the perceived impact of the extranet on commitment) were built. The three models were then compared to find out which is the most suitable one to explain the impact of the extranet on the Insurer-IFA relationship. The results suggest that dropping (the perceived impact of the extranet on) trust does not have much impact on the R square and regression coefficients (See Model 2). Although dropping (the perceived impact of the extranet on) commitment reduces the t-statistics of (the perceived impact of the extranet on) trust and makes this variable significant, it is not appropriate to omit a key predictor supported by literature and preliminary result in order to make statistics look “right”.

The choices have been narrowed down to Model 1 and the Stepwise regression model. There are different schools of thought. One school, hierarchical regression, argues that theory should drive the statistical model and that the decision of what and when terms enter the regression model should be determined by theoretical concerns. A second school of thought, stepwise regression, argues that the data can speak for themselves and allows the procedure to select predictor variables to enter the regression equation (Ryan, 1997). A number of empirical studies and the qualitative results obtained from face-to-face interviews strongly suggest that trust and

particularly commitment are very important for the seller-buyer relationship. In addition, stepwise regression is known to be sensitive to multicollinearity between predictors which is the case for this research (See Table 4.29-4.32). Hence, this research accepts Model 1 as the most suitable model to explain the impact of the extranet on the Insurer-IFA relationship.

In brief, this research has to bear in mind that although Model 1 has a good fit, some independent variables in the model may have low probability values. This does not mean that these variables are not significant predictors of the dependent variables.

3. Discussion of the Model

FIGURE 4.6

Multiple Regression Equation of Model 1

$$\hat{y} = a + b_1x_1 + b_2x_2 + b_3x_3 + \dots + b_nx_n$$

$$\text{RQ} = 3.367 + 0.100\text{CMQ} + 0.028\text{TRUST} + 0.436\text{COMMIT} + 0.150\text{COOP1} - 0.096\text{CONF} - 0.209\text{Disagreee}$$

(6.669) (1.674) (0.247) (4.139) (1.621) (1.423) (3.763)

The multiple regression analysis of Model 1 yielded several conclusions. With other variables held constant, the scores of the extranet's impact on relationship quality were *positively* related to the scores of the extranet's impact on commitment ($t_{152} = 4.139, p < 0.01$), co-operation ($t_{152} = 3.609, p < 0.01$), communication quality ($t_{152} = 3.668, p < 0.01$), and trust ($t_{152} = 0.247, p > 0.05$). On the contrary, with other variables held constant, the scores of the extranet's impact on relationship quality were *negatively* related to the scores of the extranet's impact on disagreement ($t_{152} = 3.763, p < 0.01$) and conflict ($t_{152} = 1.423, p > 0.05$).

Based on a seven-point scale, if the perceived impact of the extranet on 1) commitment, 2) co-operation, 3) communication quality, and 4) trust increases one unit, the perceived impact of the extranet on the quality of the Insurer-IFA relationship will increase by 0.43 unit, 0.2 unit, 0.1 unit, and 0.03 unit respectively. On the contrary, if the perceived impact of the extranet on 1) disagreement and 2) conflict increases one unit, the perceived

impact of the extranet on the quality of the Insurer-IFA relationship will decrease by 0.2 and 0.09 unit respectively. The perceived impact of the extranet on commitment appears to have the strongest effect on the impact of the extranet on relationship quality (Beta weights = 0.38).

4.4 Conclusion

This chapter reported the results of the analysis of both qualitative and quantitative data. Qualitative data were integrated and reported in accordance with the research objectives. The analysis of quantitative data started with the IFAs' profiles. Then, the results in relations to research objectives were analyzed with the use of descriptive statistics, chi-square: test of independence. Finally, the hypotheses were tested with the use of correlation, regression analysis and multiple regression analysis.

In the following chapter the major implications of these results will be discussed in relation to previous literature. The overall research contribution is then identified and followed by important managerial implications from the research. Finally, areas of further research are suggested.

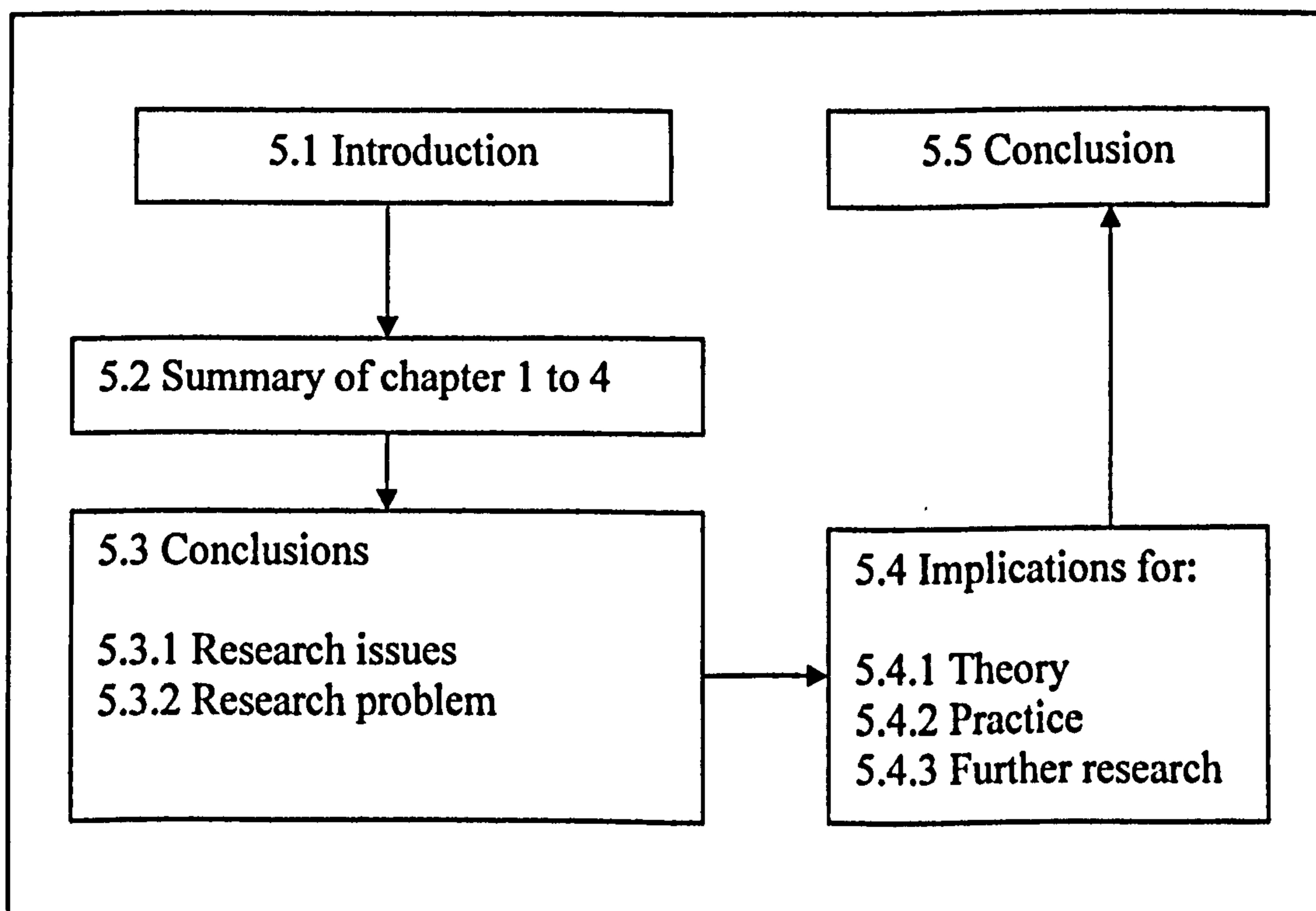
CHAPTER 5: CONCLUSIONS AND IMPLICATIONS

5.1 Introduction

The purpose of this chapter is to discuss the main findings and conclusions from Chapter 4 in the light of the literature to highlight contrasting, similar and “new” findings, which relate to the research issues. This chapter also discusses both theoretical and managerial issues arising as well as areas for further research. This chapter is divided into 4 parts. Figure 5.1 shows the structure of this chapter. This chapter begins with the introduction (Section 5.1), followed by a summary of the earlier chapters (Section 5.2). Section 5.3 discusses the conclusions concerning the research issues (Section 5.3.1) and the research problem (Section 5.3.2). In Section 5.4, the implications of the conclusions in Section 5.3 are drawn for theory (Section 5.4.1), practice (Section 5.4.2), and further research (Section 5.4.3). Finally, Section 5.5 concludes the chapter

FIGURE 5.1

Structure of Chapter 5



5.2 Summary of Chapters 1 To 4

Chapter 1 outlined and justified this research. The research was justified on the grounds that the crucial impact of the extranet on communications and relationships between the insurer and IFAs was still largely unexplored. The insurance industry has a long and established relationship with IFAs. By understanding the extranet and its impact on communication and relationships between the insurer and the IFAs, implications for other channels or business-to-business service relationships can be postulated.

Chapter 2 reviewed existing literature and theories. Sections 2.2 and 2.3 provided background theory to the research problem by reviewing the key disciplines of channel relationships and extranets. In channel relationship literature, there are a number of empirical studies regarding the use of communication media to facilitate communication and relationships between organisations and their business partners. However, most studies focus on more conventional media such as face-to-face, telephone, fax and mail. Indeed, although the extranet's role in financial services has become increasingly important, especially in facilitating communication and improving relationships between the insurer and IFAs, it seems there have not been any empirical tests of this potential. Finally, although the role of communication in channel relationship literature is well acknowledged, there are not any empirical studies that examine the changes that the extranet has on communication and ultimately the relationship between the insurer and IFAs. In Chapter 2 (Section 2.4), the key grounded theories established the theoretical framework, research problem, research issues, research propositions, hypotheses, and models that were tested in Chapter 4.

It is important to note here that only literature published up to March 2002 when data collection and analysis began, was reviewed in chapter 2 and used to develop the frameworks and research issues in that chapter. More recent publications are incorporated into this chapter to enable a fuller discussion of the results. Table 5.1 summarises the research issues, propositions and hypotheses for this study.

TABLE 5.1**Research Issues, Propositions and Hypotheses**

Research issues	Research Propositions and Hypotheses
<p>RI 1: How does the extranet facilitate the Insurer-IFA communication?</p>	<p>RP1: The extranet has a positive impact on information sharing between the IFA and insurer.</p> <p>RP2: The extranet has a positive impact on two-way communication between the IFA and insurer.</p> <p>RP3: The extranet has a positive impact on accessibility of certain information.</p> <p>RP4: The extranet has a positive impact on speed of communication.</p> <p>RP5: The extranet has a positive impact on an overall communication quality.</p> <p>RP6: The extranet has a negative impact on information overload.</p> <p>RP7: The perceived impact of the extranet on communication quality depends on the frequency of personal visit from the insurer.</p> <p>RP8: The perceived impact of the extranet on communication quality depends on the frequency of the extranet communication.</p> <p>RP9: The perceived impact of the extranet on communication quality depends on whether the information provided over the extranet is of good quality.</p> <p>H1: The perceived impact of the extranet on communication quality is positively associated with the impact of the extranet on information sharing.</p> <p>H2: The perceived impact of the extranet on communication quality is positively associated with the impact of the extranet on two-way communication.</p> <p>H3: The perceived impact of the extranet on communication quality is positively associated with the impact of the extranet on information accessibility.</p> <p>H4: The perceived impact of the extranet on communication quality is positively associated with the impact of the extranet on speed of communication.</p>
<p>RI 2: How does the extranet impact on the use of other communication media?</p>	<p>RP10: The extranet has decreased the use of face-to-face communications between the IFA and insurer.</p> <p>RP11: The extranet has decreased the use of telephone communications between the IFA and insurer.</p> <p>RP12: The extranet has decreased the use of fax communication between the IFA and insurer.</p> <p>RP13: The extranet has decreased the use of mail communication between the IFA and insurer.</p> <p>RP14: The extranet has decreased the use of courier communication between the IFA and insurer.</p>

TABLE 5.1 (Continued)
Research Issues, Propositions and Hypotheses

Research issues	Research Proposition and Hypotheses
<p>RI 3: How does the extranet facilitate the Insurer-IFA relationship?</p>	<p>RP15: The extranet has a positive impact on trust.</p> <p>RP16: The extranet has a positive impact on commitment.</p> <p>RP17: The extranet has a positive impact on co-operation.</p> <p>RP18: The extranet has a negative impact on conflict.</p> <p>RP19: The extranet has a negative impact on disagreement.</p> <p>RP20: The extranet has a positive impact on relationship quality.</p> <p>H5: The impact of the extranet on communication quality is positively associated with the impact of the extranet on trust.</p> <p>H6: The impact of the extranet on communication quality is positively associated with the impact of the extranet on commitment.</p> <p>H7: The impact of the extranet on communication quality is positively associated with the impact of the extranet on co-operation.</p> <p>H8: The impact of the extranet on communication quality is negatively associated with the impact of the extranet on conflict.</p> <p>H9: The impact of the extranet on communication quality is negatively associated with the impact of the extranet on disagreement.</p> <p>H10: The impact of the extranet on communication quality is positively associated with the impact of the extranet on relationship quality.</p>
<p>RI 4: The impact of the extranet on communication, trust, commitment, co-operation, and conflict – How does this facilitate the quality of relationship between insurers and IFAs?</p>	<p>H11: There is a positive relationship between the impact of the extranet on trust and the impact of the extranet on relationship quality.</p> <p>H12: There is a positive relationship between the impact of the extranet on commitment and the impact of the extranet on relationship quality.</p> <p>H13: There is a positive relationship between the impact of the extranet on co-operation and the impact of the extranet on relationship quality.</p> <p>H14: There is a negative relationship between the impact of the extranet on conflict and the impact of the extranet on relationship quality.</p> <p>H15: There is a negative relationship between the impact of the extranet on disagreement and the impact of the extranet on relationship quality.</p>

TABLE 5.1 (Continued)
Research Issues, Propositions and Hypotheses

Research issues	Research Proposition and Hypotheses
<p>RI 5: Does the impact of the extranet on commitment have the most profound impact on the Insurer-IFA relationship?</p>	<p>H16: The perceived impact of the extranet on trust is an important factor that influences the IFA's perception toward the impact of the extranet on relationship quality.</p> <p>H17: The perceived impact of the extranet on commitment is an important factor that influences the IFA's perception toward the impact of the extranet on relationship quality.</p> <p>H18: The perceived impact of the extranet on co-operation is an important factor that influences the IFA's perception toward the impact of the extranet on relationship quality.</p> <p>H19: The perceived impact of the extranet conflict is an important factor that influences the IFA's perception toward the impact of the extranet on relationship quality.</p> <p>H20: The perceived impact of the extranet disagreement is an important factor that influences the IFA's perception toward the impact of the extranet on relationship quality.</p> <p>H21: The perceived impact of the extranet communication quality is an important factor that influences the IFA's perception toward the impact of the extranet on relationship quality.</p>

Chapter 3 described and justified both qualitative and quantitative methodologies used to investigate the impact of the extranet on communication and relationship between the insurer and IFAs. Various research paradigms were also discussed and explanations given why in-depth face-to-face interviews and survey methodologies employed in this research suit the pragmatism paradigm. In the exploratory stage, an in-depth face-to-face interview technique was employed to explore the perceptions of both suppliers and distributors regarding the impact of the extranet on their communication, relationship and other issues. The results were reported in chapter 4. In the second stage, a survey technique was used to collect the data to test hypotheses and models developed in chapter 2. To be specific,

this chapter discussed the concepts and operational definitions of variables, survey method, sampling and data analysis techniques.

Chapter 4 analysed both the qualitative and quantitative data collected. The techniques used to analyse quantitative data were descriptive statistics, chi-square: test of independence, correlation coefficients, regression, and multiple regression. The results were reported according to research hypotheses and research issues.

This chapter (**Chapter 5**) draws conclusions for research issues based on the findings of Chapter 4 compared with the extant literature reviewed in Chapter 2.

5.3 Conclusions

This section outlines the contributions of this study by comparing the results of this research with the literature reviewed in Chapter 2. The comparison of results with the literature is summarised in Table 5.2. The first column reports the research issues related to the research problem of “what is the impact of the extranet on channel relationship?” The second column demonstrates the status of each research issue in the extant literature. Finally, the last column reports the contribution of this research either as an advance on current knowledge or as a more important addition to the extant literature. That is, if the research findings confirm or contradict expectations or speculations from the extent literature that have not been empirically tested before, the findings will be described as *advances* on current knowledge. However, if the research findings report the issues that do not exist in prior research, the findings will, then, be described as *additions* to current knowledge.

TABLE 5.2

Contributions of this research

<p>Research issues about the research problem of “what is the impact of the extranet on channel relationship”</p>	<p>Status of research issues in extant literature</p>	<p>Contributions of this thesis</p>
<p>RI 1: How does the extranet facilitate insurer-IFA communication?</p>	<ul style="list-style-type: none"> • It was empirically tested whether the extranet has a positive impact on information sharing between companies. • It was speculated on, or implied but not empirically tested if the extranet has a positive impact on two-way communication, communication quality, information accessibility, and communication speed. • It was speculated but not empirically tested if the extranet has a negative impact on information overload. • No prior empirical research in financial industry. 	<ul style="list-style-type: none"> • An advance on current knowledge • An advance on current knowledge • An advance on current knowledge • An addition to current knowledge
<p>RI 2: How does the extranet impact on the use of other communication media?</p>	<ul style="list-style-type: none"> • It was speculated on or implied but not empirically tested that the extranet has a negative impact of the use of other communication media • No prior research in financial industry 	<ul style="list-style-type: none"> • An advance to current knowledge • An addition to current knowledge
<p>RI 3: How does the extranet facilitate the Insurer-IFA relationship?</p>	<ul style="list-style-type: none"> • It was speculated on or implied but not empirically tested that the extranet could have both negative and positive impact on channel relationship. • No prior research in financial industry 	<ul style="list-style-type: none"> • An advance to current knowledge • An addition to current knowledge

TABLE 5.2 (Continued)**Contributions of This Research**

Research issues	Status of research issues in extant literature	Contributions of this thesis
RI 4: The impact of the extranet on communication, trust, commitment, co-operation, and conflict – How does this facilitate the quality of relationship between insurers and IFAs?	<ul style="list-style-type: none"> • It was speculated on or implied but not empirically tested that the extranet can improve a supplier-distributor relationship. • No prior research in financial industry 	<ul style="list-style-type: none"> • An advance to current knowledge • An addition to current knowledge
RI 5: Does the impact of the extranet on commitment have the most profound impact on insurer-IFA relationship?	<ul style="list-style-type: none"> • No prior research in channel relationship looks at the perceived impact of the extranet on the perceived quality of the Insurer-IFA relationship. • No prior research in financial industry 	<ul style="list-style-type: none"> • An addition to current knowledge • An addition to current knowledge

5.3.1 Conclusions Concerning Research Issues**RI 1: How does the extranet facilitate insurer-IFA communication?**

The literature: This research issue examined whether the extranet enhanced or deteriorate communication between the insurers and independent financial advisors (IFA). The literature suggested that communication has several dimensions. The dimensions that are often mentioned in the literature are information sharing (Anderson and Weitz, 1989), information quality (Mohr and Sohi, 1995), and two-way communication (Mohr and Nevin, 1990). It is suggested that when these aspects of communication are managed effectively, it is likely that the overall quality of communication will be improved (Mohr and Sohi, 1995). It has often speculated in the literature (Bayles 1997; Boyle and Alwitt, 1999) that the extranet is a potential tool to enhance *communication quality* between channel members; however, this speculation has never been empirically tested. In addition, there has been no empirical research carried out to explore the impact of the extranet on the *sharing of information*

between the insurer and IFA in particular either. Vlosky et al., (2000) conducted empirical research to explore the impact of the extranet on information sharing between companies and their partners; however, the research was very general with a great diversity of sampling. In addition, the research did not distinguish business-to-business communication from business-to-customer communication. According to the findings by Vlosky et al., (2000), companies exchange more information with their business partners after the extranet was implemented. In addition, some exchanged information was never exchanged before the extranet was implemented. Finally, companies are more likely to share information with their business partner who has an extranet.

Similarly, although the extranet has been perceived as an appropriate communication tool that supports the intensive two-way communication allowing channel members to exchange input and feedback at lower cost but with more efficacy (Bayles, 1997), there is not any empirical research carried out to explore the impact of the extranet on *two-way communication*.

The results obtained from face-to-face interviews also suggest the extranet may have a positive impact on *information accessibility, communication speed, and information overload*. As it has been suggested in the literature that these aspects of communication may influence communication effectiveness (Huber, 1990; Rogers and Allbritton, 1995) and it has not yet been empirically tested whether the extranet has a positive impact on these three aspects as speculated, this study also examined the impact of the extranet on communication accessibility, communication speed, and information overload.

Findings: According to the findings, it is not conclusive whether the extranet could increase the sharing of information between the insurer and IFAs. Although the majority of the IFAs agreed that the extranet increased the exchange of information and encouraged them to share more information with the insurer, they disagreed that the extranet made them share information that they would not have shared before the extranet was implemented. Likewise, it is not conclusive whether the extranet has any

impact on two-way communication. However, the results do confirm that the extranet can increase information accessibility and communication speed. Further, the extranet is also perceived – particularly by the IFAs who hardly had any personal contacts with the insurer in the past, but frequently received timely, accurate, and reliable information over the extranet – as having a positive impact on the quality of overall communication. Last but not least, the extranet does not appear to lead to information overload.

Conclusion: The research issues have two conclusions. On one hand, this research confirms the literature and results obtained from the preliminary face-to-face interviews that the extranet has a positive impact on distributor-supplier communication, that is, the majority of IFAs agreed that the extranet increased their access to certain information, speeded up their communication with the insurer, facilitated the exchange of information, and increased the quality of their communication with the insurance company without causing information overload.

This research also confirms the literature that communication frequency has a positive impact on the perceived communication quality. This research concludes that the more frequently the insurer provides the IFA with information over the extranet, the more likely the IFA will perceive that the extranet has a positive impact on communication quality.

On the other hand, this research contradicts the literature that has speculated the extranet increases two-way communications between the insurer and IFA. This may be explained that while in North American countries, the extranet has been actively used for placing orders and conducting business, in the UK the extranet has been mainly used for obtaining general information by the IFA. Therefore, the communication between the IFA and insurer is likely to be one-way. In addition, the findings suggest that the extranet does not make the insurer and IFA share information that would not have been exchanged before the implementation of the extranet as suggested by Vlosky, Fontenot, and Blalock (2000). There are several possible explanations for these results. Firstly, the majority of the respondents worked for a small-size firm, therefore, their communication with the

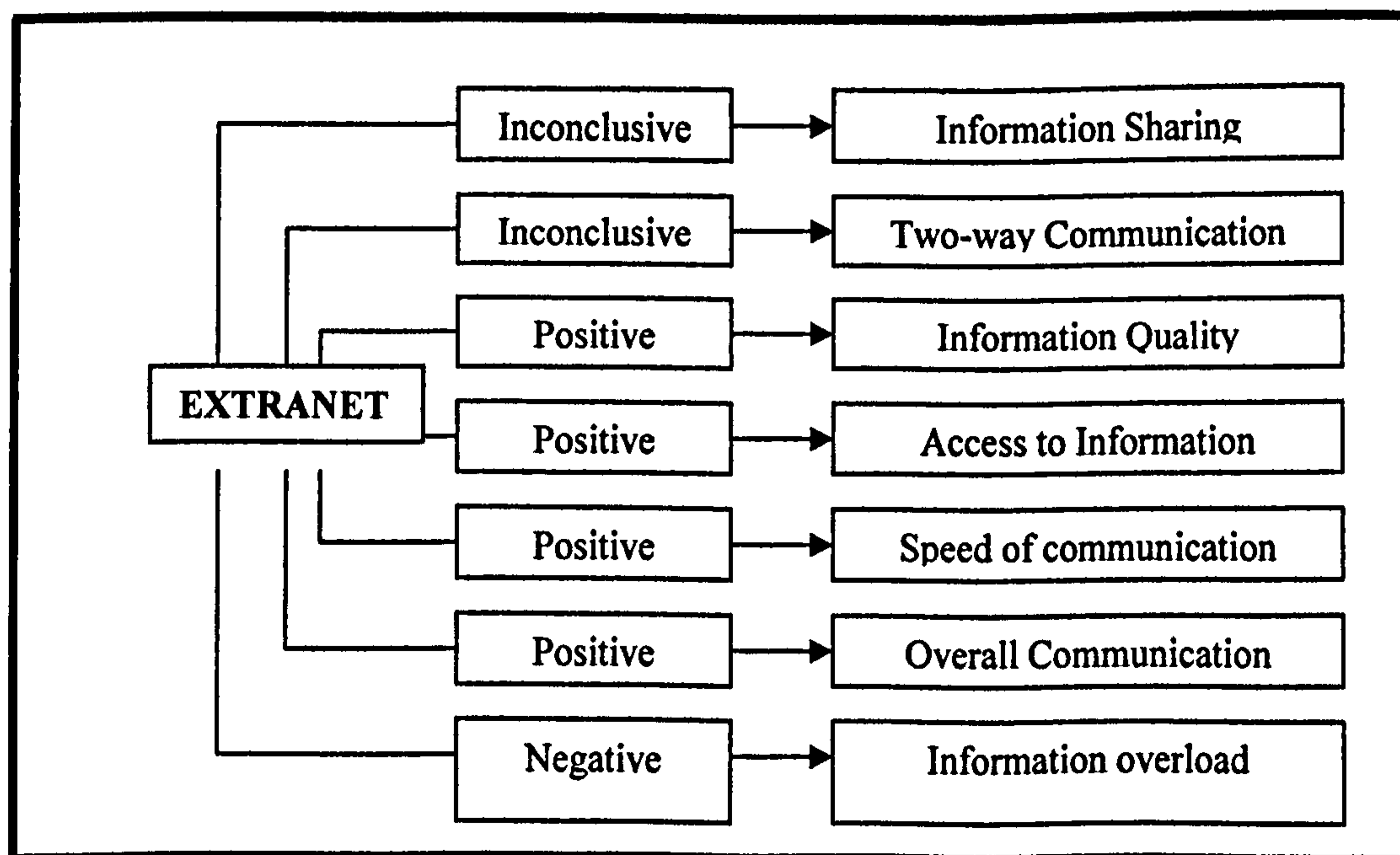
insurers may be one-way and infrequent by nature. Secondly, it may be that 58% of IFAs had used the extranet for 1 year or less. Only 9% had used the extranet longer than 2 years. Although the extranet is perceived as an effective communication tool for both insurers and IFAs, at the moment, both parties are benefiting from using the extranet to share information that was previously communicated via other means of communication. Indeed, the development of the extranet is still at a very early stage in the UK financial industry. The full potential of the extranet has not been exploited yet. In the future, the insurer may take a step further and start sharing information that might have been shared with the IFAs but could not do so in the past because of cost involved or the lack of appropriate communication media.

In addition, the findings also suggest that the IFA's perceived impact of the extranet on communication quality depends on how frequently they were visited by the insurer's representative in the past. Interestingly, the IFAs who were hardly visited by the insurer's representative in the past, appear to be more positive about the impact of the extranet on communication quality than those who were visited regularly. According to the exploratory face-to-face interviews, it was expensive for suppliers to provide every distributor with frequent and personal contacts. They have to choose what segment of the market they should focus on. As a result, many small distributors are managed by infrequent personal visits, telephone and mail communication. The extranet, however, enables these distributors to get closer to the company. They now have better access to information they need for their business and get the latest information from the company via the extranet. This may explain why the IFAs who had few personal contacts with the insurer may perceive the extranet as an effective communication tool that helps enhance the quality of their communication with the insurer. The IFAs who were visited frequently by the insurer's representative in the past may perceive the extranet as a threat to their existing communication strategy with the insurer. For example, several insurance companies have already introduced electronic forms to their channel members. IFAs are aware of the impact that the extranet may have on the firm's strategy. It is almost certain that the IFAs have to adapt to this and learn to do their business differently.

In addition, the extranet has been perceived as the insurer's cost-cutting machine that will sooner or later replace a more expensive communication medium such as face-to-face. Accordingly, the IFAs who are receiving a first-class communication from the insurers are bound to be more cautious of the extranet.

Finally, the findings also suggest that the perceived impact of the extranet on communication quality depends on whether the information provided over the extranet is of good quality. According to Mohr and Sohi (1995), information quality influences the perceived quality of communication. This research concludes that if the insurer provides the IFAs with quality information over the extranet, the IFAs will perceive the extranet as an effective communication tool that has an ability to enhance the quality of the Insurer-IFA communication. Thus this research has made contributions to business-to-business communication theory. These contributions are both an *advance on* and an *addition to* the existing knowledge of the impact of the extranet on distributor-supplier communication. Figure 5.2 illustrates the findings of Research Issue 1

FIGURE 5.2
The Model for Research Issue 1



RI 2: How does the extranet impact on the use of other communication media?

The literature: The second research issue concerned whether the extranet decreases or increases the use of other communication media: face-to-face, telephone, fax, mail, and courier. According to the literature, the extranet may affect the use of other traditional media (Boyle and Alwitt, 1999). On the one hand, the literature suggests that the increasing use of the extranet may result in the decrease in use of certain media such as face-to-face meeting and telephone. However, the results from face-to-face interviews suggest that if the extranet is not functioning effectively, it may increase the use of other modes of communication, especially the telephone. This issue has been speculated upon but never been tested empirically.

Findings: This research found that it is highly unlikely that the extranet will increase the use of other means of communication. In contrast, the extranet is very likely to decrease the use of certain modes of communication especially, the fax and the telephone.

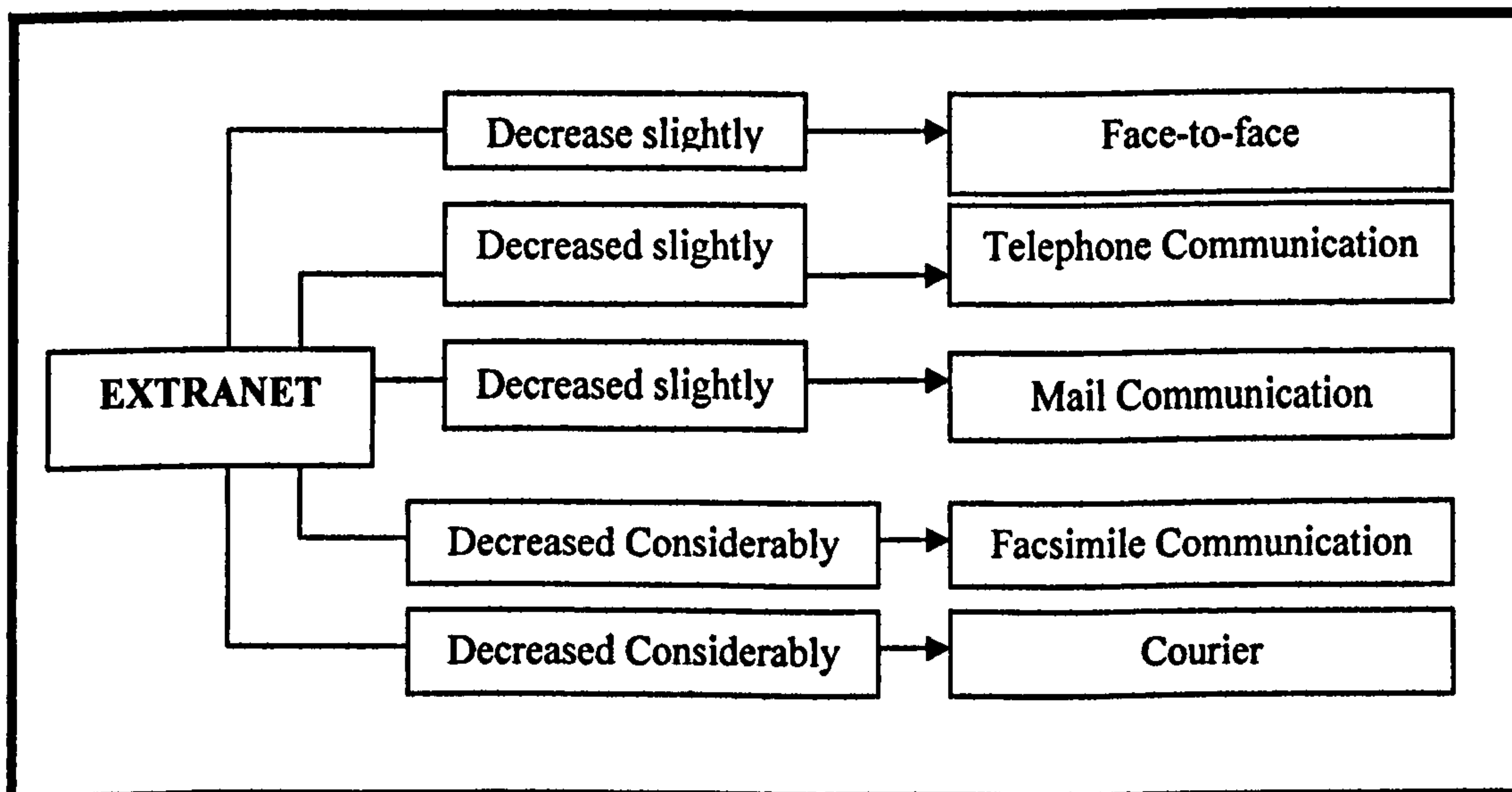
Conclusion: This research confirmed literature which suggested that the extranet decreases the use of certain modes of communication – particularly fax and telephone communication. As the majority of the IFAs – 80% worked for a small-sized firm – hardly have any personal contacts with the insurer, it is difficult to measure the impact of the extranet on face-to-face communication. Nevertheless, it is more likely that the extranet will decrease personal contacts between the insurer and the IFAs who, in the past, were hardly visited by the insurer anyhow. The extranet seems to have less impact on face-to-face contacts between the insurer and IFAs who were, in the past, frequently visited. In brief, in order to reduce operating costs, the insurer has already started replacing face-to-face contacts – the most expensive form of communication – with the extranet. As the impact of the extranet on communication and relationship is still uncertain, the insurers cannot afford to risk their relationship with their “profitable” IFAs by withdrawing their face-to-face contacts. Smaller IFAs are, however, different. They hardly had face-to-face contacts with the insurer in the past anyhow; therefore, losing face-to-face communication with the insurer does

not make much difference to them especially when they have been given the extranet communication. According to the findings in the previous section, these small IFAs are, in fact, more positive about the impact of the extranet on their communication with the insurer than the bigger ones. In brief, smaller IFAs prefer regular communication via the extranet to occasional personal visits from the insurer. This view is, in fact, supported by Dyer and Chu (2000) whose empirical research confirms that it is not the quantity of face-to-face contacts that counts. It is the quality of communication, regardless of the form of the communication.

Thus this research has made contributions to business-to-business communication theory. These contributions are both an *advance on* and an *addition to* the existing knowledge of the impact of the extranet on the use of other communication media. Figure 5.3 illustrates the findings of Research Issue 2

FIGURE 5.3

The Findings of Research Issue 2



RI 3: How does the extranet facilitate the Insurer-IFA relationship?

The third research issue concerned whether the extranet can enhance the relationship between the insurer and IFA. The literature is lacking in addressing the impact of the extranet on distributor-supplier relationship (Bayles, 1997; Stedman, 1997). In this research, the insurer-IFA relationship

is examined through the key relational variables that have been successful predictors of relationship performance in empirical studies: *trust*, *commitment*, *co-operation*, *conflict* and *disagreement* (e.g. Anderson et al., 1987; Anderson and Weitz, 1990; Anderson and Narus, 1984; 1990; Heide and John 1990, 1992). Thus, this research investigated whether the extranet can increase or decrease trust, commitment, co-operation, conflict, disagreement, and relationship quality between the insurers and independent financial advisors (IFA).

RI 3.1: Does the extranet enhance or deteriorate the IFA trust in the insurer?

The literature: The literature is divided on this issue. On the one hand, the literature claims that the electronic exchange allows the company to communicate and share with business partners the kind of social information that develops trust (Avlonitis and Karayanni, 2000). The Internet technology, in particular, also fosters a general shift from arms-length transactions toward closer exchange relationships where norms of mutual trust can be expected. According to Vlosky and Fontenot (1999), trust is one of the dimensions of business partnership that operates in the Internet as well as the physical market space. Further, the literature suggests that communication increases trust (Anderson and Narus, 1990, Anderson and Weitz, 1989; Morgan and Hunt, 1994). This research issue explores whether the communication enhanced by the extranet leads to increased trust.

The findings from the in-depth interviews suggest that the extranet-enhanced communication may not increase trust. In fact, trust and the extranet do not seem to have a direct association at all. The findings, however, suggest that it is the negative effect that the extranet has on the use of face-to-face communication that may decrease trust because face-to-face communication is viewed as an effective means of developing personal ties, thereby increasing trust between channel members (Daft and Lengel, 1986). However, the empirical study by Dyer and Chu (2000) suggests the frequency of personal contacts may not always increase trust if the overall

communication is not effective. This study empirically examines the direct impact of the extranet on trust.

Findings: On average, the IFAs agreed slightly that the extranet increased their trust in the insurer. The extranet appears to have the strongest impact on the IFA's perception of the insurer's honesty – 59% disagreed with the statement that the extranet increased their cautiousness when dealing with the insurer. In addition, the majority of the IFAs agreed that the extranet increased the reliability of information provided by the insurer – 58% agreed with the statement. However, it is not conclusive what impact the extranet has on the credibility and benevolence aspects of trust – the majority of IFAs neither agreed nor disagreed with the statement.

Conclusion: It was speculated that the extranet may decrease the IFA's trust in the insurer as it lacks human interaction, which is very important to develop social bonds. The findings, however, suggest that the communication enhanced by the extranet can, indeed, increase the IFA's trust in the insurer. This conclusion strengthens the conceptual framework of this research that communication is an important determinant of trust.

However, it should be noted that although the impact of the extranet on trust in general may be positive, it is not a strong one. Whilst the extranet-enhanced communication can improve certain aspects of trust – honesty and confidence in the reliability of information –, it is still inconclusive that it increases the IFAs' belief in the insurer's credibility, and benevolence. One of the possible explanations to this result is that the majority of IFAs did not have much communication with the insurers in the past. They had a different type of relationship from those IFAs who were frequently visited by the insurers' representatives. Although these small IFAs appreciate the benefits of the extranet, it may be a bit too soon for them to draw some conclusions regarding the impact of the extranet on their trust. Nevertheless, this research concludes that to improve the IFA's trust in them, the insurer needs to focus on the credibility and benevolence aspects of trust as they are essential for trust to exist. By improving the quality of communication, the extranet already helped the insurer enhance the IFAs' belief in the insurer's

honest and reliability of information. Further research is needed to find out how the extranet should be integrated into the company's overall communication strategy to enhance the IFAs' belief in the insurer's credibility and benevolence. Accordingly, this research made contributions to knowledge where no prior empirical research existed and so is an addition *to* knowledge about the impact of the extranet on trust.

RI 3.2: Does the extranet enhance or deteriorate the IFA commitment to the insurer?

The literature: The literature provided little understanding of the impact of the extranet on commitment. According to the study conducted by Vlosky et al., (2000), there is a sense of continuity and strengthening in the relationship between the company and its extranet partner over time. However, the study does not suggest that the extranet has any impact on the existing commitment. According to the findings in the early stage of this study, the implementation of the extranet is perceived as the manifestation of the insurer's commitment to the IFA. However, the impact of the extranet on IFA's commitment still remains unconfirmed. In addition, the literature also suggests that communication increases commitment (Anderson and Weitz, 1992). Therefore, if the extranet has a positive impact on communication as confirmed by the previous findings, it is possible to speculate that the extranet may also increase commitment.

Indeed, to understand the impact of the extranet on the Insurer-IFA relationship, it is important to understand the impact of the extranet on commitment, which is considered as the key ingredient in channel relationship (Anderson and Weitz, 1992; Morgan and Hunt, 1994).

Findings: On average, it is not conclusive whether the extranet can increase the IFA's commitment to the insurer. Nevertheless, over half of the IFAs (54%) agreed that the extranet increased their willingness to maintain their relationship with the insurer.

Conclusion: In the same way as trust, so little has been done to explore the impact of the extranet on the distributor's commitment to the supplier. This research provides some more understanding about the impact of the extranet on the IFA's commitment to the insurer. The findings suggest the majority of the IFAs were still undecided whether the extranet increased their commitment to the insurer. At this early stage, they agreed that the extranet increased their willingness to continue the relationship with the insurer who provided them with the most helpful extranet. However, the most helpful extranet was still not powerful enough to increase their belief that their relationship with the insurer was like a "family"; something that they should really care about; or deserved their maximum effort to maintain. The insurer should bear in mind that the IFAs are subject to strong legislation and the acts of the Financial Services Authority (FSA) to maintain their independence. The nature of the highly regulated market may not allow the IFAs to commit themselves to particular insurers because it will inevitably compromise their position.

Accordingly, this research made contributions to knowledge where no prior empirically research existed and so is an *addition to* knowledge about the impact of the extranet on commitment.

RI 3.3: Does the extranet enhance or deteriorate the co-operation between the insurer and IFA?

The literature: The literature suggests that an inter-organisational information system (IOS) is driven by the belief that increased competitiveness requires increased co-operation between channel members (Fredriksson and Vilgon, 1996). The most fundamental component of an extranet is the pool of business information that is accessed by the enterprise and its trading partners. As an enterprise and its trading partners get deeper into each other's business processes, there will arise a greater need to provide access to a wider range of information (competitive information, data sheets, brochures, financial information, forms, pricing information, contractual information, procedural manuals, corporate structure changes including changes to roles and responsibilities, contact details of all

personnel, new product development plans, and other data, depending on their access privileges). These shared resources can then serve as the basis for co-operation and collaboration among internal and external personnel (Bayles, 1997).

Indeed, it has been speculated in the literature that the extranet has a unique capability to increase supplier-distributor interaction and facilitate channel co-operation (Bayles 1997; Vlosky and Fontenot, 1999). The findings from the in-depth interviews also confirm that the extranet can increase the co-operation between the IFA and insurer.

Findings: The majority of IFAs were not certain if the extranet could help them and the insurer work on joint projects more efficiently. Although the majority felt that the extranet could help them work together to exploit unique opportunities and find synergistic ways to do business together, a significant number of IFAs did not share this view.

Conclusion: This research contradicts the earlier findings from in-depth interviews and what the literature has speculated on but not empirically investigated that the extranet can conclusively increase the Insurer-IFA co-operation. The explanation may be that co-operation is a two-way process, which is normally facilitated by two-way communication and interaction. To be able to enhance co-operation between the IFA and insurer, the extranet needs to enhance the sharing of information and two-way communication between both parties. However, the findings in the previous section suggest that the majority of IFAs are still undecided whether the extranet can enhance two-way communication between them and the insurers. Accordingly, the relationship between two-way communication and co-operation was investigated. The correlation results confirm that the perceived impact of the extranet on two-way communication is associated with the perceived impact of the extranet on co-operation. This research concludes that if the insurer focuses on using the extranet to enhance two-way communication between them and the IFAs, their co-operation may be improved as perceived by the IFAs.

Accordingly, this research made contributions to knowledge where no prior empirically research existed and so is an *addition to* knowledge about the impact of the extranet on co-operation.

RI 3.4: Does the extranet increase or decrease conflict and disagreement between the insurer and IFA?

The literature: According to the literature, poor communication has been considered as a cause of conflict while good communication is perceived to enhance co-operation in distribution channels, (Jap, 1999). Indeed, communication plays a crucial role in conflict resolution strategies (Stern et al., 1996). Marwell and Schmitt (1975) suggest that communication is, in fact, the key to stopping conflicts of all types. It is believed that the use of the extranet can decrease conflicts and disagreements that were previously caused by miscommunication and communication difficulties (Vlosky and Fontenot, 1999). This speculation has also been confirmed by the findings from the in-depth interviews.

Findings: Although 39% of the IFAs were undecided whether the extranet helped decrease their conflicts with the insurer, over half of the IFAs (58%) agreed that the extranet did not intensify major disagreements regarding certain key issues between them and insurer.

Conclusion: This research contradicts the earlier findings from in-depth interviews and the literature that has speculated the extranet can help decrease conflicts between the insurer and IFA. According to the findings from the in-depth interviews, many distributors viewed that different kinds of conflicts existed in distribution channels and many of them were not caused by communication difficulties or miscommunication. According to the interview with one IFA, the main areas of conflict in the financial services is a claimant's eligibility. This may explain why 39% of the IFAs were not sure if the extranet helped decrease their conflicts with the insurer. Nonetheless, an almost equal proportion of the IFAs (34%) agreed that the extranet helped decreased channel conflict. Nevertheless, the majority did not think that the extranet intensified major disagreements between them

and the insurer. In brief, while it is still not conclusive whether the extranet helps decrease channel conflict, the extranet does not appear to worsen existing disagreement between the insurer and IFAs.

In brief, this research has provided some understanding about the impact of the extranet on conflicts and disagreement. This research made contributions to knowledge where no prior empirically research existed and so is an addition *to* knowledge about the impact of the extranet on conflicts and disagreement.

RI 3.5: Does the extranet enhance or deteriorate the quality of relationship between the insurer and IFA?

The literature: The literature suggests that good communication is essential for channel relationships (Anderson and Narus, 1990; Anderson and Weitz, 1989; 1992; Frazier, 1999; Ganesan, 1994; Moorman et al., 1993; Stern and El-Ansary, 1988; Young and Wilkinson, 1989). The emergence of a new communication medium is likely to affect the way channel members communicate and relate to each other. According to Vlosky et al., (2000) the extranet can be extremely important in fortifying relationships between external business partners and customers. The findings from the in-depth interviews also suggest that the extranet has been viewed as a communication medium that can provide new and better ways to establish relationships with customers, suppliers and partners.

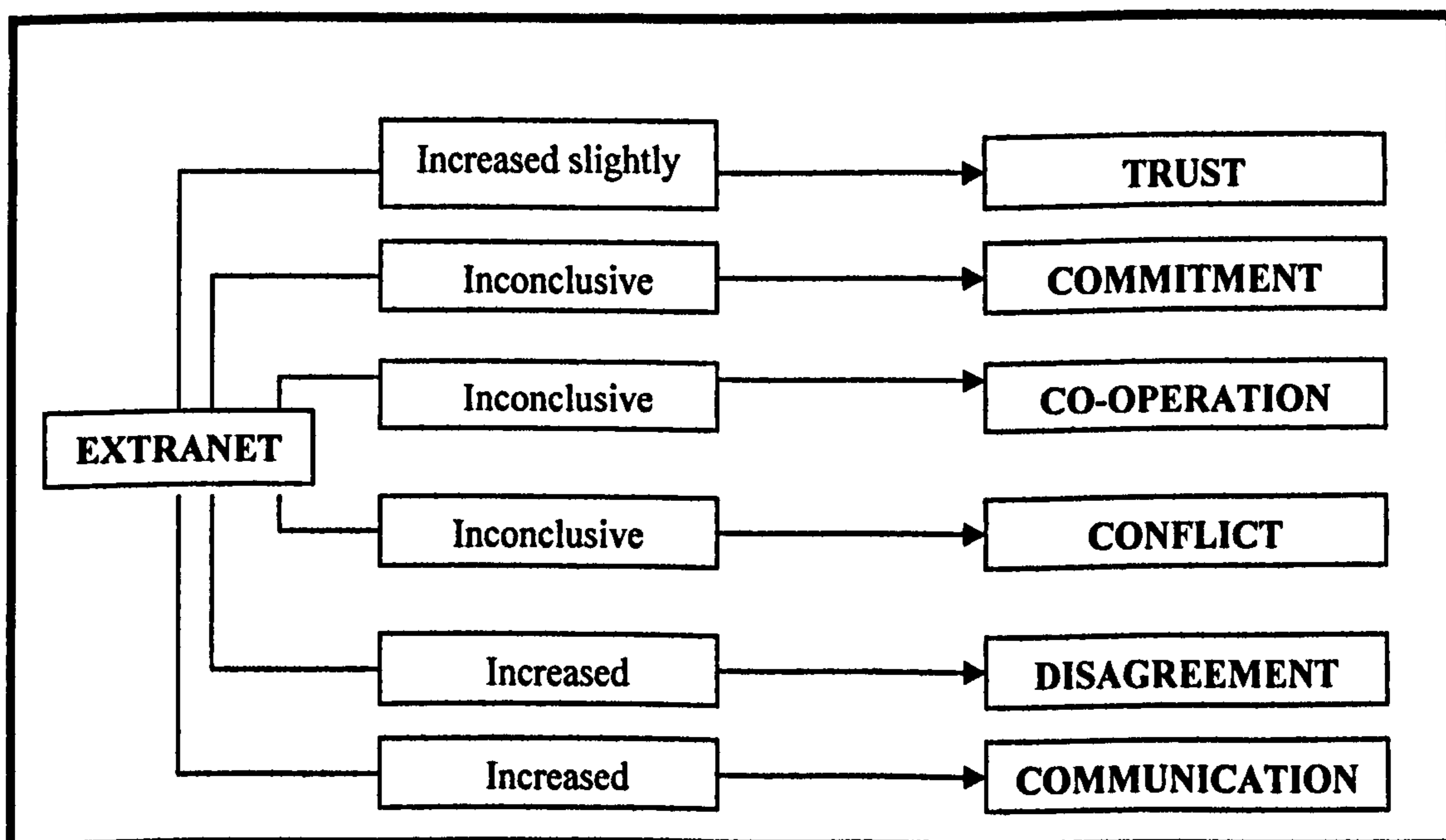
Findings: On average, the IFAs agreed slightly that the extranet increases the quality of their relationship with the insurer. Almost half of them (48%) agreed that the quality of their relationship with the insurer increased after the introduction of the extranet. Nevertheless, 40% were still undecided what impact the extranet had on the quality of their relationship with the insurer.

Conclusion: This research concludes that it is likely that the extranet will have a positive impact of the quality of the Insurer-IFA relationship. This conclusion is supported by the fact that very few IFAs considered the extranet decreased the quality of their relationship with the insurer.

Nevertheless a large proportion of the IFAs were still undecided. This result agrees with the findings regarding the perceived impact of the extranet on trust, commitment, co-operation, communication, conflict, and disagreement. That is, although the IFAs agreed the extranet increased their trust in the insurer and the quality of their communication, they were still undecided whether the extranet increased the Insurer-IFA co-operation and enhanced their commitment to the insurer. In addition, although the majority felt the extranet did not intensify major disagreement, a large proportion of the IFAs was still undecided if the extranet helped decrease channel conflict. Trust, commitment, co-operation, communication, conflict, and disagreement are key attributes of a quality relationship. Accordingly, when asked if the extranet could enhance the quality of the Insurer-IFA relationship, the IFAs' opinions were divided. This research made contributions to knowledge where no prior empirically research existed and so is an *addition to* knowledge about the impact of the extranet on relationship quality. Figure 5.4 illustrates the findings of Research Issues 3.1-3.5.

FIGURE 5.4

The Findings of Research Issues 3.1-3.5



RI 3.6: What are the relationships between the perceived impact of the extranet on communication quality and the perceived impact of the extranet on trust, commitment, co-operation, conflict, disagreement and relationship quality?

The literature: This research issue is concerned with whether the impact of the extranet on communication quality goes in the *same* direction as the impact of the extranet on trust, commitment, co-operation and overall relationship quality, and the *opposite* direction to the impact of the extranet on conflict and disagreement. According to the literature, communication is positively associated with trust, commitment, co-operation, and negatively associated with conflict and disagreement (Anderson and Narus, 1990; Anderson and Weitz, 1992; Mohr and Nevin, 1990). That means when the quality of communication increases, trust, commitment, and co-operation will also increase and conflicts and disagreements will decrease.

Although the literature is very consistent about the associations between the quality of communication and relational constructs mentioned above, it provides very little, if any, understanding about these associations when the extranet is involved. Based on the conceptual framework, this research speculated that the associations between the communication quality and relational constructs (trust, commitment, co-operation, conflict and disagreement) should be the same with or without the involvement of the extranet implementation.

Findings: This research found that that perceived impact of the extranet on communication quality is positively related to the perceived impact of the extranet on trust, commitment, co-operation and relationship quality and negatively related to the perceived impact of the extranet on conflict and disagreement. In addition, the research also found that the perceived impact of the extranet on relationship quality is positively associated with the perceived impact of the extranet on trust, commitment, communication and co-operation and negatively associated with the perceived impact of the extranet on conflicts and disagreement.

Conclusion: This research confirms the literature that communication quality is positively associated with trust, commitment and co-operation and negatively associated with conflict and disagreement. The research also provides new insight into the relationship between the perceived impact of the extranet on communication quality and the perceived impact of the extranet on relational constructs (trust, commitment, co-operation, relationship, conflict, disagreement and overall relationship quality). That is the impact of the extranet on communication quality goes in the same direction as the impact of the extranet on trust, commitment, co-operation and the overall relationship quality. It goes in the opposite direction to the impact of the extranet on conflict and disagreement.

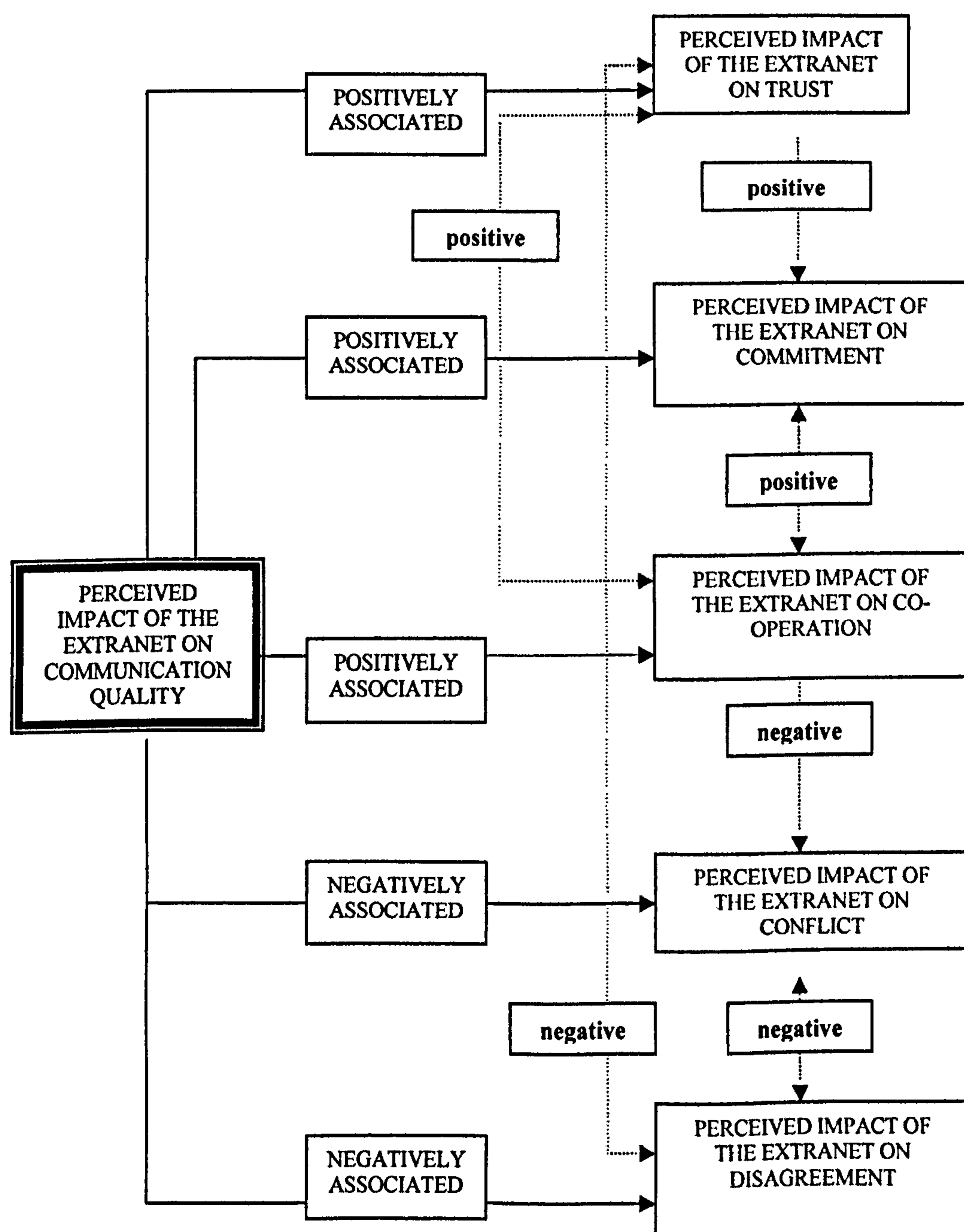
These results provide the insurer with a new insight on how they could achieve their ultimate goal – to improve the quality of communication and enhance their relationship with the IFAs. If the extranet is implemented appropriately and functions effectively, it will improve the quality of communication between the IFA and insurer. The findings suggest that as the quality of communication increases, the IFA's trust and commitment toward the insurer will also increase. Similarly, the co-operation between the insurer and IFA might also be slightly improved and conflict is likely to decrease. Disagreements may also slightly decrease when the quality of communication improves. The overall relationship quality also increases when communication improves. Thus, this research made contributions to knowledge that are both an advance on and an addition to knowledge about the relationship between the impact of the extranet on communication quality and the relational variables. Figure 5.5 illustrates the findings of Research Issue 3.6

RI 4: What are the relationships between the perceived impact of the extranet on relationship quality and the perceived impact of the extranet on trust, commitment, co-operation, conflict, and disagreement?

The literature: The fourth research issue concerns whether the impact of the extranet on relationship quality goes in the *same* direction as the impact

of the extranet on trust, commitment, and co-operation, and the *opposite* direction to the impact of the extranet on conflict and disagreement. According to the literature, trust, commitment, co-operation, conflict and disagreement are key attributes of successful channel relationship (Anderson and Narus, 1990; Anderson and Weitz, 1992; Gultinan et al., 1980; Morgan and Hunt, 1994; Stern and El-Ansary, 1988). This suggests that when the quality of relationship increases, trust, commitment, and co-operation will also increase and conflicts and disagreements will decrease.

FIGURE 5.5
Findings of Research Issue 3.6



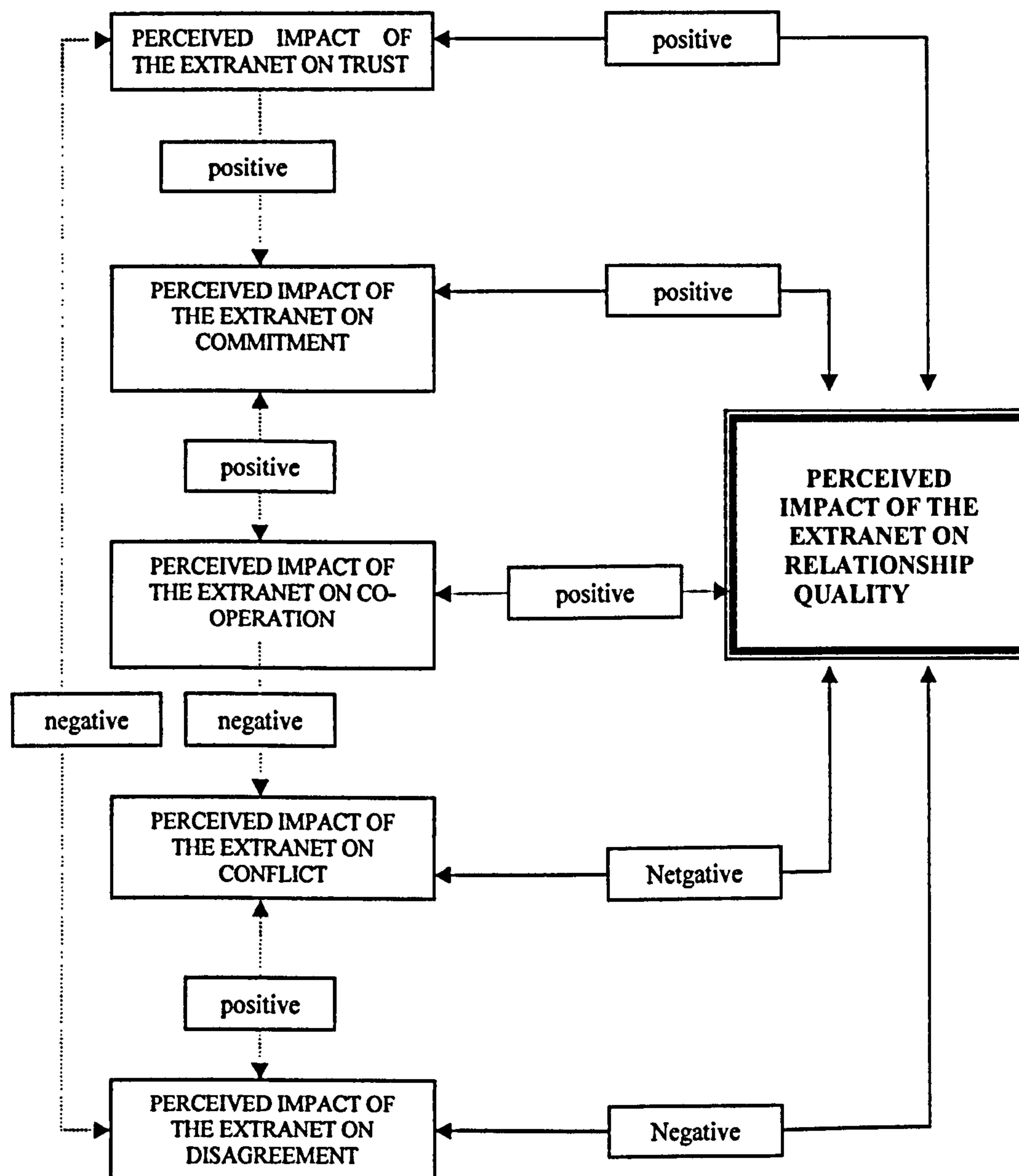
Findings: This research found that the perceived impact of the extranet on relationship quality is *positively* related to the perceived impact of the extranet on trust, commitment, and co-operation and *negatively* related to the perceived impact of the extranet on conflict and disagreement,

Conclusion: This research confirms literature that the relationship quality is positively associated with trust, commitment and co-operation and negatively associated with conflict and disagreement. The research provides new insight into the relationship between the perceived impact of the extranet on relationship quality and the perceived impact of the extranet on relational constructs (trust, commitment, co-operation, relationship, conflict and disagreement). That is, the perceived impact of the extranet on relationship quality goes in the same direction as the perceived impact of the extranet on trust, commitment, and co-operation. It goes in the opposite direction to the perceived impact of the extranet on conflict and disagreement.

Finally, the insurer should be aware that to enhance the quality of their relationship with the IFA, they need to maintain and increase the IFA's trust in, and commitment to them. At the same time, they should also try to facilitate co-operation and effectively solve conflicts between them and the IFA. This research found that the extranet has the potential to help the insurer achieve these goals if it is implemented appropriately and effectively. Thus, this research made contributions to knowledge that are both an advance on and an addition to knowledge about the relationship between the impact of the extranet on relationship and relational variables. Figure 5.6 illustrates the findings of Research Issue 4

FIGURE 5.6

Findings of Research Issue 4



RI 5: Does the impact of the extranet on commitment have the most profound impact on the Insurer-IFA relationship?

The literature: The literature claims that commitment is the highest level of a relationship (Dwyer et al., 1987), or the most developed state in a relationship (Morgan and Hunt, 1997). Importantly, it is also suggested that commitment is essential to successful long-term relationships (Gundlach et al., 1995) including relationships in financial services which is the subject of this research (Moriarty et al., 1983; Perrien and Ricard, 1995).

Findings: The multiple regression suggests the perceived impact of the extranet on commitment is the strongest predictor of relationship quality. In other words, the perceived impact of the extranet on commitment is the most important factor that influences the IFA's perceptions toward the impact of the extranet on the Insurer-IFA relationship. In addition, the perceived impact of the extranet on disagreement appears to have the second strongest effect on the perceived impact of the extranet on relationship quality.

Conclusion: In brief, the research confirms the literature that commitment is the most essential component of a successful relationship in financial services (Moriarty et al., 1993). In addition, it also provides a new insight on how the perceived impact of the extranet on commitment is associated with the perceived impact of the extranet on relationship quality. In other words, the perceived impact of the extranet on commitment appears to have the strongest influence on the IFA's perception of the Insurer-IFA relationship.

Indeed, if insurance companies have enough time and resources to focus on using the extranet to enhance just one relational construct, this research recommends the insurer to focus on commitment because results show it has the strongest effect on the perceived quality of relationship in relation to the implementation of the extranet. However, as a relationship takes time to develop and commitment needs a lot of effort to be enhanced, this research suggests that focusing on using the extranet to decrease disagreement is an alternative. Figure 5.7 illustrates the findings of Research Issue 5 and Figure 5.8 illustrates the findings of research model. The next section discusses the conclusions concerning the research problem.

5.3.2 Conclusions Concerning the Research Problem

The conclusions concerning the five research issues were discussed in Section 5.3.1 and consequently, this section can now resolve the overall research problem

How has the extranet impacted on communication and relationship between the insurer and independent financial advisor (IFA) in the UK?

Sales in the insurance industry are made both direct to the consumer and through independent financial advisors (IFA). When the majority of business is provided by IFAs, it is the case that the insurer needs to develop a strong relationships with them as the influence of the IFAs does have a significant impact on sales in terms of whom the consumer uses for their insurer. As competition increases, many insurance companies have adopted extranet communication as a means to reduce communication cost, facilitate communication, and enhance their relationship with the IFA (Intranet Journal, 2003)

According to the analysis in Chapter 4, the extranet can improve the insurer-IFA communication by facilitating information sharing, speeding up the communication process and increasing accessibility of certain information without causing information overload. Consequently, sales representatives are freed to devote more time to establishing closer relationships with the IFAs.

In addition, almost half of the IFAs (48%) agreed that the extranet can improve the insurer-IFA relationship in general. However, it is still not conclusive if it can increase commitment and co-operation and decrease channel conflict. On average, the IFAs slightly agreed the extranet could increase their trust in the insurer. Finally, the majority agreed the extranet did not intensify major disagreement between them and the insurer. Indeed,

FIGURE 5.7

Findings of Research Issue 5

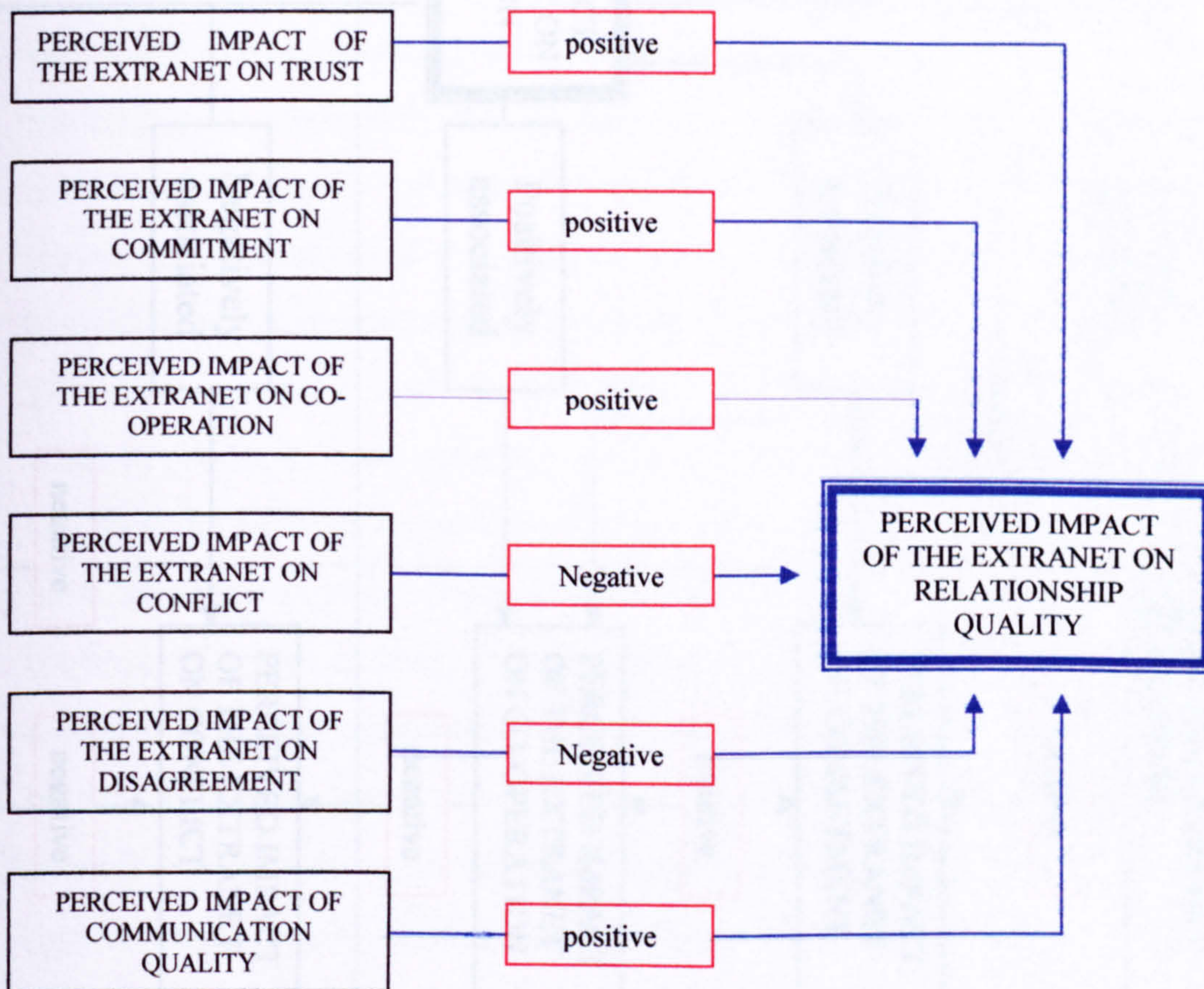
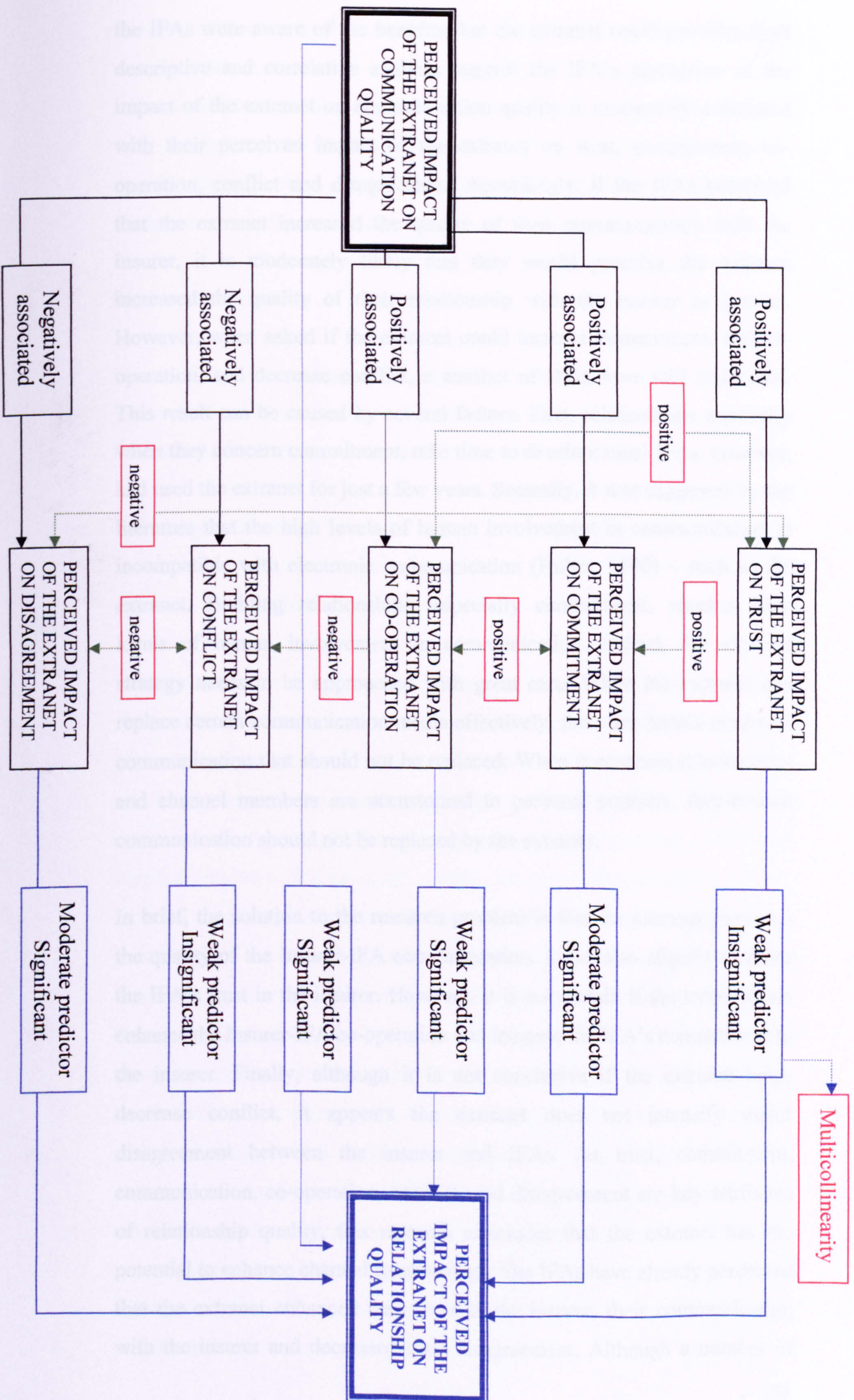


FIGURE 5.8: Findings of Research Model



the IFAs were aware of the benefits that the extranet could provide. Both descriptive and correlative analysis suggest the IFA's perception of the impact of the extranet on communication quality is moderately associated with their perceived impact of the extranet on trust, commitment, co-operation, conflict and disagreement. Accordingly, if the IFAs perceived that the extranet increased the quality of their communication with the insurer, it is moderately likely that they would perceive the extranet increased the quality of their relationship with the insurer in general. However, when asked if the extranet could increase commitment, and co-operation, and decrease conflict, a number of IFAs were still undecided. This result can be caused by several factors. First, relationships especially when they concern commitment, take time to develop; most IFAs, however, had used the extranet for just a few years. Secondly, it was suggested by the literature that the high levels of human involvement in communication is incompatible with electronic communication (Huber, 1990) – such as the extranet. Building relationships, especially commitment, requires high levels of human involvement in communication. Indeed, the extranet strategy needs to be approached with great care. While the extranet can replace certain communication media effectively, there are certain modes of communication that should not be replaced. When it concerns relationships and channel members are accustomed to personal contacts, face-to-face communication should not be replaced by the extranet.

In brief, the solution to the research problem is that the extranet increases the quality of the Insurer-IFA communication. It can also slightly increase the IFA's trust in the insurer. However, it is not certain if the extranet can enhance the Insurer-IFA co-operation and increase the IFA's commitment to the insurer. Finally, although it is not conclusive if the extranet helps decrease conflict, it appears the extranet does not intensify major disagreement between the insurer and IFAs. As trust, commitment, communication, co-operation, conflict, and disagreement are key attributes of relationship quality, this research concludes that the extranet has the potential to enhance channel relationships. The IFAs have already perceived that the extranet enhanced their trust in the insurer, their communication with the insurer and decreased their disagreement. Although a number of

IFAs are still undecided what impact the extranet has on commitment and co-operation, this research concludes it is more likely the extranet will enhance the Insurer-IFA co-operation in the future. In addition, the extranet may also increase the IFA's commitment to the insurer; however, the extent that the extranet enhances the IFA's commitment is not likely to be as much as that of face-to-face communication.

5.4 Implications

The findings from this study have been presented as answers to the three research issues about the research problem. In turn, the implications of these findings for the theories are summarised in this section.

5.4.1 Implications for Theory

Channel communication and extranet

The important role of communication in the development of channel relationships has been well researched (Mohr and Sohi, 1995). Literature, particularly, emphasises that the level of communication is a determinant of relational constructs such as trust (Morgan and Hunt, 1994), commitment (Anderson and Weitz, 1992), co-operation (Anderson and Narus, 1990), and conflict resolution (Stern et al., 1996). However, the emergence of the extranet and its impact on channel communication has hardly been mentioned in the literature (see Vlosky et al., 2000 for exception). This research provides an understanding of the impact of the extranet on IFA-insurer communication, which has not been investigated before. This research confirms that the extranet can increase sharing of information, speed of communication, information accessibility and overall communication quality between insurers and IFAs without causing information overload (See Table 4.8). However, this research also contradicted the literature that the extranet increases two-way communication and encourages insurance companies and IFAs to share information that would not have been shared before the extranet was implemented.

Frequency of communication was also suggested to have an impact on communication quality (Mohr and Sohi, 1995). This research confirms that the more the insurer provides the IFA with timely, accurate, and reliable information over the extranet, the more likely the IFA will perceive that the extranet increases the quality of their communication.

The literature also proposes that the use of various communication media is essential in channel communication. Face-to-face communication, in particular, is best known for its ability to develop social bonds, thereby increasing trust between channel members (Daft and Lengel, 1986). Findings from the exploratory interviews suggest if face-to-face communication is replaced by the extranet, the insurer may suffer the loss of the IFA's trust. Further, the extranet should be used in conjunction with other modes of communication to ensure that trust and commitment can be developed, co-operation can be facilitated, conflicts can be managed effectively, and the overall relationship can be enhanced.

Channel relationship and extranet:

The literature suggests that trust; commitment; communication; co-operation; conflicts and disagreement are key factors in channel relationships. To improve relationships between channel members, these key factors should be managed effectively (Anderson and Weitz, 1992; Gultinan et al., 1980; Morgan and Hunt, 1994; Stern and El-Ansary, 1988)

This research has provided an understanding of the impact of the extranet on a business-to-business service sector. First, it suggests the extranet can, indeed, increase trust despite a lot of speculation about its negative impact on trust. The extranet appears to have the most impact on the perceived reliability of information. In addition the IFA's perception of the insurer's honesty is not likely to be dampened by the introduction of the extranet either. The perceived impact of the extranet on the insurer's credibility and benevolence is still inconclusive. Secondly, it is still inconclusive whether the extranet can enhance the IFAs' commitment to the insurer and the co-operation between them, although over half of the IFAs agreed that the

extranet increased their willingness to maintain the relationship with the insurer. Finally, while it is inconclusive whether the extranet can decrease channel conflict, it is not likely to intensify major disagreement between the insurer and IFAs.

The perceived impact of the extranet on communication quality appears to have a negative and moderate association with the perceived impact of the extranet on conflict and a positive and moderate association with the perceived impact of the extranet on trust, commitment and relationship quality. This research suggests if the insurers successfully use the extranet to enhance the quality of their communication with the IFAs, there is a moderate chance the IFA's trust, commitment, and quality of their relationship will be enhanced at the same time. Indeed, by improving the quality of communication, the insurer is, at the same time, enhancing the quality of their relationship with the IFAs.

This research also confirms that the perceived impact of the extranet on relationship quality is positively related to the perceived impact of the extranet on trust; commitment; co-operation and relationship quality and negatively related to the perceived impact of the extranet on conflicts and disagreement. This research suggests if the insurers aim to use the extranet to improve the quality of their relationship with the IFAs, they have to bear in mind that their extranet will not dampen the IFA's trust, commitment, and co-operation as these variables increase and decrease in the same direction.

In addition, in line with previous studies, this research confirms that trust, commitment, co-operation, communication quality, and disagreement are important attributes for the Insurer-IFA relationship. Most importantly, the perceived impact of the extranet on the IFA's commitment appears to have the most profound impact on the IFA's perception of the impact of the extranet on relationship quality. In other words, it is very important for the insurer to ensure that the extranet will, if not facilitate, provide a platform for commitment to develop. Otherwise, the IFAs are not likely to perceive

the extranet as a business tool that helps them develop a better relationship with the insurer.

5.4.2 Implications for Practice

Insurance Companies

This research has implications for insurance companies in particular. The insurance industry is highly regulated, requiring transactions and communications to be closely tracked and documented. Each activity requires specific procedures and must be rigorously monitored. Companies are looking for ways to streamline their business processes, reduce operational costs and provide better service to their channels. In this highly competitive and dynamic sector, developing strong relationships with independent financial advisors is considered as a building block of competitive advantage. It is believed this will allow companies to differentiate themselves from their competitor (Intranet Journal, 2003). Increasingly, the use of the extranet to facilitate communication and develop stronger relationships has become part of the integrated company strategy. It has been speculated that the extranet can help insurance companies achieve these goals (Intranet Journal, 2003). However, little empirical research has been done to find out whether the extranet can improve communication and relationships between the insurer and IFA (See Vlosky et al., 2000 for exception). Implications for the insurance companies are centred on 3 key areas: communication, relationships, and operations. Each area is now discussed.

Communication

This research confirms that the extranet technology adopted by many UK insurance companies is more than just a computer application. It is, in fact, a communication medium that offers the insurer a unique opportunity to communicate and collaborate more effectively with independent financial service advisors (IFAs). As part of the company's strategy, insurance companies are increasingly using the extranet to exchange vital information

with the IFAs. They are hoping that by making timely and accurate information available to their channels, they can improve the quality of communication. The findings suggest that insurance companies are not far from the track.

Success

- 56% agreed that the extranet increased the quality of their communication with the insurer.
- 74% agreed that the extranet increased the speed of their communication with the insurer.
- 87% agreed that the extranet increased their access to certain information.
- 57% confirmed that the extranet did not cause information overload.
- The majority of the respondents appreciated the quality of the information provided on the extranet:
 - a. 76% agreed it was timely.
 - b. 81% agreed it was accurate.
 - c. 74% agreed it was adequate.
 - d. 70% agreed it was complete.
 - e. 79% agreed it was credible.
 - f. 73% agreed it was regularly updated.
- 59% did not agree that the extranet increases confusion in their communications with the insurer.
- 58% did not agree that the extranet increases problems in their communication with the insurer.
- The majority of the respondents agreed the extranet decreased the use of other communication media.
 - a. 54% agreed the extranet decreased their fax communication with the insurer.

- b. 40% agreed the extranet decreased their courier communication with the insurer.
- c. 44% agreed the extranet decreased their telephone communication with the insurer.
- d. 38% agreed the extranet decreased their face-to-face contacts with the insurer.

Cautions

It is not conclusive if the extranet increases the sharing of information between the insurer and the IFAs. Although over half of the respondents agreed that the extranet could increase the volume and frequency of information exchange between them, 41% were not convinced that the extranet made them and the insurer share information that they did not normally share before the extranet was implemented.

Further, the majority of the IFAs did not agree that the extranet increased two-way communication between them and the insurer. The IFA's perception of the impact of the extranet on information sharing and two-way communication is associated with their perception of the impact of the extranet on some relationship's attributes, such as co-operation. Hence, it is important for the insurer to focus on the use of the extranet to facilitate information sharing and two-way communication between them and the insurer.

Finally, using the extranet to transfer the information – that was previously transferred expensively via other modes of communication – can help the insurers cut down their operational costs. However, the findings from the exploratory interviews suggest that the insurers have to be careful that this does not have a negative impact on their relationship with the IFAs. For example, face-to-face communication is considered crucial for companies to develop social bonds. Replacing this with the extranet may dampen the existing Insurer-IFA relationship.

Recommendations

The insurers are now using the extranet to exchange information that was impossible or inconvenient to do so in the past. They mainly use the extranet to deliver the same information that was previously communicated via other modes of communication. Therefore, the respondents still received the same kind of information but via a different mode and with a different degree of frequency and different amount of volume. The insurers should reflect on what “new” information should be made available to the IFAs. Is there any information that would be beneficial to the IFAs but could not be delivered to the IFAs in the past without increasing the company’s operational costs? Now the insurers have the technology to enable them to transfer a big volume of information with low cost and they should make the best use of it.

In addition, the insurers appear to use the extranet as a one-way communication tool at the moment. The insurer provided the IFAs access to the information stored in their network so that the IFAs could obtain information straight away without contacting them via telephone, fax, or mail which normally takes longer and costs more. The communication is one-way and mostly initiated by the IFAs. Accordingly, although the IFAs felt that they obtained more information than before, they did not necessarily feel that there was more interaction between them and the insurer. The extranet is an interactive communication tool that does not require communicators to be at the same place at the same time. This gives the insurers the flexibility to interact with and be responsive to the IFAs. This research suggests that if the insurers would like to increase the IFA’s perception that the extranet can enhance two-way communication between them, they should try to respond and give feedback to the IFAs over the extranet more frequently.

Finally, the statistical analysis suggests that in the Insurer-IFA relationship where face-to-face is the prevalent form of communication, this should not be substituted for the extranet because the expectation of the IFA will be too high. On the other hand, in companies where methods of communication

other than face-to-face dominate, then replacing face-to-face with the extranet should help the company save costs and improve the overall communication.

Relationships

In the competitive and dynamic insurance marketplace, providing value-added tools that contribute to the success of their channels – independent financial advisors (IFAs) – is crucial to the success of an insurer. Insurers that build stronger relationships with the IFAs may be able to reduce the channel risk and improve the loyalty levels and ultimately their sales performance. The extranet has been introduced to the IFAs to help the insurers achieve this.

Success

- Almost half of the IFAs agreed that the extranet increased the quality of their relationship with the insurer.
- 58% confirmed the extranet did not intensify major agreement between them and the insurer.
- 58% agreed that the extranet increased the reliability of information from the insurer.
- 52% confirmed that the extranet did not increase their suspicion of the insurer.
- 44% agreed that the extranet increased their belief that the insurer was genuinely concerned that their business succeeds.
- On the average, the extranet can increase the IFA's trust slightly.
- 53% agreed that the extranet increased their willingness to maintain the relationship with the insurer indefinitely.
- 41% agreed that the extranet increased their belief that this insurer is very important to them.

Cautions

It is not conclusive whether the extranet can enhance the IFA's commitment to, and their co-operation with, the insurer. Likewise, it is not confirmed if the extranet decreases the Insurer-IFA conflict although the findings suggest that the extranet does not intensify existing disagreement. Further, whilst the extranet appears to have a positive impact on certain aspects of trust – honesty and reliability of information –, it does not seem to enhance the other two aspects – credibility and benevolence –, which are equally essential for trust to exist. In brief, while the positive impact of the extranet on communication is evident, more still needs to be done in terms of using the extranet to enhance the Insurer-IFA relationship. Finally, insurers have to bear in mind that the findings in this research are based on the IFAs' perceptions of the *most helpful* extranet. The IFA's perceptions of the most helpful extranet still reflects certain degrees of doubts concerning its impact on the Insurer-IFA relationships. This research recommends insurers to wait until their extranets can function effectively before introducing it to IFAs. Otherwise, the outcomes may turn out to be a disaster.

Recommendations

Both existing literature and statistical analysis of this research suggest that to improve the quality of their relationship with the IFAs, the insurer needs to make sure that the IFA's trust, commitment, and co-operation are continually nurtured and channel conflict and disagreement are managed effectively. Using the extranet to develop a better relationship with the IFA can only be achieved, if the extranet has an ability to enhance and manage these factors. According to the research findings, it is very unlikely that the extranet will have a negative impact on the Insurer-IFA relationship:

- Only 5% felt that the extranet intensified major disagreements.
- Only 6% felt that the extranet increased their doubt about the insurer's honesty.
- Only 11% felt that the extranet increased their cautiousness when dealing with the insurer.

However, there is still a lot to be done if the insurer aims to use the extranet to enhance their relationship with the IFAs. This research recommends that the insurers should design the communication strategy that will help them enhance the IFAs' trust, commitment and co-operation; and decrease conflict and disagreement. The insurerd need to understand what are key attributes of trust, commitment, co-operation, and conflict and disagreement resolutions. The next question is whether the extranet has a capacity to enhance these attributes. If it does, then replacing other communication media with the extranet is well justified. However, if it does not, the insurer may have to consider implementing their communication strategy differently.

Ideally, this research recommends the company to focus on how the extranet can be implemented to improve the IFA's commitment because it has the strongest impact on the quality of the Insurer-IFA relationship. However, as the IFAs are subject to the strong legislation and the acts of the Financial Services Authority (FSA) to maintain their independence, this may turn out to be a "mission impossible". Practically speaking, this research recommends the insurers to focus on using the extranet to manage their disagreements with the IFAs. Disagreement appears to have the second strongest impact on the Insurer-IFA relationship as perceived by the IFAs. While committing themselves to particular insurance companies may compromise their positions, the IFAs certainly welcome less hassles and disagreements in the distribution channel.

Operations

Success

- 57% agreed that the extranet increased the quality of service from the insurer.
- 60% agreed that the extranet increased the insurer's value to their business.
- 47% agreed that the extranet decreased errors that occur during the order process.

- 72% confirmed it was unlikely that the insurer's extranet WWW pages would have a problem once a week.
- 67% confirmed it was unlikely the extranet main server was down once a month.
- 65% confirmed it was unlikely the insurer's main server was too busy to respond to all requests simultaneously once a day.

Cautions

According to the research findings, very few IFAs are using the extranet on a daily basis:

- 2% used the extranet to obtain general information, sales and marketing materials on a weekly basis.
- 5% used the extranet to obtain quotations and illustration on a daily basis.
- 1% used the extranet on a daily basis to check order status and place orders.
- 0% neither used the extranet to solve conflict and disagreement nor received technical advice.

It should also be noted that 80% of the respondents worked for a small-size firm; therefore, there is a possibility that the respondents did not place much business with the insurer. Accordingly, their infrequent use of the extranet may not signal problems in the communication and relationship between the insurer and IFA.

Recommendations

According to the statistical analysis of this research, the frequency of the extranet use is associated with the perceived impact of the extranet communication quality. In other words, the more frequently the IFAs use the extranet, the more likely they will be convinced that the extranet enhance the quality of their relationship with the insurer.

5.4.3 Further Research

The implications of the research findings for further research are, now, discussed in two areas.

Research Method: Longitudinal Research

When the data was collected (May 2002), 41% of the IFAs had used the extranet for 1 year, 33% 2 years, and 17% less than a year. At that time, the UK insurers extranet was not at the same technological level as that in North America who claimed that their advanced extranet technology had an immense impact on their communication and relationship with their channels. The research recommends a longitudinal study for measuring the change in the IFA's perception after the extranet has been implemented for a longer period of time.

Different Sampling

The research sampling included only the IFAs who were registered on the extranet as at March, 2002. Accordingly, it contains mainly the IFAs who were rather technology-orientated. Future research may want to examine the perceptions of the IFAs from a different sampling frame. In addition, the majority of the IFAs worked for a small-sized firm who hardly had a face-to-face communication with the insurer in the past. Future research may want to explore the perceptions of the IFAs whose past communication with the insurer was more intensive.

Measurement Scales

This research has provided an insight into the impact of the extranet on different relational constructs, which are considered important for a successful relationship. As there are several relational constructs to be measured, this research had to compromise their measurement scales. Future research could explore the impact of the extranet on each relational construct in detail and use a different measurement scale. For example,

trust and commitment variables need to be examined in detail as some literature suggest that they are multi-dimensional variables. Future research could also add other relational constructs to the research model.

Statistical Analysis: LISREL

This research explored the impact of the extranet on communication and relationships between the insurers and IFAs. It has provided a platform where future research in this area can build upon. For those who would like to explore the subject in more details, I recommend them to use multi-dimensional variables. Accordingly, I also recommend them to use LISREL technique which is more suitable for a complex model testing.

5.5 Conclusion

This chapter summarised this research and drew conclusions in relation to research issues and research problem. The implications that the findings of this research may have for theory and practice were examined. Finally, implications for further research were discussed.

In brief, the research problem investigated in this thesis is: How has the extranet impacted on communication and relationship between the insurer and independent financial advisor (IFA) in the UK? This research found that the extranet has a positive impact on the Insurer-IFA communication. Although the extranet appears to have a positive impact on the Insurer-IFA relationship, there are some areas that can be improved if the extranet is implemented effectively and appropriately. For example, the extranet can help the insurer build a strong relationship with the IFA if it has an ability to enhance trust, commitment, co-operation, and decrease conflict and disagreement. To reap the full benefits of the extranet, the insurer needs to understand how the extranet can complement their overall communication strategy. Finally, this research recommends the insurer to focus on how the extranet strategy can help enhance the IFA's commitment as it has the strongest influence on improving the quality of the Insurer-IFA relationship.

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APPENDIX 1

LIST OF THE INTERVIEWEES

NO.	JOB TITLE	CHANNEL ROLE	INDUSTRY	LOCATION
1.	IFA	Distributor	Financial Services	Exeter
2.	IFA	Distributor	Financial Services	Exeter
3.	IFA	Distributor	Financial Services	Exeter
4.	IFA	Distributor	Financial Services	Exeter
5.	IFA	Distributor	Financial Services	Exeter
6.	Manager	Supplier	Office Printing	London
7.	Manager	Supplier	Networking	Surrey
8.	Manager	Supplier	Computer	London
9.	Director	Supplier	Oil and Energy	London
10.	Director	Supplier	Data logger	Surrey

APPENDIX 2
SELECTED MEASUREMENT SCALES

APPENDIX 2.1

SELECTED MEASURE OF COMMUNICATION

APPENDIX 2.1.1

Information Sharing

Vlosky, Fontenot, and Blalock (2000)

	Strongly disagree			Strongly agree	
	1	2	3	4	5
1. My company exchanges more information now with extranet partners than we did before the extranet was developed.					
2. My company shares information with extranet partners that we would not have shared before the extranet was implemented.	1	2	3	4	5
3. My company is more apt to share information with extranet partners/customers.	1	2	3	4	5

APPENDIX 2.1.2

Communication Frequency

Mohr and Sohi (1995)

For each of the following modes, over a typical four-week period, please estimate how frequently you personally communicate with the supplier via:

(Never/ Very frequently)

- Telephone
- Face-to-face meetings
- Courier services
- Traditional mail
- Trade shows
- Seminars
- Extranet
- Other direct dedicated computer linkages

APPENDIX 2.1.3

Two-Way Communication

Fisher, Maltz, and Jaworski (1997)

	Strongly disagree			Strongly agree	
	1	2	3	4	5
1. The engineering contact always responds to my communication.					
2. We have great dialogues.					
3. S/he provides a lot of feedback.					
4. There is a lot of two-way communication between the engineering contact and me.					

APPENDIX 2.1.4

Information Quality

Mohr and Sohi (1995)

To what extent do you feel that your communication with this manufacturer is:
(Semantic Differential)

- Timely/untimely?
- Accurate/inaccurate?
- Adequate/inadequate?
- Complete/incomplete?
- Credible/not credible?

APPENDIX 2.1.5

Information Overload

Roberts and O'Reilly III (1974)

	Strongly disagree					Strongly agree	
	1	2	3	4	5	6	7
1. Do you ever feel that you received more information than you can efficiently use.							

APPENDIX 2.1.6

Impact of the Extranet on Other Communication Media

Please indicate how you feel the extranet impacts on the use of other modes of communication with this insurer.	Significantly Decrease		Stayed the Same		Significantly Increased		
Face-to-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Fax	1	2	3	4	5	6	7
Traditional Mail	1	2	3	4	5	6	7
Seminar	1	2	3	4	5	6	7
Courier Services	1	2	3	4	5	6	7
Other direct dedicated computer linkages	1	2	3	4	5	6	7

APPENDIX 2.2

Selected Measure of Trust

Doney and Cannon (1997)

	Strongly disagree						Strongly agree	
	1	2	3	4	5	6	7	
1. This supplier keeps promises it makes to our firm.	1	2	3	4	5	6	7	
2. This supplier is not always honest with us.	1	2	3	4	5	6	7	
3. We believe the information that this vendor provides us.	1	2	3	4	5	6	7	
4. This supplier is genuinely concerned that our business succeeds.	1	2	3	4	5	6	7	
5. When making important decisions, this supplier considers our welfare as well as its own.	1	2	3	4	5	6	7	
6. We trust this vendor keeps our best interests in mind.	1	2	3	4	5	6	7	
7. We find it necessary to be cautious with this supplier.	1	2	3	4	5	6	7	

APPENDIX 2.3

Selected Measure of Commitment

Morgan and Hunt (1994)

	Strongly disagree					Strongly agree	
	1	2	3	4	5	6	7
1. ...is something we are very committed to.	1	2	3	4	5	6	7
2. ...is something my firm intends to maintain indefinitely.	1	2	3	4	5	6	7
3. ...deserves our firm's maximum effort to maintain.	1	2	3	4	5	6	7
4. ...is something very important to us.	1	2	3	4	5	6	7
5. ...is something of great significance to us.	1	2	3	4	5	6	7
6. ...is something we really care about.	1	2	3	4	5	6	7
7. ...is something that could be like "family".	1	2	3	4	5	6	7

APPENDIX 2.4

Selected Measure of Co-operation

Jap (1999)

	Strongly disagree				Strongly agree		
	1	2	3	4	5	6	7
1. They work on joint projects tailored to their needs.	1	2	3	4	5	6	7
2. They work together to exploit unique opportunities.	1	2	3	4	5	6	7
3. Both companies are always looking for synergistic ways to do business together.	1	2	3	4	5	6	7

APPENDIX 2.5

Selected Measure of Conflict

Kumar, Scheer and Steenkamp (1995)

	Strongly disagree					Strongly agree	
	1	2	3	4	5	6	7
1. A high degree of conflict exists between the supplier	1	2	3	4	5	6	7
2. The supplier and our firm have major disagreement on certain key issues.	1	2	3	4	5	6	7

APPENDIX 2.6

Opportunities and Limitations offered by World Wide Web

Opportunities	Limitations
<ul style="list-style-type: none"> • Internet technologies' facilitation: <i>Intranet and Extranet</i> • Access to commercial research • Competitive intelligence • Customer service: e.g. <i>software download, E-mail, and document access.</i> • Just-in-time inventory planning • The web as a sales channel • Support for channel partners: e.g. <i>source of information</i> • Image enhancement: e.g. <i>branding</i> • Rapid growth • Global Reach • Hardware and software neutrality • Around-the-clock presence • Ability to narrowly target marketing efforts: e.g. <i>password</i> • Cost-effectiveness • Up-to-the-minute information • Linkage • Interactive, multimedia vehicle 	<ul style="list-style-type: none"> • Transmission speed • Site congestion • Lack of organisation • Web culture • Lack of security • Sub-optimal control by information providers • Unwieldy URLs which can be long and unmemorable, impeding Web visits. • Global differences • Skeptical buyers • Resistance to payment for web services • Measurement challenges

Adapted from Evans and King (1999).

APPENDIX 2.7

APPENDIX 2.7.1

Air Transport Association (ATA)

Sharing common information among an association can also illuminate trends or issues that individual members would be unlikely to spot. For example, the Air Transport Association (ATA), the Washington trade organisation for major U.S. airlines, is developing a database on its Extranet to monitor airplane-component reliability and to share maintenance solutions among its members. If, for example, a member airline is having problems with a radio antenna, it can log on to the Extranet to check the database. The search can reveal whether other airlines are having similar problems with the part and whether a fix has been outlined. The database also contains the serial numbers of “rogue components-parts that appear particularly susceptible to trouble-to alert airlines making after-market purchases. It gives all the airlines better information and helps keep poor-quality parts from being sold to unsuspecting customers.

Another big benefit to the ATA should be a decrease in the number of meetings. There are about 100 working groups within the ATA, and the four meeting rooms at ATA headquarters are usually booked solid, Brown says. Now each working group has its own exclusive area on the Extranet, where the ATA hopes they will move toward “virtual meetings.” If so, that should cut the number of meetings that include not only representatives from U.S. airlines but also European and Asian manufacturers and airlines. The aerospace industry has become so global that it becomes inconvenient to hold meetings in Washington. If the Extranet works as they hope, ATA expects to eliminate some meetings and make the rest more productive (Wreden, 1997).

APPENDIX 2.7.2

Gemini Dataloggers

Gemini Dataloggers is a successful manufacturer of dataloggers in the UK. These devices can monitor and capture data profiles of temperature, humidity, shock, wetness, etc. It has over 40 worldwide distributors. The company was attracted to the Internet as a means of supporting end customers of its products and in doing so adding value to the distributors.

The site provided a meaningful dialogue with the end customer and was a superb communication vehicle that lightened the sales process and administration for the distributors. However, Gemini Dataloggers wanted to go further. It couldn't enter the area of e-commerce because this would damage their distribution channel, which was working superbly. Instead, the company invested heavily in creating an Extranet.

Distributors were each given a unique name and password that enabled them to access the Extranet through a log-on screen held within the Internet site. Once into the Extranet, distributors could download the latest versions of software, read launch plan documents and future product specifications. They were provided with direct contact information with key managers within Gemini Dataloggers and actively encouraged to contribute to the Extranet and Internet sites. This created a virtual community of distributors and significantly improved the communication process. The majority of the distributors continue to use this channel as the main communication mechanism with Gemini Dataloggers. Gemini Dataloggers discovered that whilst the Internet site provided improved customer service, the Extranet increases the effectiveness and cost-efficiency of the communication process (Bickerton et al., 1999)

APPENDIX 2.7.3

NN Life Insurance Company

Back to December 1997, nearly all of NN Financial brokers were still accessing information the old-fashioned way. Telephone requests took 15 minutes, fax requests hours, and mailed-in requests- don't even ask. Obviously, it was time to do something. And it was there that defining the objective came into play. The goal was plain: Help partners do their jobs better and gain more of them in the process. Indeed, there was urgency in getting an Internet-based solution deployed, as it would open up NN Financial products to many more partners.

The company adopted specific methods of connecting brokers over the Net. Three benefits immediately came to light. First, the cost of running the network would come down because data could be sent over the Internet rather than a dedicated link. Secondly, administrative costs could drop since there would be no need to install client software manually on each PC. Thirdly, use of a browser meant greater flexibility since users would no longer be tied to a specific workstation or PC.

The time NN Financial takes to process policy requests has dropped to less than a minute-down in some cases from hours. What's more, the network will eventually furnish access for 30 times more partners than the frame relay net could, at one-tenth the cost. And it will pay for itself in less than two-and-a-half years. With 350 brokers now connected to the extranet and its public Web site up and running. NN Financial is already able to compete more effectively. Executives think it will help the company compete in the quickly evolving financial services industry, in which banks are starting to offer life insurance and life insurance companies are beginning to offer financial investment services (Bruno, 1999).

APPENDIX 2.7.4

Porsche and Mazda

About 40% of new-car buyers use the Internet in some way when they purchase a car, which is why most of the E-Business attention in the auto industry has focused on the consumer and retail side. But a growing number of car companies are now working to move their back-end, manufacturer-to-dealer business processes to the Internet. In the next several weeks, the North American operations of Mazda and Porsche are rolling out extranet systems to their dealers. Both auto manufacturers are replacing PC-to-mainframe, batch-processing systems with IP applications that leverage their legacy applications and databases. The goal is simple: easier and faster information. 'You've got to get information to the retail point as quickly as possible... You can't wait 90 days to ship updated CDs or diskettes. The answers should be at the dealers' fingertips.' says John Jacobs, manager of dealer and field systems for Porsche Cars North America Inc. in Atlanta. Porsche plans to roll out the system to all 206 dealers in North America by next spring. Mazda is further along with a similar extranet. It plans to roll out the system to its 764 U.S. dealerships very soon. The key applications are a parts-availability function that queries regional distribution-centre inventories, and a vehicle locator that checks other dealers' fleets for possible trades (Wilder, 1999).

APPENDIX 2.7.5

Safety Insurance

Safety Insurance, one of New England's top auto insurers, plans to use the full suite of Extranet services to give independent agents direct access to its databases and applications. Such access will provide agents with extensive, timely information and a quicker way to process policies and claims. By using the services, agents can contact vendors they regularly do business with – such as auto body shops and rental agencies – right from their laptop or desktop computer. Instant access to businesses they trust means faster and better service for their clients. Safety Insurance will provide this new service to its insurance agents for free as a way of retaining existing agents and attracting new ones.

Giving agents the ability to access the company's database real-time and exchange information with colleagues will also give the company more control over day-to-day functions and enable them to be more responsive to customer (Safety Insurance, 2000).

APPENDIX 2.7.6

Eastman Kodak

A Fortune 100 company, Eastman Kodak is a leader in the world of pictures. The company provides products and services in every imaging field – film, cameras, motion pictures, X-rays, professional photography, copiers, printing, publishing, business imaging, and digital imaging. Eastman Kodak employs more than 80,000 people in more than 150 countries, and earned over \$14 billion in sales in 1999 – a five percent increase over 1998.

The image industry continues to evolve more rapidly than ever. To stay in the lead, Kodak has embraced several strategies, including new partnerships, cost reduction programmes, digitisation, and networking. But it also faced many challenges. Its Internet analysts needed access to Internet server and databases, both on the company's internal network and on partners' networks. Eastman Kodak's business partners needed access to Web servers and database on Eastman Kodak's internal network. Engineers at business partner locations needed a secure way to collaborate with Eastman Kodak's engineers on projects such as digital camera designs.

After the Extranet implementation, Eastman Kodak and its partners can now automatically post product pricing, immediately update product literature, manage inventory, exchange information on jointly developed products, access accounts, and check the status of orders and shipments. Eastman Kodak can save a lot of money and time by making files or material directly available to its partner, so the company does not have to print them out or physically transfer them back and forth (Aventail Corporation, 1999).

APPENDIX 2.7.7

Overlake Hospital

The staff at Overlake Hospital Medical Centre, in Bellevue, Washington, is realising the benefit of its Internet-based Community of Care Network; an Extranet that provides a secure way for doctors affiliated with the hospital to access Overlake's clinical and financial Meditech system. Whether using the Extranet to check on patients who are in the hospital, review information on recently discharged patients, or check on test results ordered for outpatients, Overlake believes that healthcare providers' immediate and secure access to clinical information benefits their patients.

Upcoming final regulations of the Health Insurance and Portability and Accountability Act (HIPAA) are expected to incorporate significant penalties for misuse of unique healthy identifiers and individually identifiable patient information. This matter is on the forefront of issues demanding the attention of administrators and IT departments throughout the healthcare industry.

Because Overlake works with outside physicians, strong security is the primary concern for this Internet-based physician network. Overlake executives also know a system that provides secure connections for doctors to patient records meant providing them with access to the hospital's Meditech system, an exhaustive database with highly sensitive information. Nowadays, the Extranet has been implemented and the doctors who work offsite to access private information without having to worry about security compromises (Aventail Cooperation, 2000).

APPENDIX 2.7.8

AFC Enterprises Inc.

Improving communications between headquarters and franchisees is the core business goal that drives AFC's technology. At the core of AFC's business redesign is an extranet for communicating with and supporting the privately held holding company's 2,700 restaurants. AFC online is the main line of communication with franchisees about the company's latest marketing promotions.

About 75% of all franchisees are linked to the extranet, and the remainder will be wired by the end of summer. Most of AFC's Web infrastructure is running on Microsoft Windows NT and uses Internet Information Server. AFC uses virtual private networking technology to communicate with partners over the Internet. Previously franchisees communicated with AFC via mail and fax, and the holding company sent out field staff to help open new restaurants.

Another by-product of the extranet is the development of a business-support centre to manage the relationship between AFC and its franchisees. Consultants who specialise in helping franchisees open new restaurants work in the centre during business hours to field queries from franchisees. Before the centre was in place, AFC's field force, which managed an average of eight franchise partners at a time, could not keep up with their charges' daily queries and demands. The support application contains all of the contact information business consultants need for managing relationships franchise partners, including text from earlier conversations. Information is stored under categories such as marketing and operations and consultants can keep an inventory of items that might be helpful to specific franchise partners (Sinclair 1998).

APPENDIX 2.7.9

Harley-Davidson

A growing gang of companies like Harley-Davidson see Extranets as a way to streamline communication with their partners. A July 1997 Forrester Research Inc survey of 50 Fortune 1000 network managers found that demand for Extranets was coming from internal business units, such as marketing, as well as from external customers.

Harley-Davidson had been communicating electronically with dealers even before the web rolled into town. Dealers could have two-way electronic communications with Harley-Davidson, sending orders, warranty claims, quarterly financial statements and other information to headquarters over a dial-up connection through CompuServe Inc.'s private network. In 1995, Harley-Davidson began looking at how it might change the way it did business. Its major goal was to find a way to get non-Talon dealers to submit warranty claims electronically. A Web-technology-based system had an immediate appeal to the company. The Extranet offered a way to improve communication with all dealers. Dealer letters, product updates, and key information – all could be made available on the Web.

Harley-Davidson has developed an Extranet, called h-dnet.com, that lets dealers file warranty claims, check recall status and submit financial statement. Soon it will also be used to order parts and accessories. All of these hard-core transactions, previously available only to dealers who used client/server systems that could talk to Harley-Davidson headquarters, can now be done via a Web browser. Dealers can also search for soft data – anything from exploded-view engine diagrams to executive press release – and they can request to have technical service documents faxed to them from their h-dnet connection (Kalin, 1998).

APPENDIX 2.7.10

Baron Capital

A Java based Extranet application has just been launched to let 150 mutual fund companies use the WWW to download decision-support data collected by the San Francisco brokerage. At Baron Capital, the Extranet has cut two to three weeks off the time it took to plow through the monthly printed reports and manually enter data into an Excel spreadsheet.

The Extranet has also been used as a way to avoid printing, and mailing monthly reports on stock trading activity and asset holdings to mutual fund companies that use the brokerage as a sales channel. But more important, it also provide the ability to customise reports and mutual fund mangers can then directly download the information via the Web.

A wider range of data will be made available via the Extranet in a timelier manner. For example, more detailed reports could be created for customers who manage specific types of funds, such as retirement plans. This information will be eventually updated on a real-time basis (Stedman, 1997).

APPENDIX 2.7.11

Hughes Network Systems (HNS)

Hughes Network Systems (HNS) knows the growth problem well. Growth also creates new challenges, that is, the company needs to make its existing channel support more efficient. At Hughes Network Systems, staff used to be inundated with people registering to be distributors or getting information on new promotion plans. The company, therefore, was thinking of providing an Extranet where these people could service themselves. That seemed to be in the company's best interests and the interests of its channel partners.

With its new Extranet site, Hughes can manage relationships with all of its channel partners. The Extranet communicates product and promotional information to channel partners, manages partner-specific program information such as commissions and showroom account status, and captures, tracks and automatically distributes prospective leads to the appropriate VARs based on predefined business rules. Going forward, the company sees the Extranet not only as a means to increase revenues from the channel, but as a springboard for new e-commerce initiatives (CIO, 2001).

APPENDIX 2.7.12

Nautica Apparel, INC.

Nautica, which focuses on men's sportswear, has 200 free-standing stores world-wide, along with a presence in department and speciality stores. The company found itself spending a huge chunk of its time and money making photocopies instead of making clothing or money. In the past, store managers were given about 20 pages worth of specs on each forthcoming design so they could choose which ones they wanted to sell. That meant that all of the information – for each design – had to be colour-copied and shipped off to regional offices, copied again and sent to international offices and then copied yet again and shipped to individual store. Subsequently, a lot of time was being spent standing behind a colour copier for hours or behind a fax machine. It was estimated that 25% of staff time was spent on copying, collating and mailing. Each department had a piece of the copying pie. The worst thing is so many mistakes were made – redundancy, and re-keying.

Nautica Apparel, INC. is now using an Extranet to dig itself out from under a mountain of paperwork. The design data is put into the Web once, and the managers and licensees can access it and make their orders instantly instead of waiting for up to two weeks for the information to arrive in their mailboxes. And now, nearly a year after installing an Extranet to replace an outdated communication system, the paper work is gone, communication is better, and the project has already more than paid for itself (Gaudin, 1998).

APPENDIX 2.7.13

Frischkorn Inc.

Frischkorn Inc., the distributor of industrial pipes, valves, and controls, used to get more mail from [trade association] Affiliated Distributors than they could open in a day, but at the same time, they were still crying for current information about national accounts. Now they can log on to the extranet and see all the latest information about where we stand with national accounts and manufacturers without waiting for a mailing or an E-mail.”

Fischkorn belongs to Affiliated Distributors, a marketing group in Wayne, Pa., that comprises more than 280 independent distributors of electrical and other industrial products. Not long ago the organisation developed A-D Net, an advanced extranet that lets manufacturers and distributors co-ordinate and track sales activities. A-D Net also provides conferencing among top distributor executives, and it offers members current information on group activities. Everyone within a distributor’s organisation can use the extranet for specialised forums or programme review, with information limited on a need-to-know basis. Distributors can also use A-D Net for communications with their own branch offices.

One of the extranet’s biggest benefits is that the distributors now maintain information the association was formerly responsible for keeping up to date. In the past, when a distributor opened a new branch, Frischkorn had to record and distribute that information. Now that all that information is maintained by the distributors and manufacturers themselves, the information is more accurate, and the association is freed up from a lot of work (Wreden, 1999).

APPENDIX 2.8

Purposes of the Extranet Use Boyle and Alwitt (1999)

In the past month, did you use the extranet of this insurer for the following purposes?	Never	Less than Once a Month	Once a Month	2-3 Times a Month	1-3 Times a Month	Daily (Specify)
Gain General Information	1	2	3	4	5	(...../day)
Obtain sales and marketing materials	1	2	3	4	5	(...../day)
See catalogue of products	1	2	3	4	5	(...../day)
Obtain illustrations and quotations	1	2	3	4	5	(...../day)
Place an order	1	2	3	4	5	(...../day)
Check order status	1	2	3	4	5	(...../day)
Resolve problems	1	2	3	4	5	(...../day)
Resolve conflicts	1	2	3	4	5	(...../day)
Received technical advice	1	2	3	4	5	(...../day)
Other.....	1	2	3	4	5	(...../day)

APPENDIX 2.9

Website Quality

Bauer, Grether, and Leach (2002)

	Extremely Likely				Extremely Unlikely		
	1	2	3	4	5	6	7
1. Once a week one of this insurer main extranet WWW pages is under construction.							
2. Once a month this insurer main extranet server is down.							
3. Once a day this insurer main extranet server is too busy to respond to all requests simultaneously.							

APPENDIX 3

APPENDIX 3.1

Interviews' Transcriptions

Transcription 1: Interview with the E-marketing Manager of the Office Printing Company in London

Researcher: We would like to talk to you about what you do, the role of e-commerce within the company, then the link up between the intranet, extranet, and how that's used. The focus is having got that introduction is to move on to the extranet to have a discussion around that... with some of the issues because that's where the PhD is located, around the extranet. Would it be useful to start with you just positioning yourself in the business and what you do and then that will also help us know what we can and what is legitimate to ask you within your territory.

Interviewee: So I'm called the e-marketing manager for XXXX Office Printing Business, Europe. OPB is part of XXXX and sells network printers and some line colour photocopiers and some personal laser printers to businesses, typically not individuals, business-to-business. OPB is a Pan-European organisation. There are many parts of XXXX, so there is actually a country focus. We are Pan-European. Our profit and loss is our European profit and loss and we have OPB, big in this country, reporting to OPB Europe not to XXXX. This is for example. We have a common process, common system and common way of working throughout Europe. Here, in Bournend, we have the European marketing group for OPB which is about 20 people... run by somebody called Keith Collins who is a strategic marketing director for OPB, not for XXXX, for OPB and I report to him. Office Printing Business. E-marketing managers are an interesting title. What it really means is Ahhh, well, one thing I didn't say was that OPB... has a very world-wide approach to sales whereas most parts of XXXX are very country focused. OPB is very global and we have European organisations to interface to America. So part of my job is to make our global OPB web-sites work for Europe so we don't have an office printing Swiss Web-site. We have WWW.com.officeprinting and that's global and multi-lingual. So if you visit it, it will ask you language you want to speak and which country you are from and show you stuff in that language and pricing in that country. The part of my job is to make that public web-site work through Europe and to make sure translation happened, all that sort of thing.

Researcher: Can I ask you how you got into all these, please?

Interviewee: Me, personally? My background, I graduated in Chemistry in 1977. There wasn't really computer science at that time. My research project in my final year in the university involved a bit of chemistry and a bit of computing. I realised that I enjoyed the computing more than chemistry. I was much better at it. So I got a job as the programmer. It was very easy to do that in 1977 because nobody had computer science degree. Anybody who was vaguely numeric and wanted computer work, you get a job in programming. It was really only around that time the computer science started to happen. So I started with like programmer, became Aah few years doing software consultancy and sort of stuff, project development, software development project and then I moved into technical supports for computer manufacture XXXX. I spent 12 years at XXXX, mostly working on pre/post sales support, I became European support manager. Then, I took a job as an IT manager in XXXX. I realised after two years of being an IT manager, it was just an awful job to. It was just too far away from customers. I think managing external customers and working with external customers are interesting and really contribute to business. Managing internal customers is much more stressful. I wanted to get closer to customers, I asked the board and I thought the internet stuff was something interesting so I approached the manager, the colour printer division, the European director, in fact, colour printer division, XXXX, to say I thought you need somebody to do internet for you and I think it should be me. And he said OK. So I moved into colour printer division as Information Programme Manager. Part of the job was the Website and part of it is was sales and marketing process databases and things In fact, XXXX, colour printer division was bought by XXXX in the beginning of last year. So I'm ended up in this team. I got a new job title and sorts of things. Part of my responsibility is still customer databases, databases customers as well as the customer facing things. So that's how I got here.

Researcher: That's a strong technical background.

Interviewee: Oh yes, but I mean, I think all that stuff, all that time in support, we were going customer focus, pre and post sales support but yes, fundamentally I love programming. I love programming but I wouldn't want to do it in IT environment because it's no fun.

Researcher: So then you set up the e-commerce site?

Interviewee: Well, let's come back. So to my job, the public website bit which is about running a marketing website, products and programmes and all sorts of stuff for the public. That's one part. Second part is the extranet. It's my first significant project in 1998 where we didn't have an extranet for partners. We decided we needed one. XXXX America had one and my job is to make it happens in Europe and through OPB style, just putting back in what the American had and making it work for us. So.

Researcher: And was that on the back of an intranet that already existed or..?

Interviewee: We had intranet and I was responsible for that too, the OPB intranet, and it's true that some of the comments, some sites, some of the contents is shared between the intranet and the extranet. It's more the intranet and the words are different on the extranet. When we started the extranet, we were not quite sure what we wanted from it. Well, we knew what we wanted from it, but we weren't sure how to achieve that and what sort of contents to put, we really wanted something special for resellers that public couldn't see.

Researcher: I'm just going say, just before we get on to the extranet, can you say just a little bit about the profile of the resellers?

Interviewee: Yes, it's probably worldwide. So XXXX, OPB, doesn't sell direct. We only sell through our channel partners and predominately, two tier channels. So we sell to distributors who are essentially wholesalers and then they sell to resellers who sell to end-users, businesses. That's very typical in the IT industry. In some organisations, there is no distributors, wholesalers relationship. We do a small amount of direct reseller business. That's by-pass in the industry. But our model is 2 tier and that was a very painful switch to achieve. XXXX did it three years ago, XXXX hasn't really done it until last year, you know, the part of XXXX that we now are working with. So OPB now is almost exclusively 2 tiers. But that's just only OPB, remember. XXXX still has big photocopiers been sold direct. It has InkJet printers been sold through retail. InkJet printers have actually been sold through single channel as OPB products too but XXXX is a multi-channel company and OPB, if you like, is a channel champion within XXXX. So the profile of our channel is that we have distributors, we have resellers of various kinds. Some of whom are closely engaged with us and sell most of our products and some of whom are tactical purchasers, tactical sellers. Some resellers will sell what makes them the most money this week. Some will have a preferred brand and valued supplier relationship. Some will sell what the customers ring up and ask for. The IT channel is very varied. Corporate dealers will typically have few customers which they penetrate a 100%. Every IT purchaser. Some companies go through one reseller who runs the customer relationship. You don't sell to Barclay unless you sell through this guy so you are going to have a partnership with those people. At the other end of the spectrum, there are telephone resellers which typically are catalogue driven. They will, basically, sell anything. It's like paper catalogue entries and then they have taken an order. Very few resellers hold stock, printers. Some will hold stock at suppliers but very few hold stock. Our product range, products in our sort of range, that's sort of prospective, our market is dominated by mono lasers, monochrome laser printers at the moment. Business printing is still predominately mono, still predominately laser. In

the UK, HP has got 65+% of market share. And although we have had 30% market shares of a business core, that's still a small part of the market. So it's very easy for resellers just to sell HP. And when their phone rings, it's usually from somebody wanted to buy HP. So we used to cultivate our own resellers base to build our brand in the market, to help our brand to the market.

Interviewee: Finding a way to encourage that close relationship is important between us and dealers, even though we don't have a direct commercial relationship with dealers and we don't sell them anything, he buys from distributors, it's still important for us to have a relationship with them. Just like end-users in some ways. We don't sell at all to end-users but we do have some people called corporate account manager whose job is demand creation in end-users, make it a bit more complete bids. These bids are still sold through the channel but they work on getting the business. So we don't have a direct commercial relationship with those resellers but do need to stay close to them.

Researcher: So you have got relationship manager to do that.

Interviewee: Yes, and we have the same with resellers. We have territory account managers, reseller account managers, go on doing that ahh, relationship building. Within our reseller base, we have got a brand new programme which is recognition of the resellers who are important to us. Most manufacturers like us have such a thing. I would call the eXtra two programmes, usually based on the eXtra One programme. And there are several categories in that scheme. I will tell you what they are, if you like.

Researcher: So you divide up your resellers?

Interviewee: Yes.

Researcher: And this is what you are saying this process is about?

Interviewee: Yes. This is a corporate reseller and typically someone, like we talked about it before, who sells to Barclay bank or etc. We have five star resellers who are closely engaged with typically an account manager, XXXX nominated account manager. They are in two bits, graphics and business. The colour space, colour market as it gets into things sort of, if you like business cards. People wanted to do power-point and stuff, nice business letters. Any graphic specialist, people got to have the best colour because they are in the graphic industry. They may be graphic designers, may be website producers, people who want colour, you know, the best colour, an exact colour is important and it takes the different types of resellers to sell to them than to the business guys. And we have business 4 star resellers who are obviously not as important to us as business 5 star

resellers. And we have people called SOLUS resellers which are the same as the XXXX concessionaires. XXXX has its channel and you can see the whole of XXXX products which are basically XXXX dedicated resellers who buy different XXXX products from different routes. Some of which, they buy direct from XXXX, some of which they buy through distribution but they only sell only our products. And obviously, they are very good channels for us. But they had traditionally been focused on photocopiers.

Researcher: And quite small, I would have thought.

Interviewee: Actually, they are fairly small companies, typically but they are important to our business, especially in photocopiers and they usually got a dedicated physical territory, moved, valid through the country but they often got a postcode area and they have a very exclusive connected concessionaire for Marlow and Bournend. They are not used to selling OPB star products in some countries but they are becoming more important as the market is moving from photocopiers to printers. They needed to move their business model. So our products are becoming more important to them.

Researcher: Because the technology is coming together, isn't it?

Interviewee: It is. Yes. I mean the latest product we launched; I have got a pack for you.

Researcher: Thank you.

Interviewee: We have just launched something called the DC, the Docu Colour 2006 which is a colour photocopier on the printer, colour photocopier on a network printer. It's not a new idea, now the price point is new and basically six pages a minute for a colour photocopier from a printer which is the same as, the same engine inside as mono graphic printers. It will be used as a kind of special brain at your network and you can print to it or you can photocopy it, use it as a photocopier.

Researcher: How much is it? I realise that it varies between... I just...

Interviewee: I don't know actually, I don't mind that, in fact. It's about 9,000 pounds. That's my guess. So that sort of product will typically be sold through these concessionaires.

Researcher: And what you are describing it is the picture across Europe. It's not just UK, Spanish, or the Italian. That's a European model. So within each country, there are those corporate researches, there are those five stars, there are business four stars and SOLUS. So that is a level that go across?

Interviewee: That's true.

Researcher: That's some sort of triangle. That's the normal business profile with triangle with your top and then you just...

Interviewee: It is. When we do channel marketing programmes, some of them are focused particularly on particular branded dealers and we, like most other manufacturers, we have relay programmes. If you reach your target, you get a chunk of your money back and all that sort of things. Those are typically for 5 star, corporate, and SOLUS only, not for the 4 star guys. Four star guys get the same as all the OPB resellers and they may even get a bag carrying lots of things and they get to a PR website, those sorts of things. But the money is typically focused on the five star. Of course, there are a whole load of resellers who, any resellers can sell our products. Any computer resellers can sell our products, buy them from distribution. They don't need to be XXXX approved. Our approach is to be inclusive. Our extranet is inclusive. Anybody can come. Anybody can get our database, have access to our extranet. They don't need to be branded to see the extranet. They just got to be a reseller.

Researcher: But in terms of building relationship with the channel, how is that done, say, pre- extranet?

Interviewee: How was it done?

Researcher: Well, yes

Interviewee: How do we recruit dealers or?

Researcher: How do you operate the relationship with your channel, say, excluding the extranet?

Interviewee: Let's talk about channel marketing in general, shall we?

Researcher: Can we? That would be helpful.

Interviewee: We sell through distribution and distributors are jealously guarded by the resellers that they sell to and one of the services distributors provide to manufacturers is to send their marketing materials to resellers.

Researcher: Send the vendors marketing materials?

Interviewee: Yes, some of that will be as part of a distributor product announcement which will be mixed, then they will send stuff to resellers which say new products went out.

Researcher: Yes, would you like to pay to come in our brochure.

Interviewee: Yes, well you can also mail, do your mails shop for your dealers, take a bunch of these, right, and then they mail them to their resellers for you. You don't know who they have mailed but they get to the circuit, if you want to mail to any proper people. So that's one way, if you like, of engaging with new dealers, right, that we don't know about today. We, of course, love to get back to dealers and that database includes all the valued ones and any other dealers we know about.

Researcher: These dealers are resellers?

Interviewee: The resellers and the distributors, all in database and they are categorised according to these brands and distributors. And, of course, we do direct marketing to those people too but we do quite a lot with distributors. What we also have is a system called the sales valued system. Most manufacturers have this tool. For free, a distributor will provide a manufacturer with information about what he sold to whom. We sold this product at this price to this dealer, etc. and they charge us a percentage of sales. They send you a file once a week or a month or whatever with all their sales in it and that enables you as a manufacturer to see who buys your products, which resellers buy your products, and put that in your database with stock marketing tool. And you can also work out things like your pay rebates, which is the end percentage of the reseller turnover once you get the five stars, you can do that automatically because you have got all the sales and information. But you know what the distributors sold. So we found out about resellers through the sales valued system.

Researcher: So very strong push and pull strategies going on in terms of your pushing some down the channel, but you are also creating demand to pull it up through the channel.

Interviewee: Well, when we are talking about end-user demand, most of resellers are buying when they got an order, not buying for stock on our products. HP products, are typically bought not sold. When you have got 70% market share, your products will be bought and sold. That's why we need strong engage with dealers to have that dealer selling. So obviously, we are doing channel marketing to engagement with the dealer, we are also doing end-user marketing to generate the pull for them. We talk to most dealers and you would say what do you want from manufacturers, make my phone ring, that's what they would say.

Researcher: Create demand.

Interviewee: Yes, they'll say make my phone ring. So they want the end-user pull. End-user pull is predominantly HP and competitors in that environment,

perhaps, need that too so HP demanding too is a good demand for them and to do that in various ways either by using your brand because the XXXX brand is very strong too but also by having programmes. Buy our printer and dot dot dot.

Researcher: Building the relationship.

Interviewee: Yes, and clearly, when we have got corporate account managers in the big companies, we don't succeed in that by end-user programmes, we mostly succeed in bid attendance, like somebody could be changing their standard printer in the next two years. You make sure that you are on the short list and you make sure you win. That's a bids attended driven business. Most of our sales are, they are quite often met by their resellers about what they buy but it helps a lot for them to appeal to us as a printer vendor. So quite often we do advertising and the.., I will show you what our adverts look like in case you haven't seen them. And we also do a reasonable amount of direct marketing to generate business, mostly to generate links and we'll pass those links to dealers for them follow up. We typically don't qualify links ourselves. We can talk about how we do that, about the programme.

Researcher: It emphasises the importance of the channel to you. Given that the channel influences the decision making of the end-user. So that's quite critical, you know.

Interviewee: Absolutely, you know people talk a lot about switch selling. When the phone rings with the HP enquiry at the reseller, you know either the trick here is to try, for manufacturers who don't have a 70% market share, to have a reseller say 'have you considered dot dot dot because...' They might do that for several reasons. They might do that because it's a better printer or they might do that they will make more money selling that product or because that company is better for them to do business with or that company service is better to the end-user or to the reseller. Switch selling is important especially in a market with a dominant player. So talk a bit about channel marketing. So we market through distributors. We also, whenever we launch products, you know this is product business, we do a channel direct mail to resellers and distributors. Here I have got two samples of a XXXX product last week. If you're going to do it on the database through the branded dealer, one of these guys will get some via the back office.

Interviewee: So this is an A3 laser printer.

Researcher: And would it be the same picture, the same concept going across Europe?

Interviewee: Absolutely, the same mail bag in different languages. So this is a print sample of office printer.

Researcher: Wow.

Interviewee: And our approach too, this is, if you like, a brochure and this is also a print sample and printed business cards. So this is product information including competitive stuff. How we compare with A3 products.

Researcher: Is that technical spec?

Interviewee: Yeaah but

Researcher: Essentially.

Interviewee: Yes, we don't have... in it.

Researcher: No, No.

Interviewee: And this is an end-user oriented brochure which has got some technical stuff on the back. So we do this in many languages.

Interviewee: No, we have a marketing communication to follow up and organise all this stuff. Translation is mostly done externally. The team here is making creative decisions about what picture we are going to have, what content we are going have. And also project managing is approval process of translation. When you do all these languages, from here we are predominantly English only speaking team, you have some interesting task to get this stuff approved because it's a lot of works. I've set up the website, of course, we are doing, we publish the product information in different languages, French, Italian, German, Spanish, British English, Finnish, Danish, Swedish, Norwegian, so nine languages we have, but not Dutch. It seems that Ahhh, no demand for Dutch, apparently because they speak such good English.

Researcher: They do.

Interviewee: The Swedish are very keen to have Swedish but their English is probably as good as Dutch.

Researcher: Probably Dutch like the English. Perhaps the Swedish don't.

Interviewee: Both resellers and dealers get one of these.

Researcher: But that's the communication and marketing support. In terms of the relationship, is that done essentially through people.

Interviewee: For branded dealers, Yes. They have an account manager, for five star dealers, corporate dealers, SOLUS dealers, they have account managers. Not one each but they have a nominated account manager who they can ring up and talk to.

Researcher: It's essentially a relationship manager.

Interviewee: You are absolutely right.

Researcher: But he manages the account?

Interviewee: But he will get involved in helping with this order and stuff. Although we have a corporate account team working on big companies, and bids attended, a lot of these resellers would have the same, they have a telephone order desk but they also have sales people going out, working on what to them is big business. And we support them in that process.

Researcher: Is that quite a big expense, this to relationship.

Interviewee: Yes. I think if you think about UK team which might be twenty strong UK sales team, you know I made up the number to get the feeling here, we probably have five corporate account managers, five six seven reseller managers, two three distributor managers, I suppose. Our process, really, distributor account managers, their job is to selling to distributors. Almost everybody in this business uses distributors as warehouse in organisation but they are buying, selling. They are not just logistic providers. We very much like to go and wait in the quarterly hockey stick, have you heard of that?, or a lot of sales in the last week in the quarter and I would like to get away from that and the only way to do that is to generate lots of pull. But umm most of our manufacturers are still in quarterly push, well, somebody once said to me, somebody from the competitor once said to me, I said 'do you sell direct at all?' and he said 'well, depends on how you look at it' he said 'look at our salesmen, they spend two weeks a quarter, pushing things to the distributors and then they went round to the other side to spend two more weeks pulling things up again. That's also the way American business is run.

Researcher: But this relationship, I presume, is intended to give you a competitive advantage because you build that relationship, because most of your competitors presumably produce these things, and the products have their advantages and disadvantages so XXXX try to differentiate itself by what way?

Interviewee: By the closeness of the relationship, by actually making it more profitable for dealers to sell our products than selling somebody else's products.

Researcher: Not just price?

Interviewee: Not just price but also he is doing business with, the continuity, all that sort of things. It's about relationship as well as about price. Somebody says, we always sell the things that we are doing the best deal on today. One of our competitors in some countries not HP is very good at doing that deal for this month, get a lot of business and have an incredible ...to buy some market share and buy some attentions. That's particular competitors stop doing the deal, buy the market share. It can subsidise that business.

Researcher: But is the market place very price-driven? Or would you say "Not", because companies often match each others' prices although I expect HP gets their percentage of market share because they can do a good deal.

Interviewee: They do set the price, the pricing market to some extent. Well, at XXXX, what's in the market happening today is that there is a big move to colour, most is still made of black and white, smaller amount is on basic colour.

Researcher: But the technology I presume allows the price to come down dramatically.

Interviewee: But XXXX drove that because XXXX was a colour only company and if they drop off the first 1,500 pounds colour laser printer, at a time when everybody else's price was double that, so we in 1988 did a big bang launch where we shook up the market and drove prices down and got....

Researcher: Does the reputation that you established early on still permeate the market place or are there short memories in the market place?

Interviewee: There are short memories. I think that XXXX and the XXXX printer brand is known in the graphics industry very strong and for those of you who read marketing books, there is a book called Crossing the, Have you read it? It's about moving from niche to mainstream and strategies for doing that. We were at niche, colour printing was niche and the colour printer is becoming mainstream and our drive at that time was to move market to colour because that's the only way we would reach. OPB strategy remains colour first. We have a broad range of products. XXXX has a very strong range of black and white printers. XXXX has a very strong range of colour printers. We have a much stronger market share in colour than we do in black and white. It's to our advantage to move the market to colour. Take a logical lead in colour which was very strong in 1998. It's less strong now because some people are caught up in it only marginal rather than being radical. There are price scourges all the time and typically not between HP and the rest. It's typically between the other players.

Researcher: So this relationship that you build up and this has really helped the profile in the market place. Can we go to perhaps towards the extranet or e-commerce. How do you put that technology, the intranet, the extranet, the e-commerce, how does that fit together and then fit in to this? Does that make sense?

Interviewee: Yes, I got that. Just to finish this, please. One of the dealers got this and one of the dealers on our database got this. People not dealers. 10,000 of these and 25,000 of these, there you are, and you notice URL on the back. You can't quite see it on this label but there is a URL, unique URL for this person here saying if you want a pack, come in to visit us and we will send you one. So where do you want to go next?

Researcher: Extranet. That combination of E-commerce , intranet, extranet, just that relationship and perhaps initially to build the company around that.

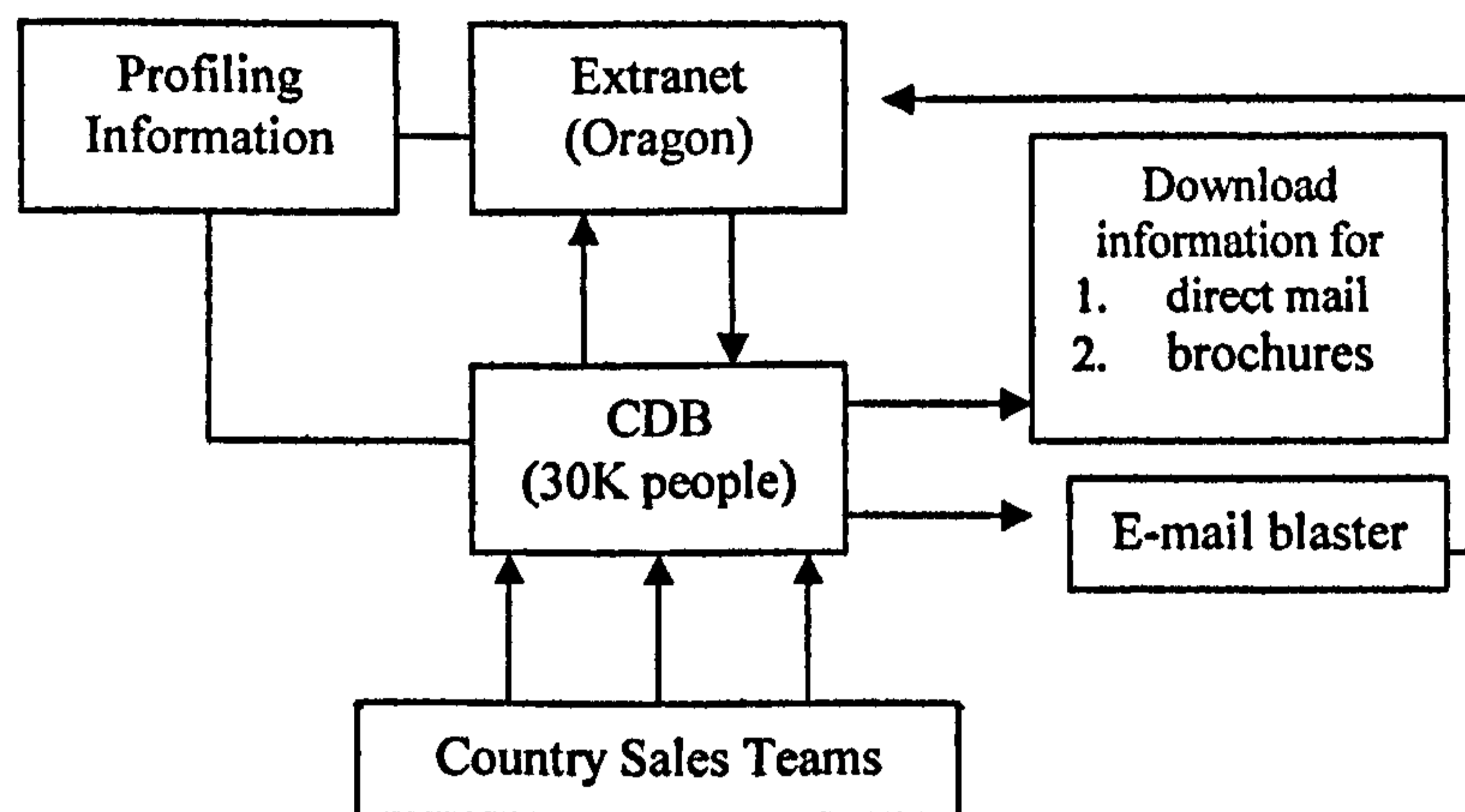
Interviewee: Let's start with E-commerce which will be quite quick. We don't do any. We don't do any today. We've just decided that the time is right for us to start doing that. The difficulty with E-commerce is how does it play with our channel and we haven't decided it yet but the chances are we will do something and will see it as a parallel channel. But as you might imagine the sensitivity of our channel and indeed our sales force to E-commerce are pretty high. So we are not doing it yet. All of our sales are through the channel and we don't have as some of our competitors do the option on our website to place a pseudo order which gets sent to our channel to take as an order. Some of our competitors do that. If I order a XYZ on a Manhattan website, it goes through all the process, and in the end it says "Which dealers would you like to buy it from?"

Researcher: Or you pay him some percentage if it comes out of that area or something like that.

Interviewee: Some companies do that too. But the key thing is who is the order with. Some manufacturers are taking business direct. They are invoicing or their credit card is going to them, they take all the money. Some of them will take an order direct and pay a fee of some sort to a local reseller but some of them will just send the order to the reseller. So you don't get to place an order with the manufacturer, but essentially place the order with the reseller of your choice which you choose from a pull down menu. And you get an invoice in the end. So we are not doing any of that but we will do some of it soon but probably only for suppliers... You might like to visit www.freecolorprinter:america.com and you will see how that works for us in America. Essentially giving the printers away. As long as you sign up for a certain number of supplies. That programme took place in America. We have articulated where we are going, I have a vision for it but I haven't spoken internally. That's E-commerce, we are not doing any

yet but we will do. So who deals with the extranet? Probably first I will explain how it works. That's probably a good place to start. You are not going to read any of this because my writing is terrible, but it might help.

Figure 1



Researcher: Do you specify the information that you really like within the customer database?

Interviewee: Yes.

Researcher: I'm not saying you get it but....

Interviewee: Yes and a lot of that is... never mind that so they want to profile their dealers by product range... And hanging off of that, are some of these who download the spreadsheet of contacts from this database which means it has got quite aah in a format attitude of e-mail. That's available at the central marketing to do the stuff like putting those labels and also for the printer marketing manager in most countries. It is easy for them to do their own stuff. And there is a single email blaster there. What's happening in our channel at the moment is distributors and manufacturers are doing more and more communication electronically in the channel. Look at this type of things, we obviously think we need to do it via the channel. Of course the channel needs direct mail. They say direct mail is a like a tabloid type of newspaper, this sort of things. Here, we have email blasts. So these are done typically by country sales team, country marketing people. They have a tool working from this database which per email or per fax with the text they put in to the contacts in the profile base. So then they say I want to send this to sales and marketing manager in branding, but typically, these people are doing it a-technically. It's about the

promotion we have, very tangible. I have got something to say, and then say it.

Researcher: And is it there a degree of what timing within the countries?

Interviewee: These guys are actually responsible for channel marketing. They have got a lot of money for channel marketing apart from the budget. So they have a channel relationship, they put channel programmes together and promotion and that sort of thing. They have got to communicate programmes through the channel so we have got a tool to be able to do that. We have recently been doing cloning text emails to impress emails with pictures. So that is an important tool for us, ahh, and I... last night... This is really the first time we have done it like this. We did, this is a branded dealer, this is a non-branded dealer, we have got three separate frames. So we decided that we would set to build a good market and get some feedback from your customers. So we did an email blast last night, 5 am, to sales and marketing managers in branded dealers across Europe. Because it was done centrally and we were in hurry, we have chosen to do it in English which is very arrogant Anglo-Saxon, but we did. We sent to 1400 people last night at about 4.30am, prompting people to a website to answer questions. It was one of these pretty ones with a picture in it, click to the website and fill in the survey. 55 responded by 9 o'clock this morning. That's near 3% in 2 working hours.... and the whole thing took 3 hours to finish which is pretty amazing. You would kill for 3% in 3 hours. 3% response in 3 hours...

Researcher: And those 55 came from across Europe?

Interviewee: I haven't checked where they come from yet. My guess would be they'll be from .. some of them are so early they couldn't possibly be from the UK.

Interviewee: My guess would be they would be from northern Europe. So that's the push side of marketing if you like.

Interviewee: Whatever happened here, we have got this extranet. Everyday this system generates the login IDs and passwords for the extranet. This is intranet, and this is extranet. This happens to be hosted here, this happens to be hosted in the market. So everyday, a list of people who are allowed to see this website which fit the Oregon so the extranet moved the login IDs and passwords and some profiling information about all the people in the channel. Everybody in here has access to this. So 8,000 people. Some profile information is made available up here so they can ahhh this system, this website can validate people login IDs and passwords.

Researcher: So this is not just the internal customer database?

Interviewee: Channel database. From here, you can't see who else is on it. It is just used to validate whether you are allowed in. When you do connect, it knows if you are in Finland and you are from a business 5 star reseller and you are a manager. You have got manager level access right. Clearly because I told you the promotions that we run in France are completely different from the one that we run in Italy. So you need to interact with people in Italy and you need to say different things. Likewise some of the promotions that only apply to some categories of dealers so the profiling information is used to show different things to different people, depending who they are. Distributors will also use this extranet but may be they use it for different reasons. Our email blasts include our link to the extranet. And that link is personalised for persons . So when you get an email blast, you can click on a link which has got your login ID and password in it so it takes you straight in and you don't need to remember your ID and password. And doing that it dramatically increases the number of hits you get. So a lot of the traffic to our extranet is driven traffic not spontaneous traffic. So we are doing this thing to get people here all the time. So it is, great offer, \$100 off, bla bla bla, click here for more information, rather than people just visiting because in case there is something there. Distributors probably do visit because of process driven things, for example, in the extranet, one of the things you can do, you download the price list in the excel format to load onto your processing system. I come back to some of the other goodies we are adding onto the side of this, process oriented things. But so resellers prolong only driven traffic, distributors some process oriented things. But it's the same extranet, distributors see different facilities from resellers.

Researcher: But at the moment, the extranet essentially deals with promotional things?

Interviewee: No.

Researcher: Right.

Interviewee: Can I come back to that, I will just finish on process?

Researcher: Yes.

Interviewee: Because we are taking an inclusive approach, we want all the resellers in the world to be in this database because we want to do this to them. So when somebody visits this address, we will ask for the ID and password. If they don't have one and they are dealers, they will be offered the opportunity to enrol, if they want some of technical tricks we use, but if they are from a reseller that we have already got their database, we let them in straightaway. But we give them probational access so we hide promotion from them and we hide pricing from them and that sort of things but we let them in straightaway, so without the passwords we let

them in and it automatically happens to our database. And it is up to somebody in the country to say 'yes, this is the real person, give him proper access'. If his email address is Interviewee.Jackson.HP.com, we probably won't authorise it. New people from existing resellers enter the database automatically and can see most of the stuff. If somebody from the new reseller visits, then he is asked to fill in more information about his reseller and the email goes to these people saying "do you want to let this guy in" and he is notified of his password.

Right, what is on the extranet? *Pricing*, positive or format, downloading the premium price list, ahh view the prices on-line, fed directly from our on-line processing system. Distributors, managers of distributors can see the price they buy at not the recommended retail, not the list price. So managers of distributors see this price, your discount, net price. Everybody else see this price. We can't tell distributors what to sell to the reseller at. We can't publish the reseller's buy price. Stupid like that. So we publish this price. Always available on our extranet are, of course, *promotions*, then our offers, rebates, vouchers. you know that sort of things that everybody does through the channel. Very different by country. This is a facility as part of this system. We don't need to do anything to keep that going. The pricing team updates all the processing system, and everything flow through to here. Promotions are very much driven by the countries and I get that published on their behalf. They send to me and I will get it published

Researcher: If an Italian marketing manager wanted to see what a Spanish marketing manager was doing, could he do that?

Interviewee: Yes, one of things that we have on our intranet is a web page where you can log into the extranet as if you were a distributor manager from Italy, or SOLUS normal person from France...

Researcher: So managers can learn from each other what they are doing.

Interviewee: And part of my role actually is to share best practice.

Researcher: Thank you.

Interviewee: So what I would do is I see that, you know, Italy does an email blast, promotion like this, does an email blast, get a lot of visitors, then I would tell everybody else what happened here and give the Italian guy some credits. Interestingly, Italy has been our most successful extranet site although you know internet uptake goes from north to south of Europe and Spain is last and Finland is first. Italy has proactively driven it. The Italian team in OPB has driven it as a tool and have done more email blasts and publish more information and get most visitors.

Researcher: That's interesting.

Interviewee: Typically actually the same sort of stuff up here. It says why you should sell our products. It is not, this is a good product. It's some stuff about why you should sell it. *Service*, a service is important to us but also for a reseller. We are using it. This is a tool. This is marketing. This is sort of marketing, a bit of a tool. This is marketing, why you should sell our service. Here is a tool to help you develop. Ahh what else do we have normally. Collateral is collateral brochures or by channels, our promotional materials for their customers. So distributors need to, sorry resellers need to have some of the things in here to give to their end-users and we want them to do that. So we need to find the way for them to get it. We use an agency in the UK called Freedom International who works with us on the production of the materials but they also work at it for us. We don't hold warehouses of promotional things.

Researcher: So that's sales support materials.

Interviewee: Sales support materials, yes and we pay them to manage for us a website where resellers put orders for promotional materials. Typically they get it for free. So resellers will order something like 100 of these, 200 of these on this website and then the order goes through the country marketing manager for authorisation. The important thing is that although it's an external website, you can click to it directly from our extranet without any password. So although that's exhausting. I felt it was very important that it was seen as part of the extranet.

Start at the bottom, this is the distributors only stuff. I probably remember some more later. Distributors place orders with us. Resellers don't. So for distributors, it is meaningful for them to do some interaction with our process. So a distributor can go onto the site and show me the status of my orders, my outstanding orders. We will see when they are shipped and when they are scheduled to ship and some more of the history, all that sort of things. So process oriented stuff.

Researcher: So they can tell their resellers when it's likely to be delivered. So that helps them to provide a better service to their reseller which is another argument for saying "let's support your company."

Interviewee: It makes it easier for us to do business. You see there is some procedure documentation for distributors, how to handle the turns, how to place orders, all that sort of stuff. Do you know about EDI? Big distributors have, and want to do EDI ordering with their suppliers. People like Compaq, HP, almost insist you do EDI with them. Do you want to place an order, you can do it with EDI. Big distributors are working to do EDI with them but frankly for most of our distributors, they started with their

biggest supplier, and then go down because it costs a lot to set up an EDI line.

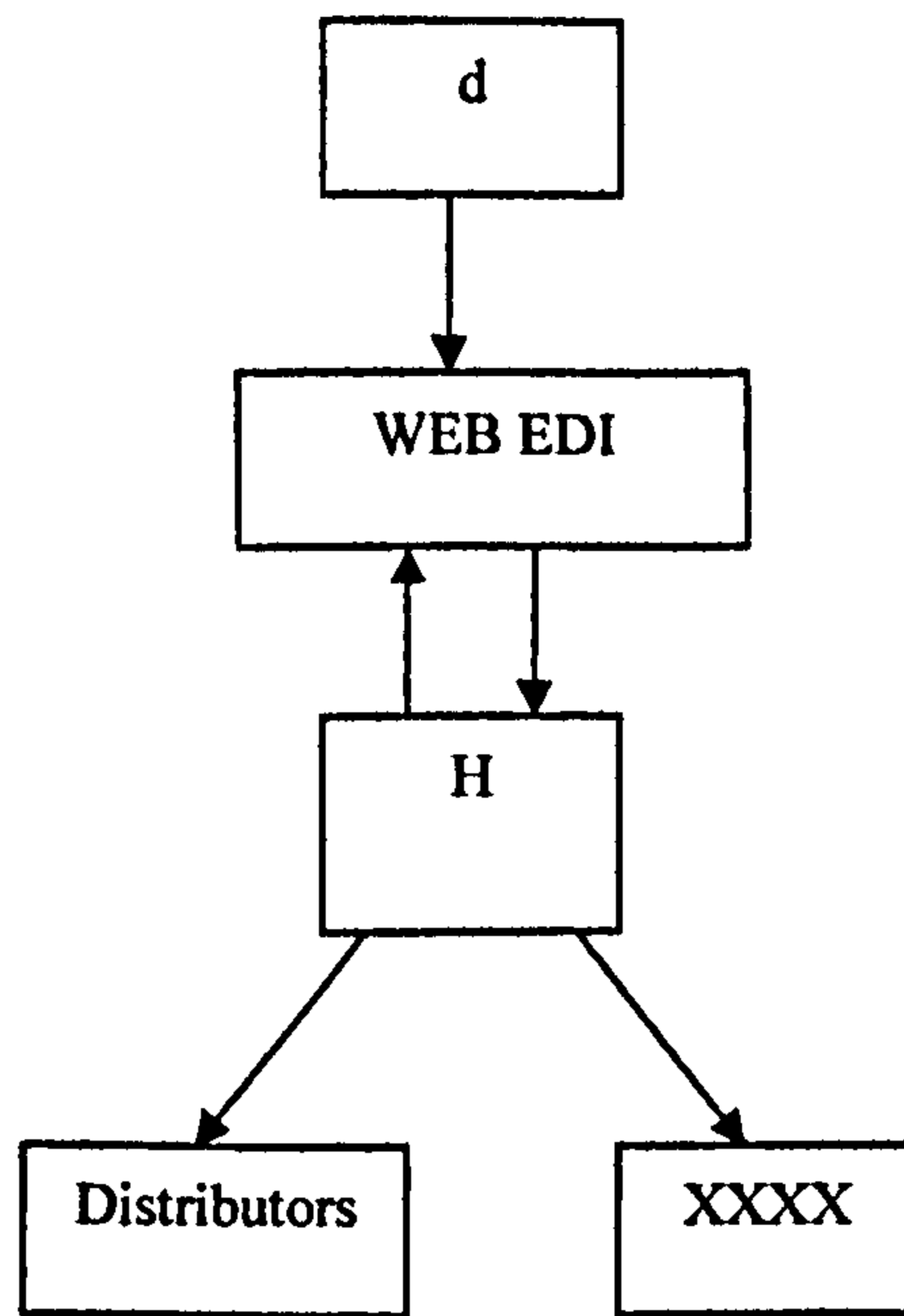
Researcher: Yes, it's expensive.

Interviewee: We are trying to work out which distributor is mutual beneficial to do this with. But they are typically the big guys. In some countries, Eastern Europe is a good example. We will never get the EDI. Their level of business is not there yet and technology will have moved on by that point. So we are doing a scheme whereby...what do we want to do in EDI, we want to cut cost, increase accuracy, and all that sort of things. There is all that cost and process, smoothing the process for us and for distributors. We want to do it because we don't want to queue the orders in. He wants to do it mostly because he doesn't want to queue the orders that come in. He has got a system which is very good at sending faxes to people. Order sheets are sent back here, put onto his system, send manufacturers a fax, then we pick the fax up. We have got a system which is very good at sending faxing order acknowledgement to him so he picks up the acknowledgement and he keys it in. He is about to stop doing faxes and doing it electronically. But some of our distributors, typically smaller ones don't have this level of sophistication. So we have the scheme called web-EDI where there is a website you can place orders on, it is not e-commerce. It is designed for distributors who know our product set and know what they want to order, it doesn't have a shopping cart. You have got to key in your product number that confirms what you are ordering. You key in the price that you know. It's just like a fax that they would send us, but they key into the website and this is out-sourced. The order comes to us as an EDI order. So if you imagine the process which said distributors, XXXX, its EDI messages going like that. (See figure 2) Again, it's our partner called Harbigen. They basically provide the middle way to fit between EDI fax that we are using here and our processing systems.

They also push the website sitting around there which is like that. So smaller distributors can do this. And the interface of the web-EDI system is, again, through the extranet. So distributors will go through there, purchase or order on-line through the web-EDI and hop across to this website, again pre-validated so we don't need another set of password. So you can look at it, as well as being a direct marketing tool here, it is also a portal to other sites and systems especially for distributors.

Researcher: Do you do any training packages down through the...

Figure 2



Interviewee: No. we have thought about it and we should and when we first decided what to do, training was an obvious thing to do and you know if we provide download of all materials, for them to do that, it is not the same. For our concessionaires with XXXX dealers, which are actually not account managed by OPB. There is a big account management team for concessionaires. They are directly managed by them and because they are dedicated to XXXX sales especially, they need special training on most of XXXX products which is done through extranet, through the concessionaire extranet and thing called XVLE, XXXX Virtual Learning Environment.

Researcher: And soon there will be a XXXX university of... E-University, sorry.

Interviewee: And that's XVLE which is for staff and concessionaires. Maybe some of the technologies are recyclable to use for broader partners. When we thought about doing it before, we out-sourced. People are specialist at this, we are not ahh, let's find a partner to do that with us. We help them develop the material and input from outside.

Researcher: I would like to ask about the relationship and how this impacts on the relationship between XXXX and the channel. So trying to pursue that, what impact do you feel that it is having in all its dimensions and we can perhaps explore some of them?

Interviewee: One of the impacts that it's having is obviously receiving more things electronically rather than on paper and quicker. We can decide upon the marketing programme today and execute it today. So when you get into this sort of stuff, you are building in a two week delay, especially for doing it pan-European. So I would have to be very nimble about marketing programmes and executing them and communicating them. I'm also be able to be very reactive to suggestions or criticisms for making the information available and we can probably think and decide something now and do it in half an hour. I don't see the extranet as something separate. I see it very much a link with the email blaster, it is two halves of the same coin, if you like, one is pull and one is push. But often the push direction of the email blast, directs you to the reseller website and it will have a teaser, why you should come to click and visit us. So we can be very fast and actually it's very cheap. It is essentially free. It enable us to do things very quickly, very cheaply, and actually very effectively too. So what we are hoping or our intention is that we can direct our communication to the people who need to know about it and they can act upon it quickly. So it's a special tool for our promotion. Most promotions by their very nature, are short-term and you will find out I think end on certain date which is not unrelated to end of quarter sometimes. It's about achieving a short-term sales and marketing objectives.

Researcher: That's a facility that he gives XXXX. In terms of the relationship, how does it begin to impact on the relationship, you think. Having the extranet available.

Interviewee: That's an interesting question because naturally it's intended to supplement account management and not replace account management for branded dealers. But for unbranded dealers, they don't hear about us by the other way, if they get this, they don't get a visit from our account managers. The electronic stuff is the way we communicate with them. So it's the relationship and it's important that it's written like that.

Researcher: So to your unbranded dealers, as you say, this is the relationship..

Interviewee: Yes.

Researcher: OK. So it gives access to a segment of the market place which previously would have been too expensive to serve.

Interviewee: That's right. Unless you do it through distributors. That costs money and also you don't know it...

Researcher: You don't control it.

- Interviewee:** It's a You don't know who ahhhh yes some segmentation opportunity when you market through distributors, own the market that anybody buys laser printers. That's sort of things you might be able to get.
- Researcher:** So what are the, I just push a little bit, I'm just trying to think of the impact on the relationship that XXXX has with the distributors and resellers.
- Interviewee:** I think it should have ahh it enables the ahh it encourages the closeness because we are always there but I hope for us especially the managed resellers, you get some managed, they get the real contact between the account managers, the management decide how many people get account managers, five star, corporate and distributors. What we hope it does is take the actual contact between us, our people and the resellers and distributors, it gets it away from can I have a price list or can you tell me about the promotion and gets it away from detail and process and alters real commercial interest. So our account managers are not there to say here is a price list for you.
- Researcher:** But that was the reason to visit them, historically.
- Interviewee:** That's an interesting point. You have got to visit them. We haven't talked much about leads but quite often, you know, we send leads to dealers and quite often the excuse to visit a dealer was I have got this pack of leads, here is your leads for this month, but now somebody enquires on our website, goes to dealer update, all done electronically with no human intervention. So the salesman hasn't got his bag of samples in his case to sell.
- Researcher:** He hasn't got a bag of promotion literature to take out, he hasn't got a bag of leads to take out.
- Interviewee:** He can still order the promotional literature on the dealer's behalf and take it there if he wants but by the nature of having this process oriented stuff available at your fingertip, it does force the relationship, the person-to-person relationship hopefully away from the process oriented stuff, not the real commercial issues. How can we work best together on driving our mutual business. What? How can I place this order? How do I get collateral? Where are my sales links? Have you followed up on these links?
- Researcher:** You talk about hopefully, what's happening? Have you had some feedback from the sales side of the business about the extranet and what they feel some of the advantages or some of the issues that have arisen with the channel because of it.

- Interviewee:** What we have had is especially at the distributors side. It's , as we have done more communication to them about the availability of the facilities, then our account managers who happen to do less of that process stuff. It's typical actually, the more sophisticated the distributors, of course, are taking more advantage of it. When we first set it up, I was responsible not just for Europe, but for all of the Middle East, Africa, and Russia, and to start with our extranet was most used by the Middle East, African and Russia because to post anything, it takes ages. One of the things which is also there is downloadable collateral, I forgot to mention that, you can *download any of this stuff* and then medium resolution, it's not something you can print and send to somebody *but you can get the information....*
- Researcher:** But this, sorry, this relationship, so what have the sales people said about this relationship?
- Interviewee:** Their feedback actually, frankly I think not enough of them do enough about what is on the extranet to communicate it well to their partners.
- Researcher:** Because there is the role for the sales force given this exists.
- Interviewee:** Yes, absolutely. Of course there is. But not enough of them know about what, most of our sales force know about what's here and communicate it better if it is through the resellers and to use it as a way of moving on to a sales oriented agenda rather than a process oriented agenda.
- Researcher:** Or business development ...
- Interviewee:** Absolutely right.
- Researcher:** Relationship.
- Interviewee:** Yes, absolutely right.
- Researcher:** So there is a job to be done internally to educate the sales force about the changing nature of what this brain drives.
- Interviewee:** That's right.
- Researcher:** What is the channel saying about the relationship, apart from do we need to see your sales people as much.
- Interviewee:** They will always say they need to see your sales people more because they want more support. Any reseller to whom is sold will try to extract as much help from manufacturer's account. We just would, wouldn't you? Your job is to get as much business with us, as left, as possible so you can move on to the next one so any reseller who has got opportunity to sell our

kit will try to get as much resource out of us as possible and why do so? It's our job, it's our manufacturers pro-active to say 'this much and no more, Can I help you more, Do you want this' So it's a commercial decision about how much to get involved in nitty-gritty of resellers business or in guiding particular parts of the business. Yes, to take the business development role or to actually get involved tactically in sales and we do both of that.

Researcher: Do you think the co-operation between XXXX and its channel has changed at all?

Interviewee: The nature of our relationship has changed a lot but that's not necessary because of the extranet, partly it's because a lot of resellers who were buying directly from XXXX, ain't fewer then there are now, so they are told that they don't have any account managers anymore. They don't actually deal with anybody at XXXX. They get our email blast. They put their orders through their distributors when at least before they talked to us person-to-person. And in many ways, that's positive for resellers because they were buying lots and lots of stuff from the distributors anyway.

Researcher: So what does the channel say about the changing relationship, perhaps what the extranet is bringing to them?

Interviewee: When you talk to channel about the extranet, feedback is always very positive.

Researcher: What did they say?

Interviewee: It's available and up to date, you know, promotional information is there and all this stuff which you know pricing is always there. They always know they can get a data sheet from there. They don't have to call somebody and wait for it to be posted, they can always get it.

Researcher: And do they trust that information sitting on the extranet?

Interviewee: Yes, they do. That's typically when you ask somebody about it, and we typically get to ask the dealers whom we have our relationship with the more branded more closely managed ones.

Researcher: Well, the research suggests that the extranet is having an impact on vendor-channel relationships and that's what the PhD is to look at. What sort of impact that it's having particularly in relation to some constructs of relationships which are trust, commitment, co-operation, and conflict. So it seems to be impacting on some of these sorts of relationship criteria so some simple statements.

Interviewee: I feel, if you like, the minimum criteria for an extranet to be successful are about making information needed to be kept, the information that you need as a reseller to help you do your business. It's about availability of information and that's not just product specs because that's on the public website. It's reseller purposed information. That's a minimum criteria, I think. But that I think it's a fairly negative way of looking at it from manufacturer's point of view. It's only when a manufacturer starts to have real time lead, promotional information and treat it as a key marketing tool that it comes into its own.. Having information available can save the reseller having to call and save the manufacturer having to answer but that doesn't win and that's all and that's always there.

Researcher: But it's about servicing the relationship and if you service the relationship better, it changes the relationship and also has an impact on the sales side in terms of the nature of what as you have already said what they what they should and shouldn't do in interaction because it changes their role because whether to go there, as you said, with the lead and new promotional things we are doing this..,they have got a story. In a sense, the story is already presented via the extranet. So their reason to visit now , they can say right, you have got all this, let's talk about our future business relationship and..but I am not sure they are there yet.

Interviewee: I think that's a maturity thing, I think, in the sales force, indirect sales. Mind it, fundamentally difficult thing to do. It seems to be much easier to go and sell our printer than to go and persuade somebody to sell our printer. Because, maybe it's a bit like being in IT. You will have to succeed through somebody else and it is very much relationship based. Channel sales has to be relationship based. Entirely, the effect of whatever information, whether it is printed, or whether it is on extranet has on that relationship. There is bound to be some and maybe there is something that manufacturers don't take enough notice of. How does this change a relationship. Many people say, OK we got to have an extranet because everybody else has got one, and we may well have said that in the past, you know. And to take the minimum success criteria, of making information available, that's actually putting into....it's making timely pro-active information available

Researcher: And it's maximising the usefulness of having an extranet as a channel of communication. But it probably knocks on internally as well, as you have already said.

Interviewee: But I will come back to saying that the email blast incapability which I see in link, we can do most of that just via email blast, just the push and clearly we will have more information available on the extranet and we could email blast to people and it may help people who get an email, they always know they are going to get the information on the extranet. But it

is important to be able to push information quickly so that people who need to know... and so it's more a case of electronic communication with the channel rather than the extranet on its own, I think. Our statistics shows that you have just seen one email blast by in terms of traffic to our reseller sites.

Researcher: But you also power the channel because they can choose what they do and don't want.

Interviewee: Yes, absolutely right.

Researcher: So you are not forcing it so much as empowering them and that leads to different relationships, doesn't it.

Interviewee: Yes, Yes, although you know things like email blasts through the channel, yes all manufacturers are doing them, most manufacturers are doing them. Some of them are more focused than others, some are doing, you get your weekly announcement-general.com which is a consumer thing which is very pretty and it always has an offer on it. You do get one every week-end. You stop reading them after a while because they are annoying. Our approach to most countries has been we will send them one when we have got something to say but we actually probably haven't had much consistency, format or style. If you were sending the hardcopy piece, you develop a house style and you use it all the time whereas plain text email, they are difficult to get a style across without moving to a more good looking view of that stuff and using formatted email rather than unformatted email and try to build in to that process, the integration between email and the reseller side

Researcher: That's an important integration, I would guess.

Interviewee: I think so. Importantly because one of the things I measured was our traffic to the reseller websites so I'm keen that it should happen. And that has all to do with pretty emails. We do product launch, do an email blast of our product launch, of course, for the first time, we did it as an HTML formatted email with pictures and that has shown like a 50% increase a the last product launch.

Researcher: So you are learning all the time.

Interviewee: Absolutely.

Researcher: We are also running out of time which I'm very conscious of but just with this. The basic principle, the extranet communication has an impact on these particular variables which then impact on the relationship. When you were saying, Oh I don't think much has been done on this, having scanned

the literature and this is the review of the literature, the literature essentially looks at this sort of variables. What it doesn't look at is the relationship between vendors and channel because the relationship is not done. There is nothing, there is nobody looking at it and yet we believe it's very significant and it will be increasingly significant in the future so that's just lots of references.

Interviewee: OK.

Researcher: You have been incredibly helpful, incredibly helpful. You are ahead of many other people in many ways. Is that because of the link-up with the America? Or the fact that you have been given a degree of freedom to get on with it and therefore to have that control and autonomy that not everybody is having at companies.

Interviewee: It's partly because we are integrated with America and if you like the technical infrastructure for the extranet existed and all we have to do in Europe was to clone it, using the same server, all that sort of stuff. The start-up cost was very low and the maintenance cost, you know, were actually very low too. There are a lot of tools there, there are commercial stuff making a piece of collateral available for dealers by the resellers. It is not done by me, they are done by the marketing team. They just use the system to upload it so it's cheap to do it and that is the infrastructure built by America not by here. The channel database stuff which is at the bottom of the thing that is the European thing which we build. An email blast is a European thing that we built. In some cases, we seem to be ahead of our American colleagues there. It is important for me personally for us to be. I have got two bosses really, I have got Keith Collins who is the marketing director here and I have Dustin Line who is the Internet Marketing Manager in America. I get to go to his staff meeting at 6 o'clock on Thursday night by phone and he sees me quite ahh just as another part of his team which happens to be in Europe. And I think we are very different in, from a cultural point of view, like in many companies sitting in the rest of XXXX, it's the only part of XXXX which is really working globally like that. So I, not only am I recycling what they do, but I'm part of the team which decides what we do and why so I can say I think the date now, I think we should build our product catalogue to enable us to send files to e-marketplaces. I believe that when I need to send files in a format designed by the marketplace, not by us, the people who are selling our products and we need to be able to get what to do that. So my idea, my initiative emerges in America by the American team. I choose only one example, they needed three examples. Of course, if we start like that, you start with fundamentally global, multi-lingual, multi-currency approach. I think many companies suffer from the doing American, having to start again for Europe. Or because we have got a single currency, single language, starting global is something I think XXXX was very good at. So

a lot of these things, we have got for free or at minimum cost. And with typically the latest from America with the lesson the American learnt, so yes probably why we have been able to do things quickly and cheaply.

Researcher: How long has the extranet been going?

Interviewee: 1998

Researcher: It seems to be the way the business particularly business-to-business is going to be conducted.

Interviewee: People are saying the extranet will be important in the rest of XXXX. It focuses on end-user extranet. Should I put it down? It's so interesting. E-commerce picture. (see Figure 3)

End of Tape 1

Figure 3

		Seller	
		One	Many
Buyer	One	EXTRANET	E-Procurement
	Many	E-Commerce	E-Marketplace E-Tailor

Tape 2

Interviewee: Many to many and they are buying from manufacturers and selling onto the end-users. Also in this space, E-marketplace. It's coming like the leader. E-marketplaces are not traders. They are taking commissions. They are enabling a trade between the buyers and sellers.

Researcher: They are, aren't they?

Interviewee: They are not buying or selling typically. They are taking a commission from manufacturers. I like to use that word, an E-Tailor in E-marketplace.

These guys are buying and selling while these guys are taking commission from manufacturers.

One seller and many buyers: E-commerce. I have got a website, anybody can come. One buyer but many sellers: E-procurement. I have a site. If you want to sell for me, you populate my site.

Researcher: The motor car industry has combined, hasn't it? To have a very sophisticated site and people contend to supply to them.

Interviewee: Yes, and a lot of those, a lot of marketplaces are going up too. For example, there is a steeling industry marketplace. Because the good traders in steeling industry are very specialised. There are a limited number of suppliers and there are a limited number of purchasers. That's an E-marketplace which is..... to business to bring that two together. E-marketplace is what people would think as a perfect economic market because everybody participates in that marketplace ...of all of the suppliers, products, prices, services.

Researcher: Theoretically.

Interviewee: Theoretically. So this is what the economics has been dreaming up in the net. Up here is one buyer and one seller: Extranet. In the Extranet, I have a site for you and your site. Dell are master of this. Although anybody can go to Dell E-Commerce sites, buy 100 computers. If you have a corporate purchasing agreement with Dell, you will have your own Extranet. You will go on to the Dell site for you as a company and you place your order at your negotiated price. And that Extranet can just show, for example, the configuration that your company has approved. So this is an E-commerce model.

Researcher: To say this, when you start putting business-to-business and business-to-consumer, business-to-consumer is usually one-to-many, many-to-many, but business-to-business is one-to-one, isn't it and one-to-many, I think.

Interviewee: You can see us doing our EDI. Could be, you know, Extranet, one-to-one, just for you. E-Procurement, by XXXX system, E-Procurement, we only buy office products in the UK from whom.., we have got our own procurement system and the payment here are very wavy too because these people in the marketplace buyers are technology providers. They provide the software to make that possible. They also run in the marketplaces. And as well as running a marketplace, a general marketplace like a steel industry marketplace, they can run the.....marketplace, the ...procurement side. So whether XXXX decides to do..., you can get provided, we can do it for you. So it's a one buyer-many seller's market places.

Researcher: It's interesting, isn't it? As you say, you can have wavy line as well because umm, try to, you can always find exceptions as well but I think with most frameworks, they give you that chance of thinking in that..

Interviewee: This is a purchasing driven organisation. As a seller, we don't want to be there. As a buyer, that's where we want to be.

Researcher: And that depends on the product as well, I guess so maybe some bits of your organisation which could be much more E-Commerce.

Interviewee: Yes, I think for SOHO, for example, they will be down here because this is more consumer.... I want to buy printers for 100 dollars...or maybe I'll do it here if I get a good price or here who has ink jet printers for 100 dollars...they are not cheap...and you know. It is about making sure that when we have to do this, we are in the position to provide most of the product subscriptions which is much more sophisticated than that you can say if my... why you should buy my printer.

Researcher: That's interesting.

Transcription 2: Interview with the Manager of the Networking Company in Surrey

Researcher: Can you give me some background information about your company?

Interviewee: Yes, we are a fairly young company. We started in 1997. We have set up the company to deliver Internet and Extranet solutions to basically the IBM middle range customers. So while people have their business information held on an AS/400 business system, we talk to those clients about gaining an access to their information over the Internet, web-enabling application but rather than sort of screen scrapping type application or emulated type application, this is a purely using Internet technology so real-time information to deliver. It's all dynamic but it's secured because you know that you should sign in before accessing the data on the machine. We deliver solutions crossing industry. We are quite a small company. There are about 20 of us in the company. Really, everything we do is focusing on the web. So we are quite different from some the other IBM business partners that focuses maybe on the hardware solutions and sort of legacy type applications. We are very much quite forward thinking. Everything we do is based online. The type of work we do is predominantly business-to-business. So to give you sort of a typical customer, we would probably have a distribution customer who has back office system that has got inventory, stock control, tracking management all on that system, works quite happily internally but if they want to give that information out to suppliers or customers, they will typically have to phone in or fax the information to them. It is a manual process so they talk to us about how they can provide access to that information securely over the world wide web.

Researcher: How do you define extranets?

Interviewee: We would define extranets as something that gives access to a core group of people. It doesn't necessarily have to be suppliers. While the Intranet is giving information to people within the same company so it's nice and simple. You may have different dispersed sites, remote sites but you all effectively work for that company A. We define the extranet as company A trades with company B either to buy stock or maybe sell them stock and they want to give the information they have got on their system to company B but they don't want to give it to company C or D. So we define it differently. I wouldn't really say.. We did some E-commerce track site and you still need to register to use that site but they are open to everyone so I would define that as an purely Internet site because you need the register to track the user. You don't know who they are; you are open to anyone and let anyone see that information. So it very much that the extranet is probably a widening of intranet and it's not just a company

thing. You may link it to your core business, supplier but you know who is going to be coming in. For us, it's an easier type of solution because when we are writing a web application, you know the differences that you have a browser, the type of software they have got and is it going to match. Sometimes you present something great in sort of Internet Explorer but then when you try to present it in Netscape, you find that security won't work. So with an extranet, we feel that the difference there between extranet and internet site is that you can place some restrictions on the user so you can say to your customer or suppliers that I'm going to let you use my site but I want you to access with this type of browser, or I want you to use this type of security. We feel that you can't place this kind of restrictions on general web site. You have some kind of parameters that you can build the site around. In a way, you know your audience and it makes things a lot easier. Another thing that you can do with an extranet type site is probably providing the reflection of your business data so probably these are people who you trade on a day-to-day basis. So when you open up an application with them over an extranet, you can still be quite technical and in-depth with the information you provide them because they are used to trading and using the same technology as you but on the web when you open up a public web site, it is completely different because you don't know who is going to come in and suddenly you have got to reveal all your information and say, hang on, I may understand this on the call centre when I'm talking to a customer, but would they understand it if we just push that information out to them with no way to talk them through it. So that another thing as well that you have to be a lot more careful about language you use.

Researcher: What are the main concerns of your clients who like to have the extranet?

Interviewee: Security, because we are dealing with the AS/400 middle range people. These are not people that run their businesses on their PCs or small scale development. To give you an idea, 70% of the time top 100 companies use AS/400 so these are quite large companies, traditional and conservative. They are quite worried. They have been running their business on this platform and it runs quite happily away from the web. What they are very worried about is, well, two things really. Opening up access across extranets and having people damage the company's information, get access to it and somehow leave the information. I think the second worry is that they will give the user too much information. I can give you an example; we deal with a games distributor, very large games distributor and the official distributor for Sony play station and they wanted to give their retailers access to their back order catalogue so they can see how much stock is in the warehouse and the first problem they can see was when they are on the telephone and someone rings up, they can say yes it's either in stock or it's not but they do have on their own system a whole

number thing, a number system which will tell you how much of each item is in stock and so we immediately say if you want to, we can web enable that and you can see all the levels across the extranet and then immediately alarm bells ring and they said No because what happens is the large retailer sees how much is in stock and they buy it all and the small retailers, then, don't get any stock and they start complaining. So you start to realise that when you are actually going to deliver the information, you have to be very careful about how much access you are going to give people so in that case what we have done is a colour coded system so it has a green in stock or red out of stock. Usually we see in layer and what you have is a client who says 'look I want to give people this information, I want them to see what I have got but I don't want to may my whole business transparent, I don't want them to see, for example, we are down in sales'. So what we are trying to do is layer the security. You also find that we have got a system for a very large aluminium company which is based in Norway and have got a site here, a very huge company. They wanted two levels of access. They wanted the generic web site. They, then, wanted a password-protected extranet link and they wanted one area of the extranet to be for suppliers and they wanted the other half to be for customers. When you sign in with the password and profile, it will know who you are and it will display you different information. So if you are a supplier, you want to see when you orders are coming in. You will see whether something is on back order, whether it's late in delivery but a customer A) doesn't need to see all that, B) they don't want the customer to see that they are behind on delivering or something is wrong.

Researcher: Do different users see different information over the extranet?

Interviewee: Oh Yes, absolutely. One of the most common scenarios for us is pricing information. If you have a lot of customers who are on different discount schemes so you may have a very loyal customer that you give very low prices. You do not want that customer to be able to see customer B's prices. So yes, you have got layers so you go down even further. Usually, how we do it is with a password and a sign on a profile and maybe an account name. From an account name, it is very intelligent, it can come back with a company logo, hello company B, you bought this last time and it will bring back that company pricing. It won't let you bring anyone else's back.

Researcher: What is the most common scenario for suppliers or distributors?

Interviewee: You may have a relationship with a supplier where you put a certain number of orders with them and they give you a discount and what you don't want to find is that another supplier can go in and perhaps see what work the supplier down the road has got. So yes, it can be a whole minefield. When we talk to our client we want to raise their awareness to the security but not to frighten them because it is possible to do and once you secure it properly, it can be done but you need to make people aware that there are issues. You are opening up your information to much wider audience.

Researcher: Are there any other concerns apart from security?

Interviewee: Running the extranet is also the major concern of our clients. Because it is quite interactive and because it is dynamic because you gain an immediate 24 hours to information, we always recommend for business-to-business extranet that they run the site internally in-house. So another concern will be OK I know how to run the business application, but how do I run the web site and maintain all of that. What type of internet link do I need and infrastructure, so we advise people on all of that. I think that is probably the number two concern.

Researcher: What do your clients expect from the extranet?

Interviewee: We found it is difficult to.. Umm, with the E-commerce site, you would say I want to make this amount of money so you can measure it against whether it makes that amount of money or whether it helps to gain new customer, that type of thing. With an extranet, typically, I think the main thing we find is they want to improve the customer service. They want to tie in their customers. So one area we have been very successful in is with distributors who don't necessarily have much value added. Or if you take the aluminium company, there are actually 6 companies in the UK that extrude aluminium themselves. It's very much about money. The lowest price will always win. Hydro came to us and sort of say you know 'we cannot always win on price, sometimes we want to tie in the customer and get some repeated business or we find it's very difficult because every time we compete it is just all about price, few can be changed' so they say if we can provide some type of on-line service that would allow people to view their plans, submit their orders, something that would speed up their effectiveness, then we are giving someone value and by value adding them, hopefully, we can tie them in. So we tend to find that this is the main reason or one of the main objectives when they come to us. It is not necessarily to get new customers. I think it's to keep the old ones and to tie them in. It is amazing on the web, the kind of information you can get

about people, you will never get anywhere else. We have got some people on the extranet who track which parts are ordered more than another, when did they come into the site and you can really start to improve the customer service and if you know that your suppliers always access your site at 2 in the morning or something, then you can say maybe we can do a newsletter that go out then or you can just really start to find out a lot more about your users that you can't really find when you track them on the phone. It's not the same.

Researcher: You have been working with many clients, what are the common problems that you have during the extranet development and after it goes on line?

Interviewee: You tend to find that your clients are quite sceptical about using the internet so you find that there will be someone up high who defines that this is going to be a strategy, we are going to develop an extranet, but then at working level you will find sometimes they are reluctant to share the information with you. Because we need how their business works so that we can write the solution with them. The other thing we tend to find is that. Take a traditional IT project, it will be run by the IT department so you would go to see the IT director or the manager, all are maintained by them. No other areas of business will get involved. But with the internet and extranet, it is completely different because it is a subject that everyone is keen on, everyone is interested so you will have a meeting not just with IT but also with sales because it affects them, because if orders are going to be taken, they want to know how the system works. It will affect marketing. A lot of them are worried, what is going to happen their jobs if all is going to be done on line. What I am going to be doing? So you will find that suddenly you are dealing with all areas of business come together and the hardest thing is to prototype it and getting a plan because everyone will disagree. Marketing will want the extranet to look very flashy and a lot of images and then you point out them well, this is for your suppliers. They don't necessarily want a lot of images. In fact, some of our customers use the extranet to download the product and look at the information from the field, field engineer, so they might have a laptop, slow modem connection so what they don't want is a site that is intensive with graphics. So we try to say that to them so they know. So what we normally try to do with them is we say 'let us see all information you are currently use internally' and they will bring back all data and we say OK what.. strip it down to the core basic thing that your customers may need. What we are trying to say to them is if there is an area that your customers have never asked about them, don't have it on the application. Just really go to the fundamental questions that they might need. So phase I, the development phase, we recommend our client to put something small on it. Just something for people to use and get used to. Typically the supplier

and customer that the company are making the extranet link with may never use the internet. This is the first time that they have used the internet to actually do business so the last thing they want is to be presented with the hundred screens where they have to try to navigate and then of course that leads always to a second problem which is based on when the project went live and it worked very well and then normally what they had is one or two very influential and big suppliers or customers who turn round and say 'I like it to do this but it doesn't do this', and then of course what we have is the customer that tries to push pressure on the supplier to change their application and sometimes how they want to change it isn't suitable for the internet. So that is really the problem, getting people to appreciate that the extranet primary has to be fast and has to be secured and functional and these three things, marketing are not interested. They are interested in what looks good. I would say that is the problem, getting all the people in the different departments to appreciate the other side.

Researcher: You did mention about Phase I and Phase II Does the extranet implementation need to be done phase by phase? If so, what distinguishes one Phase from the others?

Interviewee: I would say for us, there are probably three major phases and then enhancement. Typically, clients will come to us and they will have the whole scenario that they want, everything web-enabled. Then, we would say 'OK that is going to cost quite a bit for start. It is probably going to take a year to do and with the internet, it is such a fast-moving environment that if you take a year to deliver the project, by the time it goes live, it will probably be out of date. So what we say to people is that we can break this down into manageable phases. Because it's not as if we have 3000 people here doing it, it is reasonable for them as well because they have to spend time getting to use the application, they have to sell the application to their customers. We have to use their knowledge about the business information so we sort of say. OK you know. We have got a company, Toshiba, we sort of say to them "What would you like to see first?" and they say OK, first thing, you know, we have these engineers, they always type in serial numbers for laptops and they can never find the laptop they want so the first thing we did is the serial number enquiry that they can access over the web link with the password protection. It took a month to get it running. Very simple but wasn't fantastic to look at, wasn't that glamorous but they had over 600 field engineers who used that and those engineers said this is really good and if we can have something with serial numbers and parts and stock level as well. So it should start with something that is easy to do, enable us to get a grip on their business and understand their business, get them to work with us, to understand how we work and also something small that they can then survey their customer webs so they maybe prototype it with a couple of clients.

Researcher: How about Phase II?

Interviewee: Phase II. In Phase I, they typically roll it out to few customers. The customers will give them feedback and from that we develop a much larger scale project which will probably involve more clients and again it will be rolled out as a prototype and then in Phase III, you sort of see where you begin to link up remote sites and have a fully functional extranet system.

Researcher: You mentioned about feedback from clients. Can you tell me more about that?

Interviewee: We use the feedback from our client to form a strategy. We actively encourage them to do a questionnaire with whoever is going to use the system before they even start thinking about the system and then when it's up in running as well because you have got a really good idea of what people want to see. I mean if you put something up there and you spend thousand of pounds and no one uses it and then you find out that they didn't use it because they have never searched on that facility anyway, they have never used it. So it's a lot of money wasted.

Researcher: Going back to the common problem you have during the extranet project, what sort of common problems do you have after the extranet goes on-line?

Interviewee: Performance, sometimes, in terms of the amount of people who are using the system. So when we build the system, we always try to make it scaleable. It is very important. That's why we are using the IBM system because it is reliable. But we ask clients to give us a best guess how many people they think are going to be using the system. Bear in mind that it's a lot easier than the E-commerce site because with the business-to-consumer site, you don't know. It could be millions. So we ask them how many people will be using the site since the beginning. We also ask how long will they be accessing for, how many are they going to roll the application out to. And variably what they would do (they have done it quite often), they roll it out to more people, more clients than they said they would before it is ready. So we build something with certain audience in mind with a plan to go to Phase II and make it larger and sturdier for Phase II, and they roll it out too quickly and then what you find is suddenly you get a pressure from clients who say, 'well, I can't access the system. It's very slow'. And usually we prototype it on a small machine because they don't

want to be spending a lot of money for Phase I but they will try to move to Phase II before they really got an infrastructure right. It is very important that you have a right machine in line.

Researcher: You mean that the company doesn't have an infrastructure right before starting Phase I?

Interviewee: Well, for prototype. Typically, people will have their business machine. We usually recommend an additional web serving machine for the application because of all the web serving profiles, all the web site design because it's all there. But what we do is we use IP connection to connect dynamically to a back-end machine and bring back the data real-time. So it is a back-end box that is doing all the processing so it is very important that they tell us the size of that back-end machine. To give you an example, Mickey travel, a Japanese travel company, they have all the Japanese people coming on-line at night so we said to them, 'OK your production machine is very big and sturdy, so it should cope but you should really get a **front-end** web serving machine to do a web job and web work because then if you want to maintain it and keep it up to date, you don't have to keep pairing down the production machine'. And they agreed, 'Oh yes but we don't have a budget so for Phase I, can you set it up on a main machine with no front-end'. So we set it up on a production machine. Fine, it all worked quite well. But then you imagine, you have got the people in the UK who are doing ordinary internal inquiries, you have got Japan doing internal inquiries and bookings plus you have got all other people coming in to the web so you potentially have got four or five times the audiences or users than you had before. This impacts on the people internally. So what you find is then the people internally start complaining 'my system used to be very quick and now it's gone really slow'. Usually it's just the sizing issue of the machine and functionality.

Researcher: Is it a demanding job to maintain the extranet system?

Interviewee: Again, probably with the extranet site, clients who are using it, put great demands. We had it with Web length as well. We develop a generic looking field for their clients and what we found is their large clients have now started to be quite demanding on what they want to see. Because normally for what can sometimes happen is that a very large supplier will begin to use the system and then say, 'well actually, I would like to change it to make it more like the system that my staff use here'. And what we are finding now is that what is meant to be a general template that everyone can use, a general style, we are now creating different types of applications for each client. Of course, if you are beginning to do that,

fine, it's a great customer service and you have got all money to do that. Then that is a bit of a maintenance issue because you potentially got four or five different lots of the application running. Although the machine can run all that and it's not a performance issue, it's more a management issue because if you are getting complaints or queries about the system and you have got four different systems running. So you may have some difficulties.

Researcher: Can you explain a bit more?

Interviewee: Certainly with the E-commerce site, say with the one site that we do. You make one store and that's it for everyone but if people don't like it, then you will make a change but what you make what you call a global change so you do it for the whole site. So you only have to be presenting one store, one shop at the public but with an extranet, you could potentially have different stores different front-ends for different customers.

Researcher: You have used the term E-commerce quite often. What is the difference between E-Commerce and E-Business?

Interviewee: Within Internet and Extranet, we also then have a definition of E-commerce and E-business. To us, if we use IBM definition, E-business is the transaction of business using internet technology. The main difference between E-business and E-commerce is that E-business is really using web technologies to access business information but it doesn't necessary have to be a transaction going on. So for example, if I have an order tracking system and I web enable it, someone can come to it and track their orders, the store orders, so that doesn't mean the E-Commerce because I'm not actually buying anything or transacting on that, I'm just viewing an information. What we call an E-Commerce site, and again, it can be an extranet or internet site where you make a transaction or buy something.

Researcher: Will you include EDI in your E-commerce definition?

Interviewee: Somebody else in IBM partners would include EDI in their E-commerce definition. But we don't. Certainly, an extranet has that foundation in EDI but it wasn't for the EDI software. We would say that EDI was something that had its place and it still has its place for the massive supplier and you can get web EDI. But it's really cranky. It's not very sophisticated and very expensive. The main difference I see with the EDI is that every company trading in that link has to have some software installed which is

typically quite expensive but with an E-business application and an extranet application, you just need a browser. So to us, get suppliers to install the browser which most of them have it anyway on the PC, there is no cost but to ask them to put some expensive software on and get trade and using that software, it's a big difference.

Researcher: Going back to the extranet application, do companies need a dedicated group of people to handle all requests or transaction coming in through the extranet?

Interviewee: I would say the most successful sites that we do are the ones where they have got a dedicated person in to manage it. But there are a lot of companies we deal with don't want to do that because it's an extra cost so what you will normally find is that the people who manage the IT system will also manage the extranet but the difficulty with that is that a lot of people that manage the IT system don't necessary know anything about the internet and also with an extranet application, you are not just talking about an IT function. It's also a sales function and a marketing function. You know it's providing a customer service. Some of the best sites we have got the people who actually draft a delegated person in to maintain that site and communicate with the clients and let them know about the new functionality on there.

Researcher: Do you think the extranet can fulfil your clients' expectation?

Interviewee: The good thing about an extranet is that because it's not usually measured on ROI. It's usually measured on increasing customer satisfaction or making transactions faster and I think it does all those things. To get an application to do those things if it's written properly is not too difficult but to get an application to make money is harder.

Researcher: Are you suggesting that an extranet cannot be measured on ROI?

Interviewee: Well, I do but I do it in an actual saving so if it's typically taken 5 people to process the claim and it now takes only 1 person to process an on-line claim. The other 4 people then can do something else within the business. To give you an example, Hydro used to take a huge order, we are talking about when you are sort of extruding aluminium (not a very fascinating subject), that is another thing which is quite interesting. It's not always the typically glamorous company. Retailers and the people that usually you would think would be very forward thinking about the internet and want to

do a lot with it are probably the most reluctant. Where you have a company like Hydro, an aluminium company, and your first thought was aluminium! They are actually the most forward thinking on what they do and they are quite a really good size. Now their problem was that they were taking orders for aluminium that could be million of pounds and what people were doing is faxing their order to the sales desk and the sales people will re-key the order but there was like a discrepancy of something like 20% where they actually re-keyed them in wrong. Now if you are talking about millions of pounds and you re-key the wrong extrusion or technique, it becomes very difficult. So what they say to customers. It's quite interesting in a way. They said, "we are going to open up an on-line service to you, you don't have to fax your order anymore, you can type them straight into the system through the internet." The customers think that they are really getting something great and they are very pleased that they are getting that service but in fact, you push the emphasis to them so you actually make them do more work because now they have to fill all in and do it all but they are happy to do it because they know they can see the order going straight into the system plus they can view the progress. Now for them, they measure it on the fact that now they don't have any errors or if they do have an error, it is proved to be the customer's fault. So they are actually doing it in terms of cost savings of errors that they made and also they would find that a lot of people re-keying in the same information in the sales team. Oh really good sales people should have been out, trying to get new businesses but instead they spend the whole day re-keying in orders. So now they have gone out back into the field to sell and get new businesses. And now, they use us as a sales tool. When they are going out and trying to get new businesses, where their sales method is to show something like we have got this bigger plant for developing and we have got this big factory. They don't focus on that now. They say, 'look we are on-line system, you can place all your orders on line, how do you do it with your old suppliers, now you can do it online, it's dynamic'. So they use us as a key selling point to get new customers.

Researcher: Are there any other issues that your clients are not happy with an extranet?

Interviewee: Sometimes yes, sometimes they will find that there is a limitation with presenting something through a web screen. Although it is really functional in what you can present and you can suddenly take very traditional type data that typically on the data entry screen, and you can present it in a familiar interface. That's great but you can't present as much information in the same way that you could on a data-entry screen. I mean if you look at someone inputting information at the call centre, doesn't really matter what it looks like, if they are on the phone so that they can get lots of information into one screen and they can click what they need and all is done very quickly. On the internet, you don't have that

beauty because you have to present it in such a way that people will understand it and it will be clear so sometimes you find that you have more screens than you want. So I think that would be a problem. Sometimes they think they can just immediately type what they have got without any work and deliver across the internet and I think perhaps sometimes it's a disappointment for them when they realise they do have to do actually some tidying up work with the data they have got. So for example, Micky travel had all data sitting in their hotel booking information, everything there, but it was all in upper case . Now it sounds silly but they used it quite happily for 5 years internally but you can't then present because they are always doing interfacing internet, business information so to bring it back all the upper case on the web, it's just look ridiculous so they have to basically spend quite a few months re-information. Although they see it as a disadvantage, I think by the end they see as a plus point because one thing we make them do is to tidy up their information to make sure that they are ready for this new development.

Researcher: Has the extranet been used mainly as a means of communication or transaction tool by your clients?

Interviewee: Most of the ones we do started off with just, maybe, we tend to call them an enquiry process. That is the most popular type of work we do, enquiry.

Researcher: Do your clients tell you about the impact of the extranet on their relationships with their business partners?

Interviewee: Well, the worrying thing I sometimes find is they don't do enough analysis and reporting. I mean we are talking about quite a large client but I said to them how successful is it, how is it working, they are very vague about successes. They come back to us with more works and said that it's working very well but I think sometimes they don't... When you have an E-commerce site at the business-to-consumer store, on-line store, people automatically pull off statistics, they see how many people are visiting, they see the type of people, and they do a lot of investigative works. When it is an extranet and they know that people are using the site, it's amazing how little they have taken advantage from that information.

Researcher: Do you clients ask you to do any evaluation?

Interviewee: They ask us to pull off statistic on who is using the site, if he accesses pages and they don't stay, why? Is there something that they don't understand? They ask us to get time when people are visiting. But apart from that there is very little, like I said, we would like to do a questionnaire. We like them to do and we recommend they do, but very few actually do. I think some people are just steam ahead. They have got money and they steam ahead and get the application written without thinking. How is it going to change their business really, how is it going to change the way they do. It's quite a big company. You would think they are constantly assessing the data and analysing or reporting but they don't. The other thing is that they can often do is that you run a risk. If it runs really happily and it's working very well, they will just leave it like they do with the other part of their business. So it's not until they get a complaint, they will start doing something.

Researcher: How do they evaluate their investment then?

Interviewee: Exactly. That's why you always get a problem that when you actually give them a bill and when you tell them how much it's going to cost, they always hesitate a bit... because they haven't done any decent evaluation. I'm sure if you ask any of our clients how much they think they saved in the last year using the system, they may guess it but I don't think any of them can say that they have gone and done a proper report on how much they save. It sounds shocking but maybe the other companies you speak to may say something differently. But from our experience, that's what we find. They know it works and they see that the customers are using it so they know it's successful but I don't think they actually ring those customers up and say, "OK you are using this system, why?" They want to evaluate people using the system but in terms of quantifying of success, I wonder if you find it...I think it's very difficult to get information. They are very vague because they are not actually doing a research. With selling products and services is easy, you just look at your profits, look at your mark-up or your revenue, it's nice and easy but how do you quantify an on-line enquiry system where people go in and make inquiry. The only way you can do it is to say how much call centre cost drops and do it that way. The extranet is becoming more of a factor whether they win a new business or not. With wave link, when they actually try to get a new supplier or new customer, they actually weigh up whether they are going to win a new business and a couple of time they know they won a business because they can offer people an online tracking system.

Researcher: Do extranets create any conflicts among users?

Interviewee: We don't have any problem where people have gone in and abused the system or done anything like that, because we do set it up on an AS400, the platform of the most secured system. We make a point of not setting up anything where we don't understand the company where we are doing. So I don't think we really have any conflicts where distributors somehow abuse the system or see something they shouldn't see. It's quite lucky. I think it's a matter of time because the application is getting bigger and bigger and it may happen. We have the situation where the distributor who was not given the right level of access and it actually causes a problem because he found out that another distributor has different level of access and where it would have become an issue any other times because it's on-line and suddenly all the information become available but I mean nothing serious.

Researcher: What are the actual applications of the extranet?

Interviewee: It can provide automatic e-mail. It can provide reporting, statistic reporting. It can also... we have a game distributor, you can actually view your weekly business plan and you can submit future reports, things like that, business plan. The system where we were writing is where people just, we call it pulling information, they can just pull the information down but they can't do anything else but most of the system that how Phase I normally starts and then Phase II they actually can push up to the server. So Phase I, users can track the information, very static, can't do much else apart from viewing and they may get emails sent to them. Phase II, they will begin to actually, it will be an interactive session so you can start inputting information directly into the system in accordance with the template that we design for them. So we still control the information that has been sent to the server but they can push information up themselves. You can have a system potentially where user A can still only track, can't do any work, user B can input their business plan and get an email back but user C can look at the stock level as well and they can all run simultaneously in one system. The extranet can also have actual transactional facilities so actually input your purchase order number or credit card number or something like that.

Researcher: Do you also include newsgroup in your extranet application?

Interviewee: We do newsgroup but it tends to be a part of an ordinary web site, internet site.

Researcher: How about FTP?

Interviewee: Yes, we have FTP access in the extranet. We would generally use an FTP area for where we have got large documents, the documents that are not suitable to display on line. More like a repository. It may be the document that you want to store in a central place and you want to let people be able to download FTP if they need them. Normally, this information will be just for download because they are large documents that you can't view on the screen. So we have that as an accessory. Typically, you can conduct inquiries. You can actually order products. You can pay for products. You can have an email send back to you, telling you what the products are that you ordered.

Researcher: Where does the e-mail sent by the user go to? Extranet centre or elsewhere?

Interviewee: Normally, the user would have the allocated user address. If they have got hundred of users who are using the system, they can input their own personal email address and send back to them but if it's a general one which has been set as a standard one, then it will go back to the central email system.

Researcher: How do you see the direction of the extranet in the future?

Interviewee: We are talking to one company at the moment that does material handling and they are a client of wave length and they went to see wave length and wave length showed them the system so the company said, 'yes I would like to do that but also I would like one of those installed ourselves to do with our suppliers and so they like an idea of using us for that system because we know how to write a web system that can mirror it and they will have not only a system that they can use at the front that their users understand but they also have a similar system at the back end as well. So you might go to the person that provides you with customer service and then send the information to the supplier and then the supplier will contact us. So I can see what is going to happen in the future. We may make one system for one company and they recommend it to another company that they deal with and we build a separate system for them and they might you know. In essence they operate in isolation but I can see in the future especially in the market where we are working because we are working with IBM middle range AS400. We can see in the future the group of companies will get together and say well if you have got this system here, I have got this system here, we both are doing pretty much the same thing, can we make they all up together.

Researcher: Does an extranet business have high competition?

Interviewee: It is quite funny. We always thought that it would be an advantage to say Oh we have done a system for your competitors and we can also do it for you. But you actually find when it comes to the internet, taking a step back, a lot of business partners that will focus on the industry, but we don't do, we cross industries so there will be a company that focuses on banking. So we, in our instance, thought we can be the same thing, going to the company and say 'you see how we have written this for your competitor, we can write one for you, and you find that when it comes to the internet and web development, they are very reluctant to work with someone who their competitor before. Because there is a lot of confusion about the web and what they can do and what is available and security and all that type of things. There is not a lot of trust between different distributors at the moment. Well, I suppose there has never been really.

Researcher: From which industry most of your clients come from?

Interviewee: Usually distribution, services industry are the big ones. There is only one manufacturing company that we have got. I think there is a reason for that because manufacturing companies is traditionally the old style company. But if you want to survey them, you will find that most of them have got an EDI system that we talked about and they have spent a lot of money on this cranky system, they don't want to spend money now on the web system. That's why Hydro is a very forward thinking because they rolled out something that is quite innovative.

Researcher: Do Hydro also have EDI?

Interviewee: Yes, that's why it's quite surprising but the EDI is for the larger companies and they are trying to actively get new markets and the new markets are typically smaller companies who don't want the investment. I think if you manufacture something, you need to try, like I said before, to tie in your customers. But I think if you have got an EDI system in place where you can make your customers buy that software, you can tie them in a lot better than you can with the EDI than you can on the web. So a lot of manufacturing companies aren't moving that quickly toward the internet because they are thinking well, if I do that and users only need browser, no software, no signed agreement, they could potentially go elsewhere and start shopping around so.

Researcher: Do you think that eventually companies will give up EDI and keep using it?

Interviewee: I think the most popular will be they will keep EDI for the major suppliers because it works quite well and is very secured. It is a dedicated connection so you normally find the speed and format is really good. You just use it to transfer that information. We usually find that would work as one element and the company will have a web system in conjunction with that. The problem will come when they try to integrate them all together and then you will probably find a gradual erosion of EDI system. EDI still has its place. It's just now you are seeing a lot more smaller companies to develop. The large corporate are sort of breaking up and smaller companies are popping all over the place now. Small businesses just are not keen to EDI system. So it's changing.

APPENDIX 3.2

EXTRANET SURVEY

The purpose of this questionnaire is to explore in detail your perceptions of the impact of the insurer extranet on your communications and relationship with the insurer. This questionnaire will only take you 7-10 minutes to complete.

(1) Please identify **UP TO FOUR** insurers who, in your opinion, provide you with the most helpful extranet. Please rank the insurers' extranet in order of their helpfulness starting with '1' for the most helpful, '2' for the next most helpful, and so on through to 4.

1..... 3.....
 2..... 4.....

PLEASE COMPLETE THE QUESTIONNAIRE BELOW IN RELATION TO THE INSURER WHO YOU CONSIDER TO HAVE THE MOST HELPFUL EXTRANET AS IDENTIFIED ABOVE.

THE IMPACT OF THE EXTRANET ON YOUR COMMUNICATION WITH THE INSURER – THE INSURER THAT PROVIDES YOU WITH MOST HELPFUL EXTRANET.

Please indicate the extent to which you agree or disagree with the statements below by circling the number that represents your answer. (1 = strongly DISAGREE, 7 = strongly AGREE)

<u>Example</u>	Strongly Disagree			Neither Agree nor Disagree			Strongly Agree
I do not like holidays very much.	(1)	2	3	4	5	6	7

	Strongly Disagree			Neither Agree nor Disagree			Strongly Agree
(2) The extranet <u>makes</u> your company and this insurer share information that you would not have shared before the extranet was implemented.	1	2	3	4	5	6	7
(3) The extranet <u>increases</u> the exchange of information between you and this insurer.	1	2	3	4	5	6	7
(4) The extranet <u>make</u> your company more likely to share information with this insurer.	1	2	3	4	5	6	7
(5) The extranet <u>increases</u> the amount of information so much that you cannot efficiently use it.	1	2	3	4	5	6	7
(6) The extranet <u>increases</u> the dialogues between your company and this insurer.	1	2	3	4	5	6	7
(7) This insurer responds <u>more</u> to your communication than they did before the extranet was implemented.	1	2	3	4	5	6	7
(8) This insurer provides you with <u>more</u> feedback than they did before the extranet was implemented.	1	2	3	4	5	6	7
(9) The extranet <u>increases</u> two-way communication between your company and this insurer.	1	2	3	4	5	6	7
(10) The extranet <u>decreases</u> errors that occur during the order process.	1	2	3	4	5	6	7
(11) The extranet <u>increases</u> your access to certain information (e.g. sales literature).	1	2	3	4	5	6	7
(12) The extranet <u>increases</u> confusion in your communications with this insurer.	1	2	3	4	5	6	7
(13) The extranet <u>increases</u> this insurer's value to your business.	1	2	3	4	5	6	7
(14) The extranet <u>increases</u> problems in your communication with this insurer.	1	2	3	4	5	6	7
(15) The extranet <u>increases</u> the speed of communication between you and this insurer.	1	2	3	4	5	6	7
(16) The extranet <u>increases</u> the quality of service from this insurer.	1	2	3	4	5	6	7

THE IMPACT OF THE EXTRANET ON INFORMATION

Do you feel that the information you obtain from this insurer via the extranet is: (Please circle the number of your answer)

(17) Timely	1	2	3	4	5	6	7	Untimely
(18) Accurate	1	2	3	4	5	6	7	Inaccurate
(19) Adequate	1	2	3	4	5	6	7	Inadequate
(20) Complete	1	2	3	4	5	6	7	Incomplete
(21) Credible	1	2	3	4	5	6	7	Not credible
(22) Regularly updated	1	2	3	4	5	6	7	Not regularly updated

(Please circle the number of your answer)

(23) Do you feel that the quality of your communications with this insurer has increased or decreased due to the Introduction of the extranet?

Significantly decreased		Stayed the same			Significantly increased	
1	2	3	4	5	6	7

IN THE PAST MONTH, please indicate how frequently this insurer provided information to you via following communication modes:

(Please circle the number of your answer)

- (24) Face-to-face meeting
- (25) Telephone conversation
- (26) Fax
- (27) Traditional mail
- (28) Courier services (e.g., FedEx)
- (29) Seminars
- (30) Extranet
- (31) Other direct dedicated computer linkages

Never						Very Frequently	
1	2	3	4	5	6	7	

IN THE PAST MONTH, did you use the extranet of this insurer for the following purposes?

(Please circle the number of your answer)

- (32) Gain general information
- (33) Obtain sales and marketing materials
- (34) See catalogue of products
- (35) Obtain illustrations and quotations
- (36) Place an order
- (37) Check order status
- (38) Resolve problems
- (39) Resolve conflicts
- (40) Receive technical advice
- (41) Other.....

Never	Less Than Once a month	Once a month	2-3 times a month	1-3 times a week	Daily (specify)
1	2	3	4	5	(...../a day)
1	2	3	4	5	(...../a day)
1	2	3	4	5	(...../a day)
1	2	3	4	5	(...../a day)
1	2	3	4	5	(...../a day)
1	2	3	4	5	(...../a day)
1	2	3	4	5	(...../a day)
1	2	3	4	5	(...../a day)
1	2	3	4	5	(...../a day)
1	2	3	4	5	(...../a day)

Please indicate how you feel the extranet impacts on the USE of other modes of communication with this insurer? (Please circle the number of your answer.)

- (42) Face-to-face meetings
- (43) Telephone
- (44) Fax
- (45) Traditional mail
- (46) Seminars
- (47) Courier services (e.g., FedEx)
- (48) Other direct dedicated computer linkages

Significantly Decreased	Stayed the Same			Significantly Increased		
1	2	3	4	5	6	7

(Please circle the number of your answer)

- (49) In general, how do you feel about the communication with this insurer
- (50) Compared to other non-extranet suppliers, how good is communication with this insurer.

Very Good					Very Bad	
1	2	3	4	5	6	7

- (51) Once a week one of this insurer main extranet WWW pages is under construction.
- (52) Once a month this insurer main extranet server is down.
- (53) Once a day this insurer main extranet server is too busy to respond to all requests simultaneously.

Extremely Likely					Extremely Unlikely	
1	2	3	4	5	6	7

THE IMPACT OF THE EXTRANET ON YOUR RELATIONSHIP WITH THE INSURER

Please indicate the extent to which you agree or disagree with the statements below by circling the number that represents your answer. (1 = strongly DISAGREE, 7 = strongly AGREE)

	Strongly Disagree		Neither Agree nor Disagree			Strongly Agree	
(54) The extranet increases your belief that this insurer keeps promises it makes to your company.	1	2	3	4	5	6	7
(55) The extranet increases your belief that this insurer is not always honest with you.	1	2	3	4	5	6	7
(56) The extranet increases the reliability of the information that this insurer provides to your company.	1	2	3	4	5	6	7
(57) The extranet increases your belief that this insurer is genuinely concerned that your business succeeds.	1	2	3	4	5	6	7
	Strongly Disagree		Neither Agree nor Disagree			Strongly Agree	
(58) The extranet increases your belief that this insurer considers your welfare as well as its own when making important decisions.	1	2	3	4	5	6	7
(59) The extranet increases your trust in this insurer that it keeps your best interests in mind.	1	2	3	4	5	6	7
(60) The extranet increases your cautiousness when dealing with this insurer. R	1	2	3	4	5	6	7
(61) The extranet helps you and this insurer work on joint projects tailored to both party's needs more efficiently.	1	2	3	4	5	6	7
(62) The extranet enables you and this insurer to work together to exploit unique opportunities more efficiently.	1	2	3	4	5	6	7
(63) The extranet helps you and this insurer find synergistic ways to do business together.	1	2	3	4	5	6	7
(64) The extranet helps decrease conflict between you and this insurer.	1	2	3	4	5	6	7
(65) The extranet intensifies major disagreements regarding certain key issues between you and this insurer.	1	2	3	4	5	6	7
(66) The extranet increases your commitment to this insurer.	1	2	3	4	5	6	7
(67) The extranet increases your willingness to maintain the relationship with this insurer indefinitely.	1	2	3	4	5	6	7
(68) The extranet increases your belief that this relationship deserves your maximum effort to maintain.	1	2	3	4	5	6	7
(69) The extranet increases your belief that the relationship with this insurer is very important to you.	1	2	3	4	5	6	7
(70) The extranet increases your belief that the relationship with this insurer is of great significance to you.	1	2	3	4	5	6	7
(71) The extranet increases your belief that the relationship with this insurer is like 'family'.	1	2	3	4	5	6	7
(72) The extranet increases your belief that the relationship with this insurer is something you should really care about.	1	2	3	4	5	6	7

THE IMPACT OF THE EXTRANET ON RELATIONSHIP QUALITY

(Please circle the number of your answer)

	Significantly decreased			Stayed the same		Significantly increased	
(73) Do you feel that the quality of your relationship with this insurer has increased or decreased <u>due to the introduction of the extranet?</u>	1	2	3	4	5	6	7

(Please circle the number of your answer)

	Poor					Excellent	
(74) How would you describe your relationship with this insurer BEFORE the introduction of the extranet?	1	2	3	4	5	6	7

Finally, I would like to ask you questions about yourself and your company so that we can classify the information you have given.

- (75) What is your job title? (please specify).....
- (76) How many qualified IFAs are there in your office? (please circle the number of your answer)
 - 1-5 1
 - 6-10 2
 - 11-20 3
 - Over 20 (please specify.....)
- (77) Is your company..... (please circle the number (s) that apply)
 - Fee based 1
 - Commission based 2

4. (78) Is your company a member of any group? (please circle the number of your answer)
- YES (please specify.....) 1
NO 2
5. (79) How would you describe your knowledge of using computer? (please circle the number of your answer)
- Good 1
Medium 2
Poor 3
6. (80) Please identify up to three mains area of business and rank them in order to importance (e.g., Life assurance, pensions, mortgages)
- 1.....
2.....
3.....
7. (81) How long have you been in financial business? (please circle the number of your answer)
- Less than 1 year 1
1-5 2
6-10 3
11-20 4
Over 20 years (please specify.....) 5
8. (82) What is the length of relationship between you and this insurer? (please circle the number of your answer)
- Less than 1 year 1
1-5 2
6-10 3
11-20 4
Over 20 years (please specify.....) 5
9. (83) How long has your firm been using this insurer's extranet? (please circle the number of your answer)
- Less than 1 year 1
1 year 2
2 years 3
3 years 4
10. (84) How frequently do you PERSONALLY use this insurer's extranet? (please circle the number of your answer)
- Daily 1
Weekly 2
Monthly 3
Other (Please specify)..... 4
11. (85) Do you feel that the extranet will be used more or less in financial business in the future? (please circle the number of your answer)
- Significantly decreased 1 2 3 4 5 6 7 Significantly increased
12. (86) If you would like to add any comments in relation to the impact of the extranet on communications or your relationship with this insurer, please do so below.

THANK YOU VERY MUCH FOR YOUR TIME IN HELPING ME WITH MY PhD THESIS.

The information you have given will be treated as absolutely confidential and will be used as part of a pooled analysis. If you would like a copy of the results, please write down your postal address in the space below.

ADDRESS:

Please post this questionnaire back via the free-post envelope enclosed.

APPENDIX 3.3
RELIABILITY ANALYSIS

APPENDIX 3.3.1

TRUST

RELIABILITY ANALYSIS - SCALE (ALPHA)

Correlation Matrix

	TRUST1	TRUST3	TRUST4	TRUST5	TRUST6
TRUST1	1.0000				
TRUST3	.5096	1.0000			
TRUST4	.5371	.6162	1.0000		
TRUST5	.5456	.5210	.7167	1.0000	
TRUST6	.4980	.4001	.6025	.7842	1.0000
TRUST2	.2423	.2877	.2549	.1475	.0854
TRUST7	.3606	.3260	.3059	.2881	.1906

	TRUST2	TRUST7
TRUST2	1.0000	
TRUST7	.2840	1.0000

N of Cases = 160.0

Statistics for Scale	Mean	Variance	Std Dev	N of Variables
	31.0688	47.0330	6.8581	7

Reliability Coefficients 7 items

Alpha = .8264 Standardized item alpha = .8265

APPENDIX 3.3.2

COMMITMENT

RELIABILITY ANALYSIS - SCALE (ALPHA)

Correlation Matrix

	COMMIT1	COMMIT2	COMMIT3	COMMIT4	COMMIT5
COMMIT1	1.0000				
COMMIT2	.7938	1.0000			
COMMIT3	.7204	.7592	1.0000		
COMMIT4	.6814	.7810	.7823	1.0000	
COMMIT5	.6796	.7483	.7695	.9000	1.0000
COMMIT6	.6247	.7143	.7489	.8435	.8824
COMMIT7	.4133	.4648	.5076	.5228	.5840

	COMMIT6	COMMIT7
COMMIT6	1.0000	
COMMIT7	.5984	1.0000

N of Cases = 161.0

Statistics for	Mean	Variance	Std Dev	N of
Scale	27.6957	77.4130	8.7985	Variables 7

Reliability Coefficients 7 items

Alpha = .9384 Standardized item alpha = .9401

APPENDIX 3.3.3

CO-OPERATION

RELIABILITY ANALYSIS - SCALE (ALPHA)

Correlation Matrix

	COOP1	COOP2	COOP3
COOP1	1.0000		
COOP2	.7933	1.0000	
COOP3	.7076	.7792	1.0000

N of Cases = 164.0

Statistics for	Mean	Variance	Std Dev	N of Variables
Scale	11.8354	17.2795	4.1569	3

Reliability Coefficients 3 items

Alpha = .9048 Standardized item alpha = .9048

APPENDIX 3.3.4

CONFLICT

RELIABILITY ANALYSIS - SCALE (ALPHA)

Correlation Matrix

	CONFLIC1	DISAGREE
CONFLIC1	1.0000	
CONFLIC2	.0671	1.0000

N of Cases = 164.0

Statistics for	Mean	Variance	Std Dev	N of
Scale	9.0488	3.8381	1.9591	Variables 2

Reliability Coefficients 2 items

Alpha = .1257 Standardized item alpha = .1257

APPENDIX 3.4

COVERING LETTER

May 2002

Dear Madam:

My name is Klairoong Phairor. I am a PhD student at the University of Gloucestershire, the newest university in the UK. My PhD study focuses on the impact of the extranet* on communication and relationship between insurers and independent financial advisors (IFA). I am particularly interested in this area because I believe that it will be of value to both academic and practice to better understand how the new technology may have changed the way insurers communicate with IFAs and whether this has impacted on their relationships.

However, I need your urgent help by completing the attached questionnaire. It should not take more than 8-10 minutes of your time as the questionnaire has been designed to be quickly and easily completed. Only your views and personal opinions are called for, thus there are no right or wrong answers. The information you have given will be treated as absolutely confidential and will only be used as part of a pooled analysis.

If there is anything you would like clarified, please don't hesitate to contact me.
My E-Mail address is:

Kphairor@glos.ac.uk

Thank you very much for helping me with my PhD thesis. I greatly appreciate your participation.

Your faithfully,

Klairoong Phairor

* The extranet is a network based on internet and web technology. However, it is not open to the public like the internet but limited to only selected group of users. Usually, users are required to enter their log-in name and password before being granted the access.

APPENDIX 3.5

CORRELATION MATRIX

	CM1	CM2	CM3	CM4	CM5	CM6	CM7	CO1	CO2	CO3	CONF	DISA	COMM	T1	T2	T3	T4	T5	T6	T7	Relaq
CM1	1.000	0.755	0.702	0.657	0.672	0.590	0.426	0.398	0.487	0.462	0.443	0.306	0.431	0.436	0.281	0.467	0.510	0.523	0.448	0.281	0.593
CM2	0.755	1.000	0.755	0.777	0.746	0.693	0.489	0.465	0.491	0.494	0.457	0.326	0.483	0.542	0.249	0.465	0.529	0.535	0.494	0.346	0.601
CM3	0.702	0.755	1.000	0.799	0.747	0.742	0.491	0.423	0.466	0.434	0.501	0.167	0.429	0.401	0.182	0.401	0.570	0.578	0.563	0.235	0.503
CM4	0.657	0.777	0.799	1.000	0.863	0.815	0.519	0.533	0.538	0.501	0.523	0.317	0.438	0.496	0.292	0.496	0.592	0.591	1.000	0.336	0.603
CM5	0.672	0.746	0.747	0.863	1.000	0.826	0.559	0.535	0.558	0.556	0.490	0.304	0.826	0.815	0.246	0.509	0.634	0.624	0.581	0.268	0.609
CM6	0.590	0.693	0.742	0.815	0.826	1.000	0.579	0.559	0.558	0.442	0.468	0.190	1.000	0.815	0.260	0.477	0.543	0.543	0.476	0.225	0.492
CM7	0.426	0.489	0.491	0.519	0.559	0.579	1.000	0.452	0.483	0.439	0.342	0.096	0.188	0.477	0.085	0.343	0.375	0.455	0.448	0.103	0.349
CI	0.398	0.465	0.423	0.533	0.535	0.481	0.452	1.000	0.772	0.696	0.447	0.170	0.309	0.311	0.074	0.311	0.510	0.514	0.462	0.115	0.477
C2	0.487	0.491	0.466	0.538	0.558	0.458	0.483	0.772	1.000	0.787	0.418	0.181	0.298	0.427	0.108	0.427	0.514	0.514	0.517	0.171	0.451
C3	0.462	0.494	0.434	0.501	0.556	0.442	0.439	0.696	0.787	1.000	0.481	0.145	0.308	0.514	0.062	0.428	0.555	0.578	0.514	0.119	0.475
CONF	0.443	0.457	0.501	0.523	0.490	0.468	0.342	0.447	0.418	0.481	1.000	0.099	0.458	0.396	0.092	0.441	0.439	0.435	0.403	0.123	0.463
DISA	0.306	0.326	0.167	0.317	0.304	0.190	0.096	0.170	0.181	0.145	0.099	1.000	0.210	0.384	0.157	0.358	0.293	0.287	0.198	0.493	0.394
COMM	0.431	0.483	0.429	0.438	0.441	0.321	0.188	0.309	0.298	0.308	0.458	0.210	1.000	0.384	0.157	0.438	0.418	0.435	0.421	0.287	0.517
T1	0.436	0.542	0.493	0.585	0.592	0.509	0.390	0.398	0.510	0.514	0.396	0.306	0.384	1.000	0.317	0.513	0.555	0.551	0.523	0.377	0.466
T2	0.281	0.249	0.182	0.292	0.246	0.260	0.085	0.074	0.108	0.062	0.092	0.462	0.157	0.317	1.000	0.251	0.228	0.161	0.098	0.335	0.244
T3	0.467	0.465	0.401	0.496	0.509	0.477	0.343	0.311	0.427	0.428	0.441	0.306	0.438	0.513	0.251	1.000	0.589	0.522	0.424	0.288	0.494
T4	0.510	0.529	0.536	0.570	0.634	0.535	0.375	0.476	0.492	0.555	0.439	0.293	0.418	0.555	0.228	0.589	1.000	0.704	0.607	1.000	0.550
T5	0.523	0.535	0.578	0.591	0.624	0.543	0.455	0.443	0.556	0.578	0.435	0.287	0.391	0.551	0.161	0.522	0.704	1.000	0.752	0.309	0.483
T6	0.448	0.494	0.563	0.550	0.581	0.476	0.448	0.462	0.517	0.514	0.403	0.198	0.421	0.523	0.098	0.424	0.607	0.752	1.000	0.187	0.380
T7	0.281	0.346	0.235	0.336	0.268	0.225	0.103	0.115	0.171	0.119	0.123	0.493	0.287	0.377	0.335	0.288	0.253	0.309	0.187	1.000	0.306
Relaq	0.593	0.601	0.503	0.603	0.609	0.492	0.349	0.477	0.451	0.475	0.463	0.394	0.517	0.466	0.244	0.494	0.550	0.483	0.380	0.306	1.000

Correlation is significant at the .01 level (1-tailed).

Correlation is significant at the .05 level (1-tailed).

APPENDIX 4

APPENDIX 4.1

CHI-SQUARE TESTS OF INDEPENDENCE

Frequency of Extranet Communication and Perceived Impact of the Extranet on Communication Quality

CASE PROCESSING SUMMARY

Cases						
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
XTRAFRQC * COMQUALC	157	95%	8	4.8%	165	100%

CROSSTABULATION: FREQUENCY OF EXTRANET COMMUNICATION AND IMPACT OF THE EXTRANET ON COMMUNICATION QUALITY

		COMQUALC			Total
		decreased	stayed the same	increased	
XTRAFRQC	Never	1	4	3	8
	Occasionally	10	15	10	35
	Moderately	8	10	14	32
	Frequently	4	8	51	63
	Very Frequently	2	5	12	19
Total		25	42	90	157

CHI-SQUARE TESTS OF INDEPENDENCE

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	31.98	8.00	0.00
Likelihood Ratio	33.07	8.00	0.00
Linear-by-Linear Association	16.67	1.00	0.00
N of Valid Cases	157		

Frequency of Extranet Communication and Perceived Impact of the Extranet on Relationship Quality

CASE PROCESSING SUMMARY

Cases						
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
XTRAFRQC * RELAQC	162	98.2%	3	1.8%	165	100%

CROSSTABULATION: FREQUENCY OF EXTRANET COMMUNICATION AND IMPACT OF THE EXTRANET ON COMMUNICATION QUALITY

		RELAQC			Total
		decreased	stayed the same	increased	
XTRAFRQC	Never	1	6	2	9
	Occasionally	8	17	11	36
	Moderately	8	15	11	34
	Frequently	3	18	43	64
	Very Frequently	0	8	11	19
Total		20	64	78	162

CHI-SQUARE TESTS OF INDEPENDENCE

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	26.749	8	.001
Likelihood Ratio	29.014	8	.000
Linear-by-Linear Association	16.708	1	.000
N of Valid Cases	162		