

**THE IMPACT OF VALUE IN DEVELOPING
LOYALTY IN E-SERVICES: THE CASE OF UK
E-BANKING**

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DEDICATION

To my parents Mehrangiz Samin and Zabihullah Faroughian

To my Brother Farhad David Faroughian and my sisters Farzaneh Matthews and

Farnaz Trick

To my Daughter Celine Diba Faroughian

ABSTRACT

There is considerable debate amongst academics and practitioners that the delivery of value to customers represents a focal element through which competitive advantage can be generated. Extant research confirms the impact of value on the development of satisfaction and ultimately customer loyalty in both the business-to-consumer and business-to-business domains. However, there is a paucity of research that focuses on the role and behaviour of value in the broad domain of technology and the specific area of e-services within the b2b domain. This study attempts to address the above identified shortcoming.

In order to address the above aim a theoretically grounded model is proposed in which customer perceptions of value of e-banking is treated as a higher order construct of the related *get* (or benefits) and *give* (or sacrifices) components. Quality and risk associated with the use of e-banking are determinants of customer perceptions of value while satisfaction and three forms of behavioural intention (i.e., word of mouth, switching and lock-in) are modelled as outcomes of value. Interrelationships between the antecedents and outcomes of value are also included in the model.

Data, obtained from senior executives, from a random sample of 167 UK based SME organisations operating across different industrial sectors were analysed using the Partial Least Square structural modelling technique.

The results make the following a number of theoretical contributions to the subject matter. The conceptualisation of value as a formative higher order construct, comprising the *get* and *give* components, is analytically supported. However, the differential behaviour of these two components implies that research should examine the nomological structures of *get* and *give* separately rather than as a composite, overall, construct. Following from the above, it is suggested that related research should treat sacrifices as a component of rather than a determinant of value.

Although some results are in line with extant literature there are a number of divergences that are attributed to the specificities of the research domain. This is attributed to and confirms the idiosyncratic nature of value and results in the need for value research to account for domain specific characteristics. Both components of value are significant determinants of satisfaction; however, there is considerable difference in their relative impact with the *get* component being dominant. The need for separation of loyalty into different forms of behaviour when examining the impact of value is demonstrated. Specifically, value as an effective mechanism for locking-in customers is demonstrated by the significant impact of both the *get* and *give* components. On the other hand neither of the value components are significant determinants of intention to switch and only the *get* component generates positive word-of-mouth. Finally, the importance of risk in the study of value in the b2b domain is confirmed.

On the strength of the above managerial guidelines are proposed.

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During my lengthy and challenging journey towards completion of the Doctorate, I have learned many valuable lessons. These lessons, though not all were pleasant at the time, definitely helped me to understand the nature of doctoral training and to appreciate the true essence of conducting serious professional research.

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PART A

INTRODUCTION

This part of the thesis comprises a single chapter that presents an overview of the study. The rationale for the investigation is presented together with the aim and objectives. A brief account of the adopted methodology, the limitations and structure of this thesis complete the chapter.

CHAPTER A1: INTRODUCTION

A1.1 INTRODUCTION

This chapter presents an overview of the subject matter. The research problem is delineated and the conceptual and theoretical foci are provided. Research needs, related aim and objectives of the investigation are defined and the expected contributions to knowledge and management are stated. A brief description of the research methodology is presented followed by the limitations of the study and structure of the thesis.

A1.2 BACKGROUND AND CONTEXTS OF THE RESEARCH

Literature in the domain of retail banking suggests that, since the 1980s, the 'once safe' relationship between UK high street banks and their clients (in particular Small to Medium Enterprises - SME) is undergoing a process of fundamental change. As illustrated in Figure A1.1, this is the result of pressures by both internal (e.g., changes in working patterns) and external (e.g., deregulation) forces that individually and collectively impact on the behaviour and operations of the sector (Gentle, 1993; Nellis, 1998; Rajan, 1998). Although a considerable number of developments resulting from these forces are outside the control of businesses (e.g., changes to societal behaviour), success or failure depends on how well management is able to anticipate and react to these developments. Such capacity is especially important during periods of high volatility and uncertainty because the resultant intensification of competitive pressures forces organisations to achieve ever greater improvements in productivity and efficiency in order to sustain profitability.

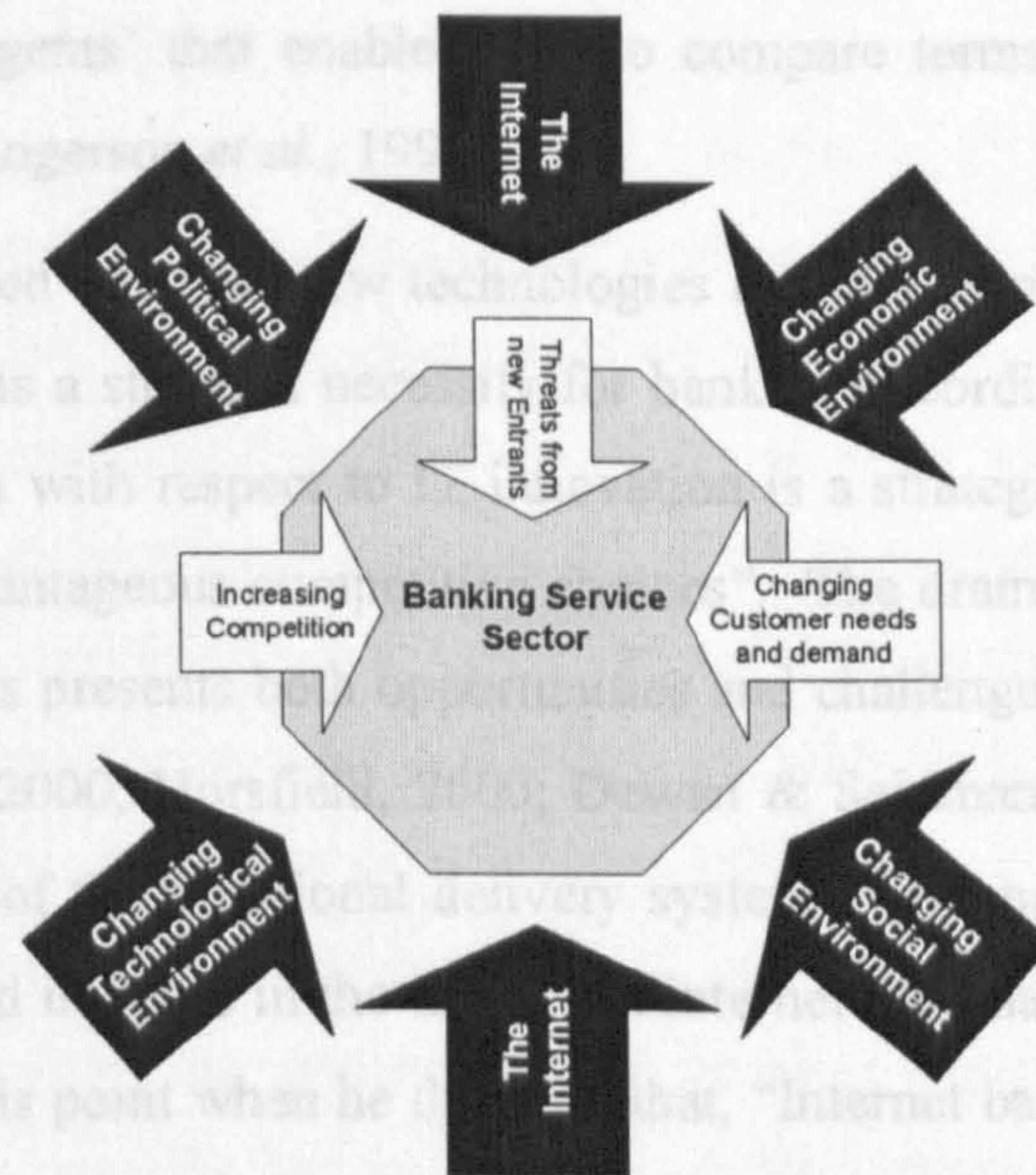


Figure A1.1: Forces Impacting on the Banking Service Sector

Of the above forces, the one that affords a certain degree of managerial control and dominated the revolution in the banking sector during the last decade is technology (Gandy, 1998). Furthermore, with the possible exception of regulatory reforms (especially given recent developments), technological change is considered to remain at the forefront of developments in the banking sector over the next decade. At the core of technological developments is the internet that, amongst others, enabled increased globalisation of capital flows and financial organisations, facilitated the proliferation of new products and services aimed at meeting new and rapidly changing consumer and business demands, re-shaped channels of distribution of banking services, impacted on the productivity and profitability of banking operations and changed the working environment and patterns of bank personnel (Hagel & Armstrong, 1997; Gandy, 1998 ; Nellis, 1998; Seybold, 2001).

Together with increased competition, the greater transparency and access to information afforded by the internet empowers users, engenders the development of a more discerning and sophisticated set of clients and inevitably places users under a different set of conditions resulting in changes in their behaviour. In addition, adoption and use of the internet facilitates switching between financial institutions and products as clients' traditional inertia declines, barriers to change are removed and ease of change banking or financial services increases. For example, internet-enabled users of banking or financial services are able to change banks at the press of a button, in the comfort of their home or office; they have access

to on-line 'intelligent agents' that enable them to compare terms and conditions between products and services (Rogerson *et al.*, 1999).

Consequently, the need to adopt new technologies in order to provide additional banking channels for customers is a strategic necessity for banks. According to Yakhlef (2001:273) "Joining the bandwagon with respect to IT innovation is a strategic necessity, rather than a move to implement advantageous competitive choices". The dramatic increase in the use of remote delivery channels presents both opportunities and challenges (Murphy & Berg, 1999; Jaywardhena & Foley, 2000; Horsfield, 2000; Dewan & Seidmann, 2001) and promises to change the very nature of the traditional delivery system of financial service institutions as illustrated by the marked increase in the use of the internet for financial service transactions. Proctor made exactly this point when he declared that, "Internet banking is one of the hottest topics in the financial services industry and, ... Internet banking sites have proliferated" (Proctor, 2000:103). Online banking provides customers with the ability remotely to access almost any type of banking transaction, with the exception of cash withdrawals (De Young, 2001) at the 'click of a mouse'. This accessibility is considered to be one of the key benefits accruing to customers, especially owners of SMEs, because of time and effort efficiencies and related cost savings.

A1.3 FOCUS AND THEORETICAL FOUNDATIONS OF THE RESEARCH

Accepting the above presented internet-driven changes to the delivery and management of e-banking and finance leads to the question as to how providers of such services can create user loyalty. Issues of loyalty can be examined from two perspectives, building enduring relationships and delivering superior value (it is acknowledged that these two converge under the broad relationship value domain - Grönroos, 2004; Ulaga & Eggert, 2005). The former has attracted considerable interest (see for example Bejou *et al.*, 1998; Barnes & Howlett, 1998; Furash, 1999; Brandman & Keeler, 2000; Howcroft & Durkin, 2000; Robinson, 2000; Dibb & Meadows, 2001; Bremner, 2001; Ryals & Payne, 2001). On the other hand, despite acceptance of the relevance of delivering value (see Ingo, 1997 - shareholder value; Payne *et al.*, 1999 - employee value; Reidenbach, 1996, Seybold, 2001 - customer value) there is paucity of empirical evidence linking perceptions of e-banking value and loyalty.

The view that value should be considered as a cornerstone of marketing is gaining acceptance amongst researchers and practitioners. Holbrook (2005:46) stated that “if we accept the Kotlerian definition of marketing as managerial activities that lead toward the facilitation and consummation of exchanges and if we follow Kotler and Levy in regarding an exchange as a trading relationship between two parties in which each gives up something of value in return for something of greater value, it follows immediately that customer value is the basic foundation for everything we do in marketing.” The business-to-business marketing literature demonstrates broad agreement with the above, with Anderson *et al.* (1993:3) stating that “In business markets, the value of a product offering in a given application can be thought of as the cornerstone of marketing strategy.”, a view repeated by Anderson and Narus (1999:5) who called value “the cornerstone of business marketing management”. In recognition of the above, in 2001 the *Industrial Marketing Management* published a special issue devoted to the debate of value.

Considering value from a strategic perspective, there are claims that value-focused management can increase likelihood of organisational success (e.g., Slater & Narver, 1994; Butz & Goodstein, 1996; Khalifa, 2004), and help achieve and sustain competitive advantage (e.g., Butz & Goodstein, 1996; Slater & Narver, 2000; Mizik & Jacobson, 2003). These views are clearly articulated by Woodruff (1997; p. 139) who posited that “The next major source for competitive advantage likely will come from more outward orientation towards customers as indicated by the many calls for organizations to compete on superior customer value delivery.” This implies that organisations must become providers of value, and, based on their skills and competencies, must deliver value in a differential manner to their competitors (Peterson, 1995; Butz & Goodstein, 1996; Lapierre, 2000).

The impact of value on the development of satisfaction and ultimately customer loyalty is established in both the business-to-consumer (e.g., Petrick, 2002; Sirdershmukh *et al.*, 2002) and business-to-business (e.g., McDougal & Levesque, 2000; Egert & Ulaga, 2002; Spiteri & Dion, 2004) domains. However, the call by Parasuraman and Gerwal (2000) regarding urgent need for research to examine the role and behaviour of value in the broad domain of technology and the specific area of e-services is answered mainly by researchers in the b2c (see for example Han & Han, 2001; Mathwick *et al.*, 2001; Kim, 2002; Chen & Dubinsky, 2003; Kleijnen *et al.*, 2007). Review of extant literature in the b2b domain identified a single conceptual paper (Boyd & Spekman, 2004) and two empirical investigations (Laukkanen, 2006; Lee & Bellman, 2008) in the subject matter. The former empirical study does not

address functional relationships of perceived customer value of an e-service while the theoretical underpinnings of the latter publication are in the b2c domain and there serious questions regarding the rigour of the study.

A1.4 RESEARCH AIM, OBJECTIVES

This study attempts to address the shortcomings identified above. Specifically it provides an empirical examination of the functional relationship between service quality, perceived value and risk associated with e-services (specifically e-banking) and their impact on customer (specifically SMEs) satisfaction and loyalty. In order to achieve the above research aim the following objectives have been identified:

1. Construct a theoretically grounded model that depicts the functional relationships outlined in the research aim.
2. Derive appropriate conceptualisations of the components and respective dimensions of the main constructs (i.e., service quality, perceived value and risk of e-services).
3. Identify appropriate operationalisations of the research constructs.
4. Employ efficient and effective mechanisms and techniques in collecting and analysing data from an appropriate b2b domain.
5. Embed the results within extant literature and offer managerial recommendations.

Addressing the above will contribute to the subject matter in two main ways. First, it is considered that this is the first documented effort that provides a simultaneous examination of e-service quality, perceived value and risk on satisfaction and loyalty within a business-to-business e-service domain. Second, the study will shed light as to whether perceptions of value of an e-service should be treated at an aggregate (i.e., value as a higher order construct) or disaggregate (i.e., as benefits and sacrifices) level. In addition, the findings of this study are expected to inform practice by proposing mechanisms designed to increase perceptions of value derived from business-to-business e-services and identifying the role that such perceptions have on the creation of loyalty.

A1.5 RESEARCH PROCESS

The main phases of the adopted methodology broadly follow the research design process proposed by Sekaran (2002). A summary of the research process is outlined below.

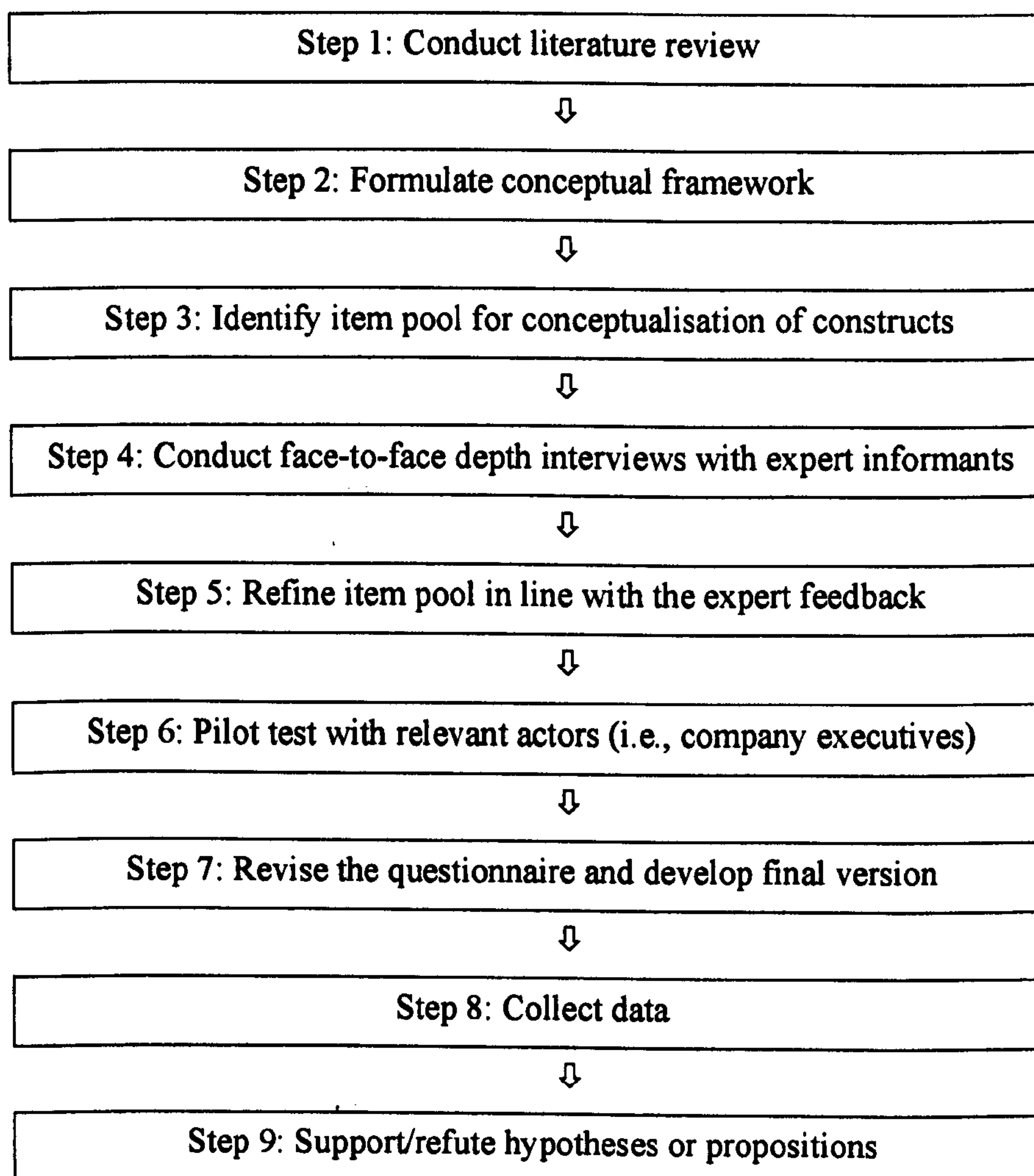


Figure A1.2: Flow Diagram Outlining the Research Process

Review of the related literature provided the author with a sound appreciation of the subject matter, confirmed the legitimacy of the proposed research (Step 1) and guided the formulation of a theoretically grounded research model and a plausible competing model (Step 2). The main constructs (all related to e-services) of the models are, quality, value, risk, satisfaction and behaviour intention. The author returned to the literature with the aim of identifying appropriate conceptualisations and operationalisations of the research constructs.

Examination of a wide variety of existing scales and content analysis of relevant statements produced an initial pool of indicators for each construct (Step 3). The relevance/appropriateness of the identified research constructs and their measures were assessed through exploratory research with expert informants (Step 4). On the strength of feedback, revisions and additions were implemented (Step 5) and converted into an initial questionnaire that was pilot-tested and revised accordingly (Steps 6 and 7). The final questionnaire was mailed to the highest-rank executive of over 1,200 small to medium size UK-based companies. They were requested to provide information about their experiences and perceptions of e-banking facilities provided by their respective banks. The survey produced 167 usable replies (Step 8). The hypothesised functional relationships and predictive powers of the research and competing models are tested using Partial Least Squares (Step 9).

A1.6 LIMITATIONS OF THIS STUDY

Despite considerable effort to ensure the robustness of the study, there are a number of limitations that define the boundaries of this study and consequently must be stated at the outset.

- 1) The most effective examination of exchange between customers and suppliers involves collecting information from both parties of the dyad. Despite efforts, the nature of the supplier side of the study (i.e., major high street banks) prohibited such an approach.
- 2) The construction of the research and competing models is founded on logic and evidence based information and, although firmly grounded on extant literature, inevitably represents a certain level of abstraction.
- 3) Perceptions of value and risk as well as provision of service quality are dynamic and processional phenomena affected by a variety of internal and factors whose impact is not time or event invariant. Consequently, the formation and behaviour of such phenomena are best examined through a longitudinal rather than, as in this research, cross-sectional design (see for example Rindfleisch *et al.*, 2008).

- 4) This research examines a specific e-service (i.e., e-banking) and the inter-functional relationships of associated constructs. It does not examine the manner in which the e-services has been developed and the technical platforms underpinning its operations.
- 5) In-depth interviews and qualitative data analysis are suggested to represent the most appropriate tools for data collection and analysis of complex phenomena (Eisenhardt, 1989) such as customer loyalty in small to medium size companies. However, this study utilised statistical generalisation based on quantitative analysis of collected data.
- 6) The specification of the research population limits the generalisability of the results in two specific ways. Responses are obtained only from small to medium size UK companies and selection is cross-sectional. Both of these have confounding effects on the reported findings.
- 7) Normative guidelines are presented in this study on the prime assumption that the phenomena under examination are part of a rational process.
- 8) Finally, at the inception and execution of this study the economic, financial and banking landscapes were very different to those prevailing today. Consequently, recent events may have confounding effects on the findings presented in this thesis.

A1.7 STRUCTURE OF THE THESIS

This thesis is divided into five parts (Parts A to E) each subdivided into one or more chapters. The logic and flow of the debate is as follows. Part A comprises a single chapter (Chapter A1) that explicates the theoretical and managerial reasoning for the study and briefly sets out the parameters of the investigation (i.e., theoretical grounding of the study, research aim, expected contributions, and methodological considerations). Part B is devoted to a critical review of the related literature. Specifically, the nature (Chapter B1) and conceptualisation (Chapter B2) of value are presented as well as antecedents and consequences of value (Chapter B3).

Part C presents the adopted research design. Grounded on the literature reviewed in Part B research and competing models are formulated in Chapter C1. The following three Chapters C2 and C3 deal with methodological considerations and specific actions related to the collection of appropriate data. Analysis of the collected data is presented in Part D. The

quality (i.e., reliability, validity and lack of multicollinearity) of the measurement model is tested in Chapter D1 while the results of the research and competing models and the related hypotheses are presented in Chapter D2. Part E comprises a single chapter (Chapter E1) that commences with commentary related to the manner in which the study addressed the objectives stated in Chapter A1 before proceeding to locate the results within extant literature. Contributions to knowledge and normative managerial guidelines are presented and the chapter closes with suggestions/recommendations for further research.

PART B

LITERATURE REVIEW

This part of thesis contains three chapters and is devoted to the review of the relevant literature. Initially debate regarding the nature of customer value is presented (Chapter B1) followed by analysis of the conceptualisations and operationalisations of customer value (Chapter B2). The final chapter, Chapter B3, deals with antecedents (or determinants) and outcomes (or consequences) of value.

CHAPTER B1: CUSTOMER VALUE

B1.1 INTRODUCTION

This chapter is structured around the information presented in Table B1.1 and its purpose is to debate the various definitions and articulate the main characteristics of customer perceived value in the b2b domain¹. Although the material included in this table relate mainly to b2b studies, definitions by Zeithaml (1988), Holbrook (1994) and Woodruff (1997) are also included because of their central position in the general value literature. In addition the definition proposed by Woodall (2003), as a result of his extensive review of the subject matter, is included. The latter author explicates the main principles on which the study of value is predicated upon and demonstrates that despite the variety of terms employed by researchers (e.g., value, perceived value, customer value, value for money, expected or desired value etc.) these represent the same fundamental concept (Woodall, 2003); a conclusion shared by this author. In addition, given the generic nature of the main definitions, when relevant, references from the b2c domain are presented to support general comments made by this author. Finally, the review by Lindgreen and Wynstra (2005) of value in the b2b domain is acknowledged; unfortunately, there are sections in which the debate and related analysis diverge into the b2c value related literature and these authors do not provide a definition of value in the b2b domain.

¹ In their review Lindgreen and Wynstra (2005) separate b2b value relate research into two streams, the value of goods and/or services and the value of buyer-seller relationships. The reader is reminder that the debate in this chapter does not include the relationship value related literature and the term product is used synonymously with offering, i.e. refers to both goods and services.

Table B1.1: Summary of Definitions of Value

Zeithaml (1988:14)	“Perceived value is the consumer’s overall assessment of the utility of a product based on perceptions of what is received and what is given. Though what is received varies across consumers (i.e., some may want volume, others high quality, still others convenience) and what is given varies (i.e., some are concerned only with money expended, others with time and effort), value represents a trade-off of the salient give and get components.”
Monroe (1990:46)	“A buyer’s perception of value represents a trade off between the quality or benefits they perceive in the product relative to the sacrifice they perceive by paying the price.”
Anderson <i>et al.</i> (1993:5)	“... we define <i>value in business markets</i> as the perceived worth in monetary units of a set of economic, technical, service and social benefits received by a customer firm in exchange for the price paid for a product offering, taking into consideration the available alternative suppliers’ offerings and prices.”
Gale (1994:24)	“Value is simply quality ... offered at the right price.”
Holbrook (1994:27)	“Value is an interactive relativistic preference experience.”
Flint <i>et al.</i> (1997:171)	“The customers’ assessment of the value that has been created for them by a supplier given the trade-offs between all relevant benefits and sacrifices in a specific-use situation.”
Patterson & Spreng (1997:416)	“... the most popular conceptualisation in marketing, and the one employed in this study, is a functional one, defining value in terms of performance (quality) and price.”
Woodruff (1997:142)	“Consumer value is a consumer’s perceived preference for, and evaluation of, those product attributes, attribute performances, and consequences arising from use that facilitate (or block) achieving the consumer’s goals and purposes in use situations.”
Lapierre <i>et al.</i> (1999:237)	“Perceived value is a combination of what customers get in terms of benefits such as quality and what they give away in terms of money, time, and effort. In other words, the evaluation of perceived value includes input from the producer as well as the customer.”
Lapierre (2000:124)	“... we concur with the majority of researchers who define customer value in terms of get (benefit) and give (sacrifice) components.”
Han & Han (2001:27)	“We define the customer value of Internet Business in terms of <i>the benefits the customer derives in terms of reducing costs.</i> ”
Ulaga & Chacour (2001:528)	“A value judgement is the customer’s assessment of the value that has been created for them by a supplier given the trade-offs between all relevant benefits and sacrifices in a specific-use situation’ (Flint <i>et al.</i> 1997).”
Flint <i>et al.</i> (2002:103)	“Most authors agree that customer value involves trading off benefits versus sacrifice experiences within use situations ...”
Eggert & Ulaga (2002:110)	“... we define customer-perceived value in business markets as the trade-off between the multiple benefits and sacrifices of a supplier’s offering, as perceived by the decision-makers in the customer’s organization, and taking into consideration the available alternative suppliers’ offerings in a specific use situation.”
Beveland & Lockshin (2003:654)	Adopt definition by Woodruff (1997).
Woodall (2003:21)	“Value for the customer (VC) is any demand-side, personal perception of advantage arising out of a customer’s association with an organisation’s offering, and can occur as reduction in sacrifice; presence of benefit (perceived as either attributes or outcomes); the resultant of any weighted combination of sacrifice and benefit (determined and expressed

	either rationally or intuitively); or an aggregation, over time, of any of all of these.”
Lam <i>et al.</i> (2004:295)	“Customer value can be conceptualised as a comparison of weighted “get” attributes to “give” attributes (Heskett et al. 1994) Customer value is operationalised as a ratio or trade-off between total benefit and received and total sacrifices, taking into consideration the available suppliers’ offerings and prices (Buzell and Gale, 1987).”
Menon <i>et al.</i> (2005:3)	“Customer value is conceptualized as being dependent on benefits received and sacrifices made by customers.”
Cretu & Brodie (2007:232)	Adopt definition by Zeithaml (1988).

B1.2 DEFINING VALUE

Although located in the b2c domain, Zeithaml’s (1988) definition provides an appropriate departure point of debate (Sánchez-Fernández & Iniesta-Bonillo, 2007). Using an exploratory methodology Zeithaml (1988) identified the following four perspectives of value:

1. “Value is low price”
2. “Value is whatever I want in a product”
3. “Value is the quality I get for the price I pay”
4. “Value is what I get for what I give”

The first perspective implies that value is the (lowest) price that a buyer is prepared to pay for a specific offering, while desired benefits associated with the acquisition of goods or services dominate the second perspective. Trade-off between received quality and price paid dominates the third perspective. This, rather narrow perspective of trade-off, is extended in perspective four to include all benefits (get) and sacrifices (give) related with a purchase. By synthesising these four perspectives Zeithaml (1988:14) proposed the following definition:

“Perceived value is the consumer’s overall assessment of the utility of a product based on perceptions of what is received and what is given. Though what is received varies across consumers (i.e., some may want volume, others high quality, still others convenience) and what is given varies (i.e., some are concerned only with money expended, others with time and effort), value represents a trade-off of the salient give and get components.”

This definition implies that value comprises two main components, *get* that refers to utility obtained through a product’s benefits and attributes and *give* that relates to the sacrifices

made in order to acquire them. Perceived value is a subjective evaluation of the trade-off between all that is received and all that is given up in the process of acquiring, using or consuming an object and, it is self-evident that, high value is perceived when a product's benefits or attributes are greater than the corresponding costs involved in its acquisition. Furthermore, value as a comparison of inputs and outputs is rooted in equity theory, which considers the ratio of the consumer's outcome/input to that of the provider's outcome/input (Oliver & DeSarbo, 1988). The equity concept refers to customer evaluation of what is fair, right, or deserved for the perceived cost of the offering (Bolton & Lemon, 1999). Customers are inclined to feel equitably treated if they perceive that the ratio of their outcome to inputs is comparable to the ratio of outcome to inputs experienced by the company (Oliver & DeSarbo, 1988).

However, the above conceptualisation is questioned because of its emphasis on cognitive, rational and utility based considerations and its restricted or narrow perspective that does not account for the complexity and richness of value (see for example de Ruyter *et al.*, 1997; Sánchez-Fernández & Iniesta-Bonillo, 2007). The former criticism, notwithstanding questions regarding the purely rational basis of business exchange (Wilson, 2000), is considered less relevant in the b2b domain because of the formalised (at least to a certain extent) search, evaluation process and multiple involvement present in purchasing decisions of organisations (see for example Bunn, 1993; Bunn *et al.*, 2001; Homburg & Kuester, 2001; Park & Bunn, 2003). The relevance of the criticism related to narrowness of perspective, is evident in, amongst others, Dodds and Monroe (1985), Monroe (1990), Dodds *et al.* (1991), Gale (1994), Patterson and Spreng (1997), Sirohi *et al.* (1998), Sweeney *et al.* (1999) and Teas and Agarwal (2000) who conceptualised value in terms of only (or predominantly) quality and price. The rather dated nature of these studies demonstrates that recent research has deviated from such a perspective and with the exception of Patterson and Spreng (1997) the studies are located in the b2c domain.

The overwhelming majority of researchers in the b2b domain consider the *get* and *give* components of value to represent broad, multi-dimensional constructs (Eggert & Ulaga, 2002; Kumar & Grisaffe, 2004). Although the multifaceted nature of the value components is not always clearly explicated in adopted definitions (see for example Lapierre, 2000; Han & Han, 2001; Flint *et al.*, 2002; Lam *et al.*, 2004; Menon *et al.*, 2005) there is evidence that the *get* component of value accounts of intrinsic (e.g., quality, technical properties etc.; Anderson *et al.*, 1993; Lapierre *et al.*, 1999) and extrinsic (e.g., social; Anderson *et al.*, 1993)

benefits while the *get* component of and monetary (e.g., price; Anderson *et al.*, 1993) and non-monetary (e.g., time effort; Lapierre *et al.*, 2000) costs. Lapierre *et al.* (1999) make a strong case against treating the *give* component as representing only price, and the following contention has direct relevance to this study, "... in a service economy, users become an integral part of the production system which permits delivery of the service and even creation of value. Indeed, customer participation (time and effort) ..." (Lapierre *et al.*, 1999:237). The service-dominant logic of marketing espoused by Vargo and Lusch (2004) is very much in line with the above views, i.e. that value emerges through the services that products provide and is created by the customer through his/her interaction with the product and its provider.

A different orientation in conceptualising value is adopted by Woodruff (1997) whose definition is grounded in the means-end theory (Gutman, 1982). This theory, founded in the consumer domain, links a product's attributes and the consequences of consuming the product to an individual's personal values and consumption goals; consumers select those products that comprise attributes best designed to achieve their personal desired higher level end-states (Sánchez-Fernández & Iniesta-Bonillo, 2007). In the following definition Woodruff (1997:142) depicts the above as three hierarchal levels, i.e. desired product attributes and performances, desired consequences and in-use situations, and consumers' goals and purposes.

"Consumer value is a consumer's perceived preference for, and evaluation of, those product attributes, attribute performances, and consequences arising from use that facilitate (or block) achieving the consumer's goals and purposes in use situations."

At level 1, consumers express preferences for a product's specific attributes and related performances. These lead to level 2 in which the desired consequences and outcomes of the purchase are considered. In turn these link to level 3 in which consumers consider their goals or purposes in relation to the use of the product. In this conceptualisation, the lower levels represent the means by which the higher level end-states are achieved. The hierarchy also depicts a reverse flow, in which consumers' assessment of received value helps them to learn about the consequences of use that they desire most; in turn, this learning guides consumers in attaching importance to product attributes and performances. Consequently, Woodruff proposes that pre-purchase value (i.e., desired value) guides consumers in forming perceptions of post-use value (i.e., received value) in terms of how well or poorly the product has performed. Thus, value can be assessed at the attribute level, the consequence level or

the goal level. The hierarchical structure proposed by Woodruff (1997) advances understanding of value because it takes into account desired (pre-consumption) and received value (during- and post-consumption). Furthermore, accepting that perceptions of pre-purchase value inform post-purchase value in a continuous cycle of evaluation and assessment implies temporality in the formation of perceptions of value (see Section B1.3.3). However, the fact that the definition does not explicitly take into account the sacrifice component of value is viewed as a deficiency (Day & Crask, 2000).

It is evident from the information presented in Table B1.1 that only Beveland and Lockshin (2003) formally adopt Woodruff's (1997) definition. This is considered to be due to questions regarding, (a) its relevance to the b2b domain, and (b) difficulties with the operationalisation of the constituent constructs (see for example Parasuraman, 1997; Smith & Colgate, 2007). The former is based on the implicit reference within the means-end concept of personal values² which in turn is related to the, as yet unresolved, issue of convergence between personal and organisational values (see for example Flint *et al.*, 1997; Verhallen *et al.*, 1998; Shankarmahesh *et al.*, 2003). The latter is reflected in the conceptual (Blosi, 2004) and qualitative orientation and exploratory nature (Flint & Woodruff, 2001; Beverland & Lockshin, 2003) of the studies that have adopted Woodruff's (1997) definition.

The final generic definition that merits specific attention is that proposed by Holbrook (1994). Grounded in axiology, referring specifically to the b2c domain and emphasising the experiential nature of value (Holbrook, 1994:27) states that:

“Value is an interactive relativistic preference experience”.

The first element of the above definition, i.e. *interactive*, refers to a subject-object interaction, where the subject is the consumer and the object is the product of interest; thus, subject-object interaction is both a necessary condition of value and the basis for exchange (Payne & Holt, 2001; Woodall, 2003; Vargo & Lusch, 2004; Sánchez-Fernández & Iniesta-Bonillo,

² Values (plural) are commonly defined as ideals in the form of preferred modes of behaviour or end-states (Rokeach, 1973). According to Arnould *et al.* (2004) “Values are enduring beliefs about desirable outcomes that transcend specific situations and shape one's behaviour.” and consequently should not be confused with the notion of perceived value. A view emphasised by Flint and Woodruff (2001:323) who state that “Sometimes the concepts of customer-desired value and personal values are confused, perhaps due to the similarity of the terms. Consequently, we must first differentiate customer-desired value from the concept of personal values.”

2007). The *relativistic* element of the definition implies that value contains a comparative evaluation. Although not incorporated in the formal definition this evaluation takes the place among objects, people and situations; issues debated further in Section B1.3.6. The *preference* element refers to evaluations among objects and implies choice of one object over another. This is in line with Woodruff (1997) who considers value as a preference judgment. Finally, in terms of *experience*, Holbrook (1994:28) states that value “...pertains not to the acquisition of an object but rather to the consumption of its services (i.e., its usage or appreciation)”. Value therefore resides not within a product, but in the derived and received consumption experiences. This view is inherent in the means-end theory and is explicitly acknowledged in the definitions by Flint *et al.* (1997), Woodruff (1997), Eggert and Ulaga (2002), Ulaga and Chacour (2001) and Flint *et al.* (2002). The above clearly indicate that, although Holbrook’s definition is not explicitly adopted by researchers in the b2b domain, it contains fundamental elements of value relevant to the domain.

B1.3 CHARACTERISTICS OF VALUE

The above debate indicates the existence of the following five recurring characteristic of customer perceived value: (1) it is perceived by customers rather than being determined by supplies and consequently is idiosyncratic in nature, (2) it represents a multifaceted construct, (3) it changes over time, (4) it is contingent on context, and (5) it is formed in relation to competing products. Each of these is debated in turn.

B1.3.1 Perceptual and Idiosyncratic

The notion that value represents customers’ subjective perceptions is explicitly expressed in a number of the definitions listed in Table B1.1 and is acknowledged by a wider spectrum of researchers in the b2b domain (see for example Kortge & Okonkwo, 1993). There is explicit acceptance of value as perceptions (i.e., subjectively rather than objectively formed) of customer (compared to supplier) in the general definitions by Zeithaml (1988), Woodruff (1997) and Woodall (2003). This is illustrated by the following extracts from their respective

definitions; “Perceived value is the consumer’s overall assessment ...”, “Consumer value is a consumer’s perceived ...”, “Value for customer (VC) is a demand-side, personal perception ...”. These views are echoed in the b2b specific papers, for example Anderson *et al.* (1993) state that ‘... received by a customer firm ...’, Lapiere *et al.* (1999) declare that “Perceived value is a combination of what customers ...”, and Eggert and Ulaga (2002) further elaborate by stating that “... we define customer-perceived value in business markets ... of a supplier’s offering, as perceived by the decision-makers in the customer’s organization ...”. Furthermore Simpson *et al.* (2001:121) state that “... it is *perceived value* that provides the foundation upon which the relationship exchange exists”, and in the following passage Blois (2004:251) clearly articulates the importance of the above to practice (and implicitly research):

“What is essential is that suppliers constantly remember that it is the customer’s interpretation of “value” that is important and not what the supplier might think it ought to be. As long as the supplier understands how the customer interprets “value” it does not matter what that interpretation is but this understanding is critical if the supplier is to comprehend how the customer will perceive their product of service as contributing to the creation of value.”

Although the b2b value literature does not provide documented empirical evidence, it is reasonable to expect that the manner in which business exchange takes place (see general debate regarding organisational buying behaviour; Hutt & Speh, 2009) results in considerable inter-and-intra company differences in perceptions of value. The argument for intra-company heterogeneity of perceptions of value is based on extensive evidence which indicates that an individual’s functional responsibilities and location in the decision process frames his/her relative importance of buying criteria (see for example Van Weele, 2005). As for expected inter-company heterogeneity of perceptions of value, this is based on evidence of the impact that differences in buying processes (e.g., centralised vs decentralised), status of the buying function, buying stage and phase etc. have on the manner in organisational buying behaviour (Lewin & Donthu, 2005). Arguments by Lapiere *et al.* (1999) as to differential importance, and by extension impact on perceptions of value, of different types of costs support the above position. Furthermore, the above analysis is consistent with calls by Anderson *et al.* (2006:94) for ‘resonating focus’ based on the premise that “Suppliers [should] provide such a customer value proposition by making their offerings superior on the few elements that

matter most to target customers ... in a way that conveys a sophisticated understanding of the customer's business priorities.”

B1.3.2 Multiple Components

Accepting the debate presented in Section B1.2 leads to the conclusion that, in the b2b domain, the dominant view is that customer value represents the trade-off between *get* and *give* as perceived by customers. As already explained, the *get* component represents perceived intrinsic and extrinsic benefits (Ulaga & Chacour, 2001; Liu *et al.*, 2005; Sánchez-Fernández & Iniesta-Bonillo, 2007) related to use. The former account for attributes integral/build-in to a product (e.g., physical and service attributes) and the latter for attributes that although not part of the product are related to its possession, use or consumption (e.g., image, social, emotional). A further delineation is made by Menon *et al.* (2005) who distinguish between core benefits (i.e., basic or must-have features) and add-on benefits (i.e., features that are not required but help the selection process). On the other hand, the *give* component accounts for the various sacrifices that a customer makes in order to acquire (e.g. price), use (e.g., processing, storing) and dispose of the product. The broadly similar classification that comprises purchase price, acquisition (e.g., ordering, delivering) and operating (e.g., R&D, internal coordination) costs is proposed by Menon *et al.* (2005). Although this categorisation sheds light into different types of use related costs it omits to include disposal costs,

In general terms, Simpson *et al.* (2001) refer to those elements of the *get* and *give* components that are objective in nature, quantifiable and can be expressed in monetary terms as direct, while latent or non-tangible elements as indirect. Finally, although predominantly debated in terms of relationship value, the episodic nature of trade-offs between the *get* and *give* components of value is acknowledged (see for example Ravald & Grönroos, 1996; Payne & Holt, 2001; Grönroos, 2000; Khalifa, 2004) and is congruent with the above identified longitudinal perspective.

B1.3.3 Temporality

Based on his review of the value literature Woodall (2003:4) concludes that “... we individually value different things and at different times in different ways”, a view echoed by Woodruff (1997:141) who states that “... customers may consider value at different times, such as when making a purchase decision or when experiencing product performance during or after use. Each of these contexts centres on a quite different consumer judgement task.” This view, even if not explicitly expressed, is implicit in the use of terms such as ‘Desired Value’ or ‘Expected Value’ that imply a pre-purchase evaluation, ‘Acquisition Value’ or ‘Exchange Value’ that relate to the point of exchange, ‘Received Value’ or ‘Use Value’ that take place during consumption, and ‘Post purchase/Performance Value’ or ‘Redemption Value’ that occur after consumption. Extensive debate of the above is presented by Woodall (2003) who categorises value as, *ex ante*, transaction, *ex post* and disposition and concludes by stating that “Customer evaluation of VC [*value for the customer*] therefore will vary over time and a good/service that appears ‘good value’ at one particular point may not remain so at a later point along the consumption continuum. ... the dominant value ‘form’ at disposal may represent VC as something totally different to that which appealed to the customer at purchase” (Woodall, 2003:24).

In the b2b domain, Flint *et al.* (1997:171) suggest that changes in customers’ perceptions of value can be the results of “Any incident that draws a customers’ attention to the supplier ...” while Eggert and Ulaga (2002:110) claim that “Customer perceived value ... can be considered as a pre- or post- purchase construct.” Within this domain, the temporal nature of value is investigated by Flint *et al.* (1997), Flint and Woodruff (2001), Flint *et al.* (2002), Beverland and Lockshin (2003) and Eggert *et al.* (2006). Although Eggert *et al.* (2006) formally examine changes to the importance of value creating dimensions their study does not include potential determinants of changes. The remaining papers are predominantly concerned with theory development and focus on desired value or take a relationship building perspective largely based on stages of market evolution or relationship life cycle. Furthermore, with the exception of the Beverland and Lockshin (2003) study, the rest do not account for changes in real time, for example a quasi-longitudinal approach was employed by Eggert *et al.* (2006) while the Flint *et al.* (2002) study was cross-sectional with respondents expressing desired changes. Nevertheless, all the above studies confirmed the dynamic nature of (desired) changes in perceptions of value with Flint *et al.* (2002) asserting that value

such changes take place in an emotional context and Beverland and Lockshin (2003) identifying both external and internal drivers of desired value change.

B1.3.4 Context

Although not explicitly stated in the definition presented by Woodruff (1997), it is implied that perceptions of value can change according to a particular use situation or context. The premise behind this position is that consumption goals, the consequences of use, and an object's performance attributes can vary between different occasions (Zeithaml, 1988; Woodruff, 1997; Paterson & Spreng, 1997; Woodall, 2003; Sánchez-Fernández & Iniesta-Bonillo, 2007). Empirical support for the above in the b2b domain, is provided by Chang and Wildt (1994) who found evidence of differential impact of the value components across product context and Kumar and Grisaffe (2004) whose research uncovered significant differences in the importance of constituents of customer value between goods and services.

B1.3.5 Competition

The "... taking into consideration the available alternative suppliers' offerings and prices." extract taken from the definition by Anderson *et al.* (1993) provides an early indication that perceptions of value are not absolute but instead are based on comparative evaluation of available alternatives. Explicit acknowledgement of the need to consider perceptions of customer value within a competitive environment is also found in Eggert and Ulaga (2002) whose definition includes "... and taking into consideration the available alternative suppliers' offerings ..." and the Buzzell and Gale (1987) definition adopted by Lam *et al.* (2004) that asserts that "... Customer value ... taking into consideration the available suppliers' offerings and prices." The above are succinctly summarised by Holbrook (1994) as "... relativistic preference..." and illustrate the fact that as Anderson *et al.* (2006:94) state '... the customer has an alternative.'. Finally, the comparative nature of value is consistent with achieving competitive advantage (Anderson & Narus, 1998; Liu *et al.*, 2005) and is has been discussed in relation to the market orientation literature (see for example Slater, & Narver, 1995; Slater & Narver, 2000; Langerak, 2003; Kirca *et al.*, 2005).

B1.4 CONCLUSION

On the strength of the above, it is concluded that, within the present research domain, the accepted view is that value comprises two main components (*get* and *give*) each accounting for a multiplicity of elements (or dimensions) that facilitate the use of products and services. This view, predominantly derived from the definition presented by Zeithaml (1988), dominates b2b related research since, with the exception of Patterson and Spreng (1997) and Beveland and Lockshin (2003) the remaining definitions presented in Table B1.1 adopt (explicitly or implicitly) a trade-off conceptualisation of value. However, value characteristics such as temporal and comparative nature, found in the definitions by Holbrook (1994) and Woodruff (1997) expand or clarify Zeithaml's (1988) definition and are of relevance in the b2b domain. The above are synthesised by Woodall (2003:21) as follows:

“Value for the customer (VC) is any demand-side, personal perception of advantage arising out of a customer's association with an organisation's offering, and can occur as reduction in sacrifice; presence of benefit (perceived as either attributes or outcomes); the resultant of any weighted combination of sacrifice and benefit (determined and expressed either rationally or intuitively); or an aggregation, over time, of any of all of these.”

This is the definition adopted in this study because it frames the formation of value within a competitive environment and an in-use situation, emphasises the customer dominated perceptions of value, acknowledges the potential for differences in perceptions of value between customers, accounts for comparisons between the *give* and *get* components, and explicit articulates the multifaceted nature of these components and their temporal nature.

CHAPTER B2: CONCEPTUALISATIONS AND OPERATIONALISATIONS OF CUSTOMER VALUE

B2.1 INTRODUCTION

Having dealt with definitions and the main characteristics of customer value in Chapter B1 debate turns to the various conceptualisations and operationalisations found in the related research. Unlike Chapter B1 the debate, based on the information presented in Table B2.1, does include relationship value literature because the latter literature shares common elements with the focal subject of this study (i.e., value of services) and in most cases the distinction is not apparent. At the outset the relevance to the present debate of the general (rather than b2b specific) review by Sánchez-Fernández and Iniesta-Bonillo (2007) and the multiple conceptualisation study by Lin *et al.* (2005) is acknowledged. In addition, although not specific to the b2b domain the conceptualisations of value provided by Sheth *et al.* (1991) is included because of its overall impact. As an overall observation, it is evident from the information in Table B2.1 that despite interest in the subject matter, there is a paucity of conceptualisations and related operationalisations of value in the b2b domain.

Table B2.1: Conceptualisations of Customer Value

Author(s)	Structure
Sheth <i>et al.</i> (1991)	Multidimensional - Conditional , Emotional, Epistemic, Functional and Social
Patterson & Spreng (1997)	Unidimensional
Lapierre <i>et al.</i> (1999)	Unidimensional
Lapierre (2000)	Two multidimensional conceptualisations: Conceptualisation A - Benefit and Sacrifice Conceptualisation B – Product, Service and Relationship
Walter <i>et al.</i> (2001), Walter & Ritter (2003 and Ryssel <i>et al.</i> (2004)	Multidimensional – Direct relationship and Indirect relationship
Eggert & Ulaga (2002)	Unidimensional
Kumar & Grisaffe (2004)	Unidimensional

Lam <i>et al.</i> (2004)	Unidimensional
Spiteri & Dion (2004)	Multidimensional - Product-related benefits, Strategic-related benefits, Personal benefits and Relationship sacrifices
Eng (2005)	Unidimensional
Liu <i>et al.</i> (2005)	Multidimensional - Core service, Support service and Economic
Menon <i>et al.</i> (2005)	Unidimensional
Ulag & Eggert (2005)	Multidimensional – Relationship benefits and Relationship sacrifices
Ulag & Eggert (2006a & b)	Multidimensional – Relationship benefits and Relationship costs
Eggert <i>et al.</i> (2006)	Unidimensional
Bontis <i>et al.</i> (2007)	Unidimensional
Cretu & Brodie (2007)	Unidimensional
Whittaker <i>et al.</i> (2007)	Multidimensional – Functional, Epistemic, Image, Emotional, Social and Price/quality
Barry & Terry (2008)	Multidimensional – Economic relationship benefits and Strategic relationship benefits
Lee & Bellman (2008)	Unidimensional
Palmatier (2008)	Unidimensional
Fiol <i>et al.</i> (2009)	Multidimensional – Functional, Social and Emotional

B2.2 CUSTOMER VALUE AS A UNI-DIMENSIONAL CONSTRUCT

Excluding Sheth and his colleagues, of the 21 conceptualisations in Table B2.1, 12 are unidimensional, i.e. value is measured using either a single statement or a multi-item scale. An expanded account of the information in Table B2.1, to include number of items and treatment, is presented in Table B2.2. The first two columns are self explanatory, while the third column (titled treatment) refers to the manner in which value is conceptualised. Three treatment forms are identified and form the basis of this debate.

Table B2.2: Uni-dimensional Conceptualisations of Customer Value

Author(s)	No. of items	Treatment of value
Patterson & Spreng (1997)	1	Get-give
Lapierre <i>et al.</i> (1999)	2	Overall value and buy
Eggert & Ulaga (2002)	3	Get-give and superior net value
Kumar & Grisaffe (2004)	1	Get-give and overall value
Lam <i>et al.</i> (2004)	1	Profits relative to competitors. Overall measure; weighted sum of perceived quality (5 items) and price (5 items) competitiveness scores.
Eng (2005)	4	Business volume and financial gains.
Menon <i>et al.</i> (2005)	4	Get-give and overall value
Eggert <i>et al.</i> (2006)	4	Overall value
Bontis <i>et al.</i> (2007)	1	Get-give
Cretu & Brodie (2007)	1	Overall
Lee & Bellman (2008)	2	Price-quality
Palmatier (2008)	1	Sales weighted by average commission.

B2.2.1 Value as *Get-Give*

Get-give refers to conceptualisations grounded on the premise that value represents a trade-off between benefits received and sacrifices made. In terms of the *get* component, examination of scale items indicates that some of the reported operationalisations do not explicitly refer to the nature of received benefits. For example, Patterson and Spreng (1997:425) use “Considering the fee paid and what the consultant delivered, overall I believe we received fair value for money” while one of the scale items employed by Menon *et al.* (2005:34) is “For the costs incurred, we find the benefits offered by this supplier to be of high value”. The former offers no clear basis on which respondents can base their assessment or evaluation while the latter confounds benefits within the overall concept of value. When effort is made to inject a degree of specificity, benefits are exclusively represented in the form of quality. This is illustrated in one of the scale items employed by Eggert and Ulaga (2002:118) that is “Compared to the price we pay, we get reasonable quality”, and by Kumar

and Grisaffe (2004:71) who use the statement “CLIENT’s overall quality in relation to your cost, how would you rate CLIENT’s value for the money.” Although the functional aspect of benefits is acknowledged, such expressions provide a very narrow representation of benefits and consequently raise questions regarding the content validity of the measures. The same criticisms are voiced in respect to operationalisations of the *give* component of value. Terms such as cost (see Kumar & Gisaffe, 2004; Manon *et al.*, 2005) lack specificity, while price or fees paid (e.g., Patterson & Spreng, 1997; Eggert & Ulaga, 2002; Bontis *et al.*, 2007) represent only one type, and thus partial representation, of sacrifice. The problematic nature of the above operationalisations is best illustrated by the “The benefit we receive from the relationship with this supplier far outweigh the price/costs we incur” employed by Menon *et al.* (2005) that operates at difference levels of abstraction, i.e. *get* is expressed as general benefits while a more specific representation of *give* is provided.

B2.2.2 Value as an Overall Assessment

Overall indicates operationalisations of value as a general expression or assessment. Examples of such operationalisations are, a rating scale anchored at “very bad value” and “excellent value” employed by Lapierre *et al.* (1999:239), the “The purchasing relationship delivers us superior net-value” found in Eggert and Ulage (2002:118), the “This supplier provides the best value for us” used by Menon *et al.* (2005:34), and the following item in Cretu and Brodie (2007:235) “Overall, how would you rate your purchases from «*supplier*» as being worth what paid for?” Such operationalisations are considered to be especially problematic because they do not provide respondents with a guiding framework or reference point(s) on which to base their assessment.

B2.2.3 Value as a Business and/or Economic Outcome

Finally, there are three studies that measure value in terms of business and/or financial outcomes (Lam *et al.*, 2004; Eng, 2005; Palmatier, 2008). These operationalisations are consistent with conclusions (not based exclusively on b2b literature) by Woodall (2003) and Khalifa (2004) that unidimensional conceptualisations are generally related with utilitarian or

economic views of value. Despite the operational clarity offered by such operationalisations their relevance and applicability to the study of value are questioned because they are contrary to one of the key characteristics of value, i.e. its perceptual nature (see Section B1.3.1).

B2.2.4 Conclusion

Although in their review Sánchez-Fernández and Iniesta-Bonillo (2007:431) conclude that unidimensional conceptualisations “... represent[s] the origin and earlier stages of the study of the concept of perceived value.”, it is evident from the information provided, that such conceptualisations of value are still employed in b2b studies. Furthermore, the related reported operationalisations confirm their cognitive focus. This approach is justified by Paterson and Spreng (1997:424) who, on the grounds of feedback obtained during qualitative research, state that ‘the nature of industrial services suggests that social and emotional value components may not be as relevant in an industrial or business-to-business context as they might be in a consumer purchase. We have therefore adopted a functional; definition of value which was measured with a single item.’ As for the rather limited (in terms of scale items) operationalisations Bontis *et al.* (2007:1433) conclude that in a “practice-orientated survey ... one-item constructs were believed to be more relevant.” Neither of the above are totally convincing argument, because respectively of the relevance of business relationships (i.e., affective states) and the acknowledged complexity (i.e., need for extensive operationalisations) of the value construct. Consequently, there are serious concerns regarding the adoption of uni-dimensional conceptualisations of customer value. It is argued that resultant operationalisations provide weak metrics that seriously compromise ability to test the functional relationships of customer value with nomologically related constructs and generalise and compare findings. This conclusion is especially relevant in terms of the operationalisation adopted by the comparable to this investigation study by Lee and Bellman (2008). Although these authors does not provide information about the adopted operationalisation, through reference to literature quoted in the paper it is possible to infer that a two item scale of ‘price given quality’ and ‘quality given price’ is employed; an operationalisation that is evidently tautological and lacks necessary depth and specificity.

B2.3 CUSTOMER VALUE AS A MULTI-DIMENSIONAL CONSTRUCT

Multi-dimensional conceptualisations of customer value are developed in response to criticisms of uni-dimensional operationalisations as being narrow (or incomplete) and simplistic (Lapierre, 2000; Fiol *et al.*, 2009). The information presented in Table B2.3 demonstrates limited research in the subject matter (excluding Sheth and his colleagues, 13 studies), this is especially the case when compared to the b2c domain where a cursory examination resulted in the identification of over 40 comparable studies. In line with debate in Section B2.2 Table B.2.3 is compartmentalised in order to guide the discussion. Following specification of the author(s), the second column indicates whether value is conceptualised as containing components akin to earlier *get-give* debate, the value dimensions and where appropriate their correspondence to components are presented in the third column, the final column indicates the adopted structures (i.e., whether value or its components are treated as reflective – RLV or formative – FLV higher order constructs).

Prior to discussing the information presented in Table B2.3 the following conceptualisations are considered to contain serious deficiencies. Despite their sound theoretical grounding, the conceptualisation proposed by Baxter and Matear (2004) and the one initially developed by Walter *et al.* (2001) and also employed by Walter *et al.* (2003) and Ryssel *et al.* (2004) are problematic on two grounds. The more important deficiency is that both operationalise value from the supplier's perspective, an approach that is against overwhelming evidence that value is perceived by the customer (see debate in Chapter B1). For example, the former prefix questions related to the 'relationships' dimension of the 'structural intangible value' components with "To what extent does your relationship with your chosen customer assist you in preparing for the future by helping with the following?" (Baxter *et al.*, 2004:499). The latter prefix all questions with "Please rate the benefit/utility that your company gains through the customer relationship!" (Walter *et al.*, 2001:377). The second deficiency is that both conceptualisations fail to account for the *give* component of customer value. A third, less severe, deficiency relates to the competence focus of the Baxter and Matear (2004) study. Emphasis on competencies raises questions as to whether the measures of some dimensions truly represent benefits. For example, one of the scale items of the 'attitude' dimension of the 'human intangible value' component is "They show enthusiasm for their work with you" that is a pre-requisite to rather than part of value. Because of the above concerns these conceptualisations are excluded from further debate

In order to avoid unnecessary repetition, the analytical rigour and adherence to good practices (see review by Lee & Hooley, 2004) in the development and testing of, (a) the psychometric properties of employed measures (i.e., reliability and validity of reflective scales and multicollinearity of formative scales), and (b) structure in the case of hypothesized higher order constructs, are acknowledged in all the studies debated below.

Table B2.3: Multi-dimensional Conceptualisations of Customer Value

Author(s)	Components	Dimensions and no of items	Structure of value
Sheth <i>et al.</i> (1991)		<p>Conditional Emotional Epistemic</p> <p>Functional Social</p>	
Lapierre (2000)	Conceptualisation A – Benefit and sacrifice	Benefit [alternative solutions (3), product quality (4), product customization (4), responsiveness (3), flexibility (4), reliability (5), technical competence (5), image (2), trust (5), solidarity (4)]	Conceptualisations of value and its components indicate FLV structures, however how this is tested is not clearly specified.
	Conceptualisation B – Product, service, relationship	<p>Sacrifice [price (5), time/effort (5), conflict (4)]</p> <p>Product [alternative solutions, product quality, product customization, price]</p> <p>Service [responsiveness, flexibility, reliability, technical competence, price]</p> <p>Relationship [image, trust, solidarity, time/effort, conflict]</p>	
Walter <i>et al.</i> (2001), Walter & Ritter (2003) and Ryssel <i>et al.</i> (2004)	Direct functions of a customer relationship, Indirect functions of customer relationship	<p>Direct functions of a customer relationship [profit (2), volume (3), safeguard (3)]</p> <p>Indirect functions of a customer relationship [innovation (2), market (3), scout (3), access (2)]</p>	The two value components treated as second order RLVs, value not tested as a third order LV.
Baxter & Matear (2004)	Human intangible value, Structural intangible value	<p>Human intangible value [competence (3), attitude (4), intellectual agility (4)]</p> <p>Structural intangible value [relationships (4), organisation (3), reward and punishment (4)]</p>	Value treated as third order and its three components as second order RLVs.
Spiteri & Dion (2004)		<p>Product-related benefits (4) Personal benefits (4)</p> <p>Strategic-related benefits (4) Sacrifices (3)</p>	Value treated as higher order but test not apparent.
Liu <i>et al.</i> (2005)		<p>Core service (3) Support service (4)</p> <p>Economic (3)</p>	Value treated as second order RL.V.

Ullaga & Eggert (2005)	Relationship benefits and relationship sacrifices	Relationship benefits [product benefits (3), service benefits(2), know-how benefits (3), time-to-market benefits (2), social benefits (3)] Relationship sacrifices [process costs (2), price (1)]	Value as third order and its two components as second order FLVs.
Ullaga & Eggert (2006a & b) & Eggert <i>et al.</i> (2006)	Relationship benefits and relationship costs	Relationship benefits [core benefits (product 6 and delivery 3), sourcing benefits (service 4 and personal 7), operations benefits (know-how 5 and time-to-market 3)] Relationship costs [direct costs (1), acquisition costs (4), operation costs (2)]	Value as third order and its two components as second order FLVs.
Whittaker <i>et al.</i> (2007)		Functional (8) Epistemic (3) Emotional (3) Social (2) Image (5) Price/quality (2)	Value treated as second order FLV.
Barry & Terry (2008)		Economic relationship benefits (5) Strategic relationship benefits (2)	Not explicitly stated but appears that value is treated as RL.V.
Fiol <i>et al.</i> (2009)	Functional, Social and Emotional	Functional [price (4), convenience as cost (4), cost of change (2), product quality(durability 3 technical 3), employees' service quality (4), firm's service quality (tangibility 7, reliability 5, security 3)] Social [social image (4), reputation (3)] Emotional [experience (5), personalized treatment (2), interpersonal relationships (5)]	Value treated as a third order and its three components as second order RL.Vs.

B2.3.1 Theory of Consumption Values

Before dealing with specific conceptualisations, Sheth *et al.*'s (1991a & b) theory of consumption values³ is briefly presented because this author agrees with Sánchez-Fernández and Iniesta-Bonillo (2007) that the consumption values theory is one of the most important contributions in value research due to its pioneering conceptualisation of value as a multi-dimensional structure and its influence in subsequent value related research. In the b2c domain it provided the basis on which the PERVAL (Sweeney & Soutar, 2001), GLOVAL (Sánchez *et al.*, 2006), and SERV-PERVAL (Petrick, 2002) scales were developed while applications in the b2b domain are by Whittaker *et al.* (2007) and Fiol *et al.* (2009).

Sheth *et al.* (1991) identified five value dimensions or value types that influence choices in buy/not buy or use/not use situations or when choosing one product type over another, or one brand over another brand. These authors posited that the identified value dimensions contribute additively and incrementally to choice; consumers weight the values differently in specific buying situations, and are usually willing to trade-off one type of value in order to obtain more of another. A brief description of each value dimension follows:

- **Functional** value relates to a product's utility and needs-fulfilment and derives from its intrinsic capacity for functional, utilitarian or physical performance, i.e. a product's ability to fulfil the function that it has been created to provide. This value aligns with economic utility theory and the authors suggest that it is the primary driver of consumer choice. The direct relevance of this value to the b2b domain is self evident and, given the characteristics of b2b exchange (see Lichtenthal *et al.*, 2008), it is argued that it is more relevant than in the b2c domain.
- **Social** value is defined as the perceived utility acquired from a product's association with a particular demographic, cultural or social group. It is argued that development of business relationships represent a form of such a value.
- **Emotional** value associates with extrinsic aspects of value in terms of a product's ability to arouse feelings or affective states, for example certain foods can stimulate feelings of

³ The inductive grounding, based on extensive examination of literature within the consumer behaviour, marketing, economics, psychology and sociology domains, of this conceptualisation leads this author to suggest that it should be considered as an analytical framework rather than a theory.

comfort while some consumers are said to have emotional relationships with their possessions. A feeling of ‘a job well done’ through the use of a specific product illustrates the relevance of emotional value in the b2b domain.

- **Epistemic** value is defined as a product’s ability to arouse curiosity, provide novelty or satisfy a desire for knowledge and could be considered as an influencer of purchase intention and switching behaviour. In the b2b domain, knowledge generated through market intelligence or use of consultants are examples of epistemic value and is a key element in modified rebuy situations (Hutt & Speh, 2007).
- Lastly, **conditional** value derives from its ability to provide temporary functional or social value in a specific situation or context, thus this value is contingent on the particular circumstances facing the consumer at the point of choice. Conditional value therefore does not exist outside of the use situation and so provides extrinsic rather than intrinsic utility. An example relevant to the b2b domain is acceptance of alternative to preferred raw materials during exceptional circumstances (e.g., climatic conditions that prevent shipment of preferred material). However, there are questions regarding the identity and behaviour of conditional value. Specifically, Sheth *et al.* (1991) state that conditional value is derived from temporary functional or social value and consequently can be regarded as an exclusive consideration (i.e., a special case of the other four dimensions) a view supported by Sweeney and Soutar (2001) in the b2c domain.

Sheth *et al.* (1991) claim that their theory has been operationalised in over 200 applications through the development of a vigorous methodology, thus they offer documented evidence of the ability of their theory to describe, explain and predict the consumption behaviour of individuals in any buying situation. Although the b2c literature provides conclusive support to this statement (see for example LeBlanc & Nguyen, 1999; Sweeney & Soutar, 2001; Petrick, 2002; Roig *et al.*, 2006; Moliner *et al.*, 2007; Moliner, 2009) it is also apparent that the ‘theory’ does not include sacrifices and consequently does not account for the *give* component of value.

B2.3.2 Structure and Level of Aggregation

The proposed multi-dimensional conceptualisations reflect different levels of hierarchical complexity. Five studies, i.e. Lapierre (2000), Ulaga and Eggert (2005 & 2006a & b) and Fiol *et al.* (2009), treat value as a third order construct (i.e., value defined by its components that in turn comprise a number of dimensions). Value is conceptualised as a second order construct by Liu *et al.* (2005) and Whittaker *et al.* (2007). Spiteri and Dion (2004) treat each of the value dimensions as separate constructs while the structure of value in the study by Barry and Terry (2008) is unclear. The above reflect important issues regarding structure and level of aggregation.

As already stated, structure refers to whether the proposed conceptualisations should be formative (FLV) or reflective (RLV) and relates to recently expressed concerns regarding misspecification of latent constructs (see for example Law and Wong, 1999; Jarvis *et al.* 2003; MacKenzie *et al.*, 2005). The information contained in the structure column of Table B.2.3 indicates lack of consensus. Three conceptualisations (Lapierre, 2000; Liu *et al.*, 2005; Fiol *et al.*, 2009) treat the higher order structures as RLVs and a further three conceptualisations (Ulaga & Eggert, 2005 & 2006a and b; Whittaker *et al.*, 2007) adopt a FLV structure. Of the remaining papers, the Spiteri and Dion (2004) study depicts the value dimensions as representing FLVs while Barry and Terry (2008) imply that value is a RLV, however neither paper provides sufficient analytical details for verification. However, it is disappointing that only the three papers authored by Ulaga and Eggert and the studies by Baxter and Matear (2004) and Whittaker *et al.* (2007) explicitly deal with issues of structure.

The second of the above identified issues, i.e. level of aggregation, refers to analytical level of aggregation. Specifically whether value should be examined as an overall aggregate or composite construct or whether disaggregation, either at the component or individual dimension levels, should be employed (see general debate by Edwards, 2001). Although all studies adopted an aggregate approach, Spiteri and Dion (2004) and Whittaker *et al.* (2007) provide empirical evidence of differential behaviour of value as an aggregate construct and its dimensions, thus raising questions as to whether aggregation is justified.

B2.3.3 Conceptualisations of the *Get* and *Give* Components

Irrespective of level of abstraction, examination of the scales employed leads to the conclusion that all conceptualisations include elements of both *get* and *give*. Each of these is debated in turn.

B2.3.3.1 Conceptualisations of the Get Component

From Table B2.3 it is apparent that conceptualisations of the *get* component are either explicitly termed as benefits (Lapierre, 2000; Spiteri Dion, 2004; Ulaga & Eggert, 2005 & 2006; Eggert and Ulaga, 2006) or are incorporated under more general constructs (e.g., Liu *et al.*, 2005 – core and support service; Whittaker *et al.*, 2007 – functional, epistemic etc.; Fiol *et al.*, 2009 – convenience, emotional etc.). Details of the specific dimensions of the *get* component of value are presented in Table B2.4 and with the exception of Barry and Terry (2008) there is evidence of considerable convergence.

Notwithstanding differences in terminology, the proposed operationalisations account for the quality or ability of the purchase to deliver the intended outcomes. For example, the scale by Lapierre (2000:137) includes “The durability of products you buy”, Ulaga and Eggert (2006:134) employ “Compared to the second supplier, the main supplier provides us with better product quality”, while Fiol *et al.* (2009:292) use “The technical specifications of the supplier’s products are adequate for our requirements”. The need to include measures related to the value of support activities is also evident. Corresponding examples from the above authors are, “The ability to do things right the first time”, “Compared to the second supplier, the main supplier provides us with better services”, and “Our main supplier offers us fast and flexible service”. By cross referencing the information in Tables B2.3 and B2.4 we can see that Spiteri and Dion (2004) include support aspects of value under both strategic benefits (i.e., new products) and product benefits (i.e., reliability and safety). As for the Whittaker *et al.* (2007) study, the purely service nature of the research domain (i.e., professional consultancy) is considered to be the reason for not including such elements of value.

In addition, there is substantial evidence that customer value is not confined within the product and service aspects of business activities. The need for personal interactions between supplier and customer is a source of value and this is reflected in dimensions related to personal experiences (Ulaga & Eggert, 2005; Fiol *et al.*, 2009), emotional benefits (Whittaker *et al.*, 2007), and personal development (Ulaga & Eggert, 2005; Whittaker *et al.*, 2007).

Finally, there are suggestions that value also resides within broad business activities between two organizations. Strategic aspects such as achieving competitive advantage (Spiteri & Dion, 2004; Barry & Terry, 2007) and leverage (Lapierre, 200; Whittaker *et al.*, 2007; Fiol *et al.* 2009) are included in operationalisations of customer value.

Table B2.4: Dimensions of the *Get* Component of Customer Value

Author(s)	Core product or service	Support	Personal & Relational	Strategic & Organisational
Lapierre (2000)	Product quality	Alternative solutions Product customisation Responsiveness Flexibility Reliability		Image
Spiteri & Dion (2004)	Product benefits		Personal benefits	Strategic benefits
Liu <i>et al.</i> (2005)	Core service	Support service		
Ulaga & Eggert (2005)	Product quality	Service quality Product reliability Service reliability Know-how Development of core competencies Time-to-market Innovation	Pleasant working environment Personal satisfaction Personal value Personal recognition	
Ulaga & Eggert (2006a & b) and Eggert <i>et al.</i> (2006)	Core product	Core service Delivery Know-how Time-to-market	Personal interaction	
Whittaker <i>et al.</i> (2007)	Functional		Epistemic Emotional	Image
Barry & Terry (2008)				Strategic value
Fiol <i>et al.</i> (2009)	Durable quality Technical quality	Tangibility & technical competence Reliability Security Employees	Experience Personalised attention Interpersonal relationships	Image Reputation

B2.3.3.2 Conceptualisations of the Give Component

Similarly to *get*, in Table B2.3 the *give* component of value is represented under a variety of terms, such as sacrifice (Lapierre, 2000 – conceptualisation A; Spiteri & Dion, 2004 – relationship sacrifices; Ulaga & Eggert, 2005), economic (Liu *et al.*, 2005), costs (Ulaga & Eggert, 2006; Eggert and Ulaga, 2006) and price/quality (Whittaker *et al.*, 2008). Furthermore, some authors included sacrifices under broader dimensions (e.g., Barry & Terry, 2008 – economic; Fiol *et al.*, 2009 – functional). In line with debate in Chapter B1, the various dimensions of the *give* component can be classified as either monetary or non-monetary.

From Table B2.5 we can see that all conceptualisations include a monetary element. In some operationalisations price is explicitly stated (e.g., “Our main supplier has a reasonable price” - Fiol *et al.* 2009:295) while in others it is part of value for money (e.g., “The price/quality ration was good” - Whittaker *et al.*, 2007:326). With the exception of Liu *et al.* (2005), Whittaker *et al.* (2007) and Barry and Terry (2008) the studies include a number of non-monetary sacrifices that, despite differing terminologies, represent loss of time either as an overall sacrifice (e.g., “Compared to the second best supplier ... supplier A [main supplier] cost us more in terms of time - Ulaga & Eggert, 2005:97) or as the result of specific activities (e.g., “The effort of negotiation with the employees of the supplier to reach an agreement is appropriate” – Fiol *et al.*, 2009:295).

Table B2.5: Dimensions of the *Give* component of customer value

Author(s)	Monetary	Non-monetary
Lapierre (2000)	Price	Time/effort/energy
Spiteri & Dion (2004)	Price	Time Effort
Liu <i>et al.</i> (2005)	Value for money	
Ulaga & Eggert (2005)	Price	Time Coordination effort
Ulaga & Eggert (2006a 7 b) and Eggert <i>et al.</i> (2006)	Price	Ordering Delivery Inventory Coordination Manufacturing Downtime

Whittaker <i>et al.</i> (2007)	Value for money	
Barry & Terry (2008)	Price Value for money	
Fiol <i>et al.</i> (2009)	Price	Convenience Cost of change

B2.3.4 Conclusion

Despite the lack of extensive research the evidence presented above indicates two main areas of convergence amongst researchers that advocate a multi-dimensional approach to the study of customer value. The need to account for both the *get* and *give* components of customer value is the starting point of agreement that, in turn, leads to consensus as to the multi dimensional nature of these components. The above are consistent with general literature on selection and evaluation criteria employed in organisational buying behaviour (see differentiation between performance, economic, integrative, adaptive and legalistic criteria; Johnston & Lewin, 1996). However, this author raises concern regarding conceptualisations that, within a single dimension, combine elements of *get* and *give* (for example Fiol *et al.* 2009 conceptualise the ‘functional value’ component as comprising, amongst other dimensions price and product quality). Specifically, it is suggested that such approaches are inherently problematic because the *get* and *give* components of customer value operate at contrasting levels. Consequently, by aggregating benefits and sacrifices there are dangers of confounding effects not only on the metric of the construct but also on its functional relationships with its antecedents and outcomes. However, must acknowledge that in the operationalisations by Barry and Terry (2008) and Fiol *et al.* (2009) the wording of the scale items related to sacrifices removes the above concerns because are expressed in a ‘positive’ manner. For example, in Fiol *et al.* (2009:295) one of the items under monetary sacrifices is “Our main supplier has a reasonable price”. Unfortunately, Lapierre (2000) does not provide sufficient information to enable this author to comment on the specific point.

A final consideration that merits attention is the structure of customer value. The, as yet, unresolved issue of whether customer value should be conceptualised as a higher order construct and if so whether it should be treated as a formative or reflective latent variable is illustrated in the debate presented in Section B2.3.2. Regarding the former, despite apparent agreement towards adopting a higher order structure and the parsimony that such an approach

offers there is need for further examination as to the impact that differential behaviour of value components and their dimensions have on theory development and, possibly more importantly to, practice. As for the treatment of higher order conceptualisations of customer value, although Lin *et al.* (2005) provides empirical evidence of analytical stability of both formative and reflective structures they suggest that on balance formative structures should be adopted. However, in a more paper, Baxter (2009) following analysis of the merits of both types of structures emphasis the possibility for multiple conceptualisation based on theoretical considerations and reaches the less prescriptive conclusion of “.. the differences in conceptualisation [of value] result from more than one underlying streams of research and that each stream is conceptually quite distinct and need to follow its own direction for future research.” (Baxter, 2009:1370).

B2.4 CONCLUSION

The purpose of this chapter is to examine the merits of conceptualisations (and by extension operationalisations) of perceived customer value and the debate revolves around uni-and-dimensional conceptualisations. In a study not specific to the b2b domain, Lin *et al.* (2005:333) suggest that, despite the merits of multi-dimensional conceptualisations “To select [between uni-and-multidimensional models] is a contingency issue. The unidimensional and first order multidimensional specifications are appropriate when the objective is to assess overall value perceptions or value perceptions at the component level. These models are easily implemented and have merits for evaluating organizational effectiveness, for example, benchmarking management, ... When the objective is to confirm interrelationships of constructs in a nomological network the proposed second-order formative specification is a theoretically convincing structure.” This position is contrasted with Ulaga and Eggert (2006:131) who state that “Consequently, researchers may choose between a multidimensional scale with multiple items and Unidimensional counterpart with only few items, depending on their research objectives. Relying on the multidimensional scale is key for research investigating the value-creating dimensional of a business relationship. For efficiency reasons, however, scholars might prefer the Unidimensional scale when integrating value into a broader nomological network.”

The above indicate lack of agreement amongst researchers. Having reviewed the evidence, this author maintains that uni-dimensional conceptualisations are inherently ambiguous, do not account for the complexity of the customer value construct and seriously limit researchers' ability to generalise and compare results between different studies. Consequently a multi-dimensional approach to the conceptualisation of customer value is required. The debate presented in Section B2.3 provides convincing evidence that multi-dimensional conceptualisations, by explicitly identifying the elements or dimensions of the *get* and *give* components of customer value overcome the drawbacks associated with uni-dimensional conceptualisations. The delineation of the constituent parts of customer value present in multi-dimensional conceptualisations provides a richer basis on which the construct can be studied. The above review identified three levels of received benefits (functional relate to the core product or service, organisational relate to the collaboration between organisations, and personal relate to the individuals in the collaborating organisations) and two level of sacrifices (price paid and costs associated with time and effort). Finally, on balance it is suggested that the structure of customer value and its two main components of *get* and *give* should be formative while issues related to the level of analytical aggregation are still unresolved because of lack of systematic examination.

CHAPTER B3: ANTECEDENTS AND OUTCOMES OF CUSTOMER VALUE

B3.1 INTRODUCTION

The debate presented in this chapter deals with the functional relationships between customer value and its antecedents (or determinants) and outcomes (or consequences). As in Chapter B2 literature related to relationship value is included and the debate focuses on empirical rather than conceptual papers. Overall, the information presented in Tables B3.1 and B3.2 confirms the already expressed paucity of related research with only 14 relevant studies being identified. Of these six include both antecedents and outcomes while those focusing exclusively on either antecedents or outcomes are correspondingly four and five. The reported research domains include both products (Eng, 2005; Menon *et al.*, 2005; Eggert *et al.*, 2006; Cretu & Brodie, 2007; Barry & Terry, 2008) and services (Paterson & Spreng, 1997; Lapierre *et al.*, 1999; Kumar & Grisaffe, 2004; Lam *et al.*, 2004, Spiteri & Dion, 2004; Liu *et al.*, 2005; Bontis *et al.*, 2007; Whittaker *et al.*, 2007)⁴. Antecedents of value are debated first followed by its outcomes.

B3.2 ANTECEDENTS OF CUSTOMER VALUE

Debate related to the behaviour of antecedents of value is based on the information contained in Table B3.1. The material presented in this table differs from similar summaries are by Spiteri and Dion (2004) and Barry and Terry (2008) in that it contains only empirical papers published in referred journals. Following analysis three overall classifications (quality, sacrifice and other variables) are identified and each is debated in turn.

⁴ The Eggert and Ulaga (2002) and Palmatier (2008) investigations do not provide sufficient information regarding their study population.

B3.2.1 Quality

As part of discourse on value Holbrook (1994:25) quotes from his and Corfman's 1985 work that "It appears that available definitions fail to answer our basic question concerning the meaning of quality." Nevertheless, Garvin (1984) provides a broad framework within which issues related to product quality can be studied. He identified five approaches to defining product quality, "(1) the transcendent approach or philosophy; (2) the product-based approach of economics; (3) the user-based approach of economics, marketing and operations management; (4) the manufacturing-based, and (5) value-based approached of operations management." (Garvin, 1984:25). However, despite the apparent clarity of specification, examination of the above approaches indicates considerable conceptual overlap between them and with the concept of value. For example, under 'user-base approach' Garvin (1984:27) states "User-base definitions start from the ... that quality 'lies in the eyes of the beholder'. Individual customers are assumed to have different wants or needs, and those goods that best satisfy their preferences are those that they regard as having the highest quality. This is an idiosyncratic and personal view of quality and one that is highly subjective." While the 'value-based approach' is founded on "... a quality product is one that provides performance at an acceptable price or conformance to an acceptable cost." (Garvin, 1984:28).

The above identified subjective (e.g., 'user-defined') nature of quality is further emphasised by Parasuraman *et al.* (1988:13) in respect to quality of services, "... service quality is an abstract and elusive construct because of three features unique to services: intangibility, heterogeneity, and inseparability of production and consumption." Unlike Garvin (1984) who does not provide an explicit definition of product quality the above authors state that "Perceived quality is the consumer's judgment about an entity's overall excellence or superiority ... it is a form of attitude, related but not equivalent to satisfaction, and results from a comparison of expectations with perceptions of performance." (Parasuraman *et al.*, 1988:15).

The above perspectives are both present in b2b domain. Subjective evaluations of quality are included because of emphasis, amongst others on technical specifications, adherence to standards, prompt delivery, while subjective aspects of quality are present in elements such as provision of information, inter-personal relationships etc. Using literature from the service domain Patterson and Spreng (1997:419) argue for differentiating between technical ("what" is delivered) and functional ("how" is delivered) determinants of customer value. The former

are debated in this section while the latter are discussed in Section B3.2.3.1. Conformances to specifications and/or meeting minimum standards are reflections of quality. According to Doney and Cannon (1997) meeting such specific requirements is a qualifier for a supplier to become part of a potential customer's consideration set. Information contained in the second column of Table B3.1 indicates considerable convergence among researchers as to the significant impact of quality on the formation of customers' perceptions of value. Of specific relevance to this study are the results by Lee and Bellman (2008) that indicate support for the impact of both structural (hardware) and personal (human) aspects of quality on perceptions of value of financial services. However, there are concerns regarding the manner in which quality is operationalised in each of the reviewed papers⁵.

Notwithstanding recent debate by Rositter (2002) regarding the merits of single item measures, given the complexity of the construct, the single item operationalisations by Kumar and Grisaffe (2004) and Cretu and Brodie (2007) are considered inappropriate. Furthermore, the "Taking into consideration your own experiences as well as what have heard, how would you rate the overall quality ... products, services, and programs?" measure by Kumar and Grisaffe (2004:71) contains the simultaneous evaluation of more than one domains, and it is possible that each of these has differential quality. The same applies to "Overall what rating would you give «*supplier*» on providing products and services that meet your needs?" by Cretu and Brodie (2007:235). In addition, the latter study contains evidence of lack of domain discrimination because on page 234 they state that "... trade-off between perceived benefits (i.e. perceived product and service quality) ..." Quality is inherent in a product or service while benefits accrue via use or consumption, a view implicitly accepted by these authors because their research model depicts quality and value as separate constructs.

Patterson and Spreng (1997) and the closely related paper by Whittaker *et al.* (2007) use a four item scale of responsiveness, reliability, dependability and professionalism while Lapierre *et al.* (1999) employ a three item scale of competence, reliability and communications. The ability of single item measures for each of the above is questioned given that each represents a latent variable. Furthermore, treating (service) quality as a reflective latent variable (RLV) is considered not to be consistent with related guidelines (see

⁵ Unfortunately it was not possible to identify the quality measures employed by Lee and Bellman (2008).

Section C3.2)⁶. Use of terms such as ‘basic needs’ and ‘core benefits’ contained in the three item scale employed by Menon *et al.* (2005) lack specificity.

The measure for core offering employed by Eggert *et al.* (2006) has considerable merit. It accounts for elements of quality of the product and supporting activities (delivery) and uses multiple items to measure each of these elements. However, the manner in which product quality and delivery performance are combined to provide a single metric is not clear and it does not account for other important support activities such as information, customisation etc. Furthermore, it is argued that the use of the term benefits in the study by Barry and Terry (2008:237) is not always consistent with the wording of the adopted scale items. For example, one of the scale items of the core offering benefits scale is “The work performed by this supplier typically meets our expectations for life cycle reliability” that refers to expectations rather than received benefits. Finally, despite its grounding in extant literature, the conceptualisation of relationship quality adopted by Palmatier (2008) is questioned because it includes outcomes of relationship quality such as trust and commitment.

In addition to the above raised questions regarding conceptualisations and related operationalisations of quality the stability of the results presented in Table B3.1 is further questioned by reference to the findings reported by Whittaker *et al.* (2007). Specifically, these authors indicate that treating value as an overall composite construct conceals the fact that quality significantly impacts on the formation of only three of the six value dimensions (i.e., emotional, functional and image) under examination. This is in line with debate in Sections B1.3.4 and B2.3.2 and indicates the need for further research regarding the appropriate level of aggregation of customer value. This is a recurring issue to the subsequent debate.

B3.2.2 Sacrifice

Treating sacrifice as a determinant of value is considered to be contrary to the debate presented in Section B1.3.2 in which it is concluded that sacrifice (or *give*) is a component of

⁶ Briefly, it is not obvious why the scale items should be correlated and whether they should exhibit identical relationship with other nomologically related constructs.

value. Treating sacrifice as a determinant of value is partly because of misinterpretation and conceptual ambiguity. For example, Menon *et al.* (2005:6) use Ulaga and Chacour (2001) to support that "... contemporary marketing literature has recognized value as a function of benefits and sacrifices ..." This interpretation is questioned since examination of the Ulaga and Chacour (2001) paper indicates that these authors propose that value comprises multiple components, one of which is sacrifice, thus implying that sacrifice is part rather than an antecedent of value. Similarly, by stating that "Perceptions of customer value can be viewed as a trade-off between perceived benefits ... and perceived sacrifices ...", Cretu and Brodie (2007:234) accept that a metric of customer value should contain both benefits and sacrifices. The logical extension is that their treatment of sacrifice as a determinant rather than part of value is not consistent with the above position.

An example of ambiguity is found in Lapierre *et al.* (1999:236) who state that "... the value of a service also includes another component, total price, which includes both the price paid for the service, and the costs encountered in acquiring the service ..." The use of the terms 'component' and 'includes' imply that cost elements are part rather than determinants of value. In the same paper they contradict the above position by stating that "However, it is this perceived sacrifice, i.e., the monetary price plus the nonmonetary price, that influences the perceived value of the product ..." while later in the text they appear to return to the original position when they state that "Value is the result of a ratio between perceived benefits and price ..." Furthermore, despite the above implied, correct, conceptualisation of sacrifice as comprising both monetary and nonmonetary elements there are concerns regarding the operationalisation employed. The first concern relates to lack of clarity and contradiction present in "As expected in this research context, monetary cost is a somewhat stronger indicator of the sacrifice than nonmonetary const. However, as the contribution of monetary and nonmonetary costs are both high, customers assess time and effort much like they do assess money, i.e. they evaluate the three sacrifice components in a very similar manner" (Lapierre *et al.*, 1999:342-3). The first sentence implies relative dominance of monetary costs while the second sentence implies equivalence. Furthermore, it is unclear whether similar evaluation means equivalence or the manner in which evaluations are made. Following from the above, and on the strength of debate presented in Section B2.3.3 the formative structure of the sacrifice construct is questioned.

The literature employed by Kumar and Grisaffe (2004) to justify treating price as a determinant of value is limited and dated⁷ and, in addition, there are questions regarding the wording of the single item scale employed. Specifically, “Overall, how would you rate the price of CLIENT’s products, services, and programs” is an example of a double-barrelled question that violates good practices in wording of questions (see for example Churchill & Iacobucci, 2005; Bryman & Bell, 2007). Finally, having examined the debate provided by Barry and Terry (2008) it appears that they base their treatment of sacrifice as an antecedent of value not on value specific but on general relationship marketing literature. Consequently, although their conclusion that reduction of costs is an important consideration in the development of business relationships is accurate it should not be extended to imply that costs (and consequently sacrifice) is a determinant of customer value.

Nevertheless, with the exception of acquisition costs (Menon *et al.*, 2005) the results reported in Table B3.1 provide support for the significant impact of sacrifice on customers’ perceptions of value. In analytical terms this is not surprising given adopted operationalisations. For example, one of the scale items employed by Menon *et al.* (2005:34) to measure customer value is “For the costs incurred, we find the benefits offered by this supplier to be of high value” and they prefix scales related to sacrifice with “How do each of the following costs compare ...” A further example is provided by Cretu and Brodie (2007:238) who employ “What rating would you give «*supplier*» overall on their prices and costs?” for sacrifice and “I would like you to think about what you get for what you pay overall” for value. The overlapping and consequently confounding nature of these measures is self evident.

B3.2.3 Other Variables

In addition to quality and sacrifice, authors have identified a number of other antecedents to customer value. These can be broadly grouped into the following three areas, (a) those related to the process employed in the delivery of value, (b) strategic drivers of customer

⁷ A single reference by Rao and Monroe (1989) is used that does not refer to value but deals with general issues of pricing, branding, product quality and store name.

value, and (c) value derived through the association with a specific supplier. Each is debated in turn.

B3.2.3.1 Process/Functional

In Section B3.2.1, the technical and functional differentiation proposed by Patterson and Spreng (1997) is explained and technical issues are debated in that section. Here the emphasis is on functional (i.e., 'how') determinants of customer value. Although the information presented in Table B3.1 indicates a wide variety of functional determinants of customer value, there are underlying themes that help to organise this diversity.

Context specificity is the first theme. Two studies, Patterson and Spreng (1997) and Whittaker *et al.* (2007) focus on customer value derived from consultancy thus the sector specific constructs of methodology, global and problem identification. Mutual understanding and exchange of information is the second theme and is represented by constructs such as relationship (Patterson & Spreng, 1997), sourcing process (Eggert *et al.*, 2006) and business understanding (part of operational benefits; Barry & Terry, 2008). The third themes contains elements of capacity to respond to customers' needs and is represented by customer focus (Kumar & Grisaffe, 2004), supplier reliability and flexibility (parts of operational benefits; Barry & Terry, 2008). Although there is face validity in these constructs there is danger of confounding effect with elements of service quality (for example reliability is part of service quality; see Lapierre *et al.*, 1999; Whittaker *et al.*, 2007). The final theme relates to theoretical grounding and is specifically relevant to the studies by Eng (2005) and Palmatier (2008) that employ very different determinants of value to those debated above. Their theoretical grounding explains their divergence from the other studies. The focal interest of the former is learning and related issues of organisational interdependence, while the emphasis of the latter is social network theory.

Overall, the evidence provided by the above studies confirms the significance of functional determinants of customer value. However, as in Sections B3.2.1 above, results presented by Whittaker *et al.* (2007) raise questions regarding the homogeneity of the reported evidence across value components and their dimensions. In their paper the latter authors use arguments based on the means-end conceptualisation of value proposed by Zeithaml (1988) and Woodruff (1997) to explain why problem identification was found to significantly impact on overall value and each of the value dimensions while this was not the

case for methodology. Specifically, they suggest that the differential impact of problem identification and methodology are due to a hierarchical structure of perceptions of value and that in the specific domain problem identification takes place before specification of methodology. This represents another area where further research is required.

B3.2.3.2 Strategic

Consistent with debate in Section B2.3.3.1 a number of strategic determinants of customer value are proposed and tested. Under the term outcomes, Patterson and Spreng (1997) provide evidence of the significant impact that perceptions of relevance or usefulness of a purchase in achieving organizational objectives have on the corresponding perceptions of customer value. This is consistent with the already expressed view of value in use (see Section B1.2) and is illustrated in the following example from the employed scale, “[the consultancy] Produced results which we are able to implement”.

The influence that supplier activities have on their customers’ ability to achieve their organisational objectives is demonstrated in the significant impact of innovativeness (Kumar & Grisaffe, 2004), add-on benefits (Menon *et al.*, 2005) and customer operations (Eggert *et al.*, 2006). Innovative products that are “... creative and radically different ...” (Kumar & Grisaffe, 2004:51) inherently provide benefits that are superior (value added or add-on benefits) to those offered by alternative suppliers (Menon *et al.*, 2005:34; “In general, this supplier’s overall offering is better than what other vendors provide in the marketplace”). However, ability to offer superior products will have limited impact on market performance without knowhow and speed to market (Eggert *et al.*, 2006:26; “... the main supplier knows better how to help us drive innovation in or product”, “... the main supplier helps us more in getting our products to market faster”). Collectively, the above, through enhanced value, enable customers to achieve competitive advantage.

B3.2.3.3 Market Status

Aspects related to the competitive position of a supplier are proposed to be determinants of customer value. According to Kumar and Grisaffe (2004) market status impacts on perceptions of customer value at two levels, (a) suppliers obtain higher status because of superior quality products (see Section B3.2.1), and (b) reduces uncertainty and risk. The significant impact of leadership and reputation is, correspondingly, confirmed by Kumar and

Grisaffe (2004) and Cretu and Brodie (2007). On the other hand, the brand image to customer value relationship is not confirmed (Cretu & Brodie, 2007; Lee & Bellman, 2008). The latter finding is surprising given emerging evidence of the relevance of branding in the b2b domain (see for example, Mutambi, 2002; McQuiston, 2004; Walley *et al.*, 2007). Notwithstanding some cases of OEM manufacturers⁸, it is suggested that this finding indicates that brand image influences choice of supplier rather perceptions of post consumption value.

B3.3 OUTCOMES OF CUSTOMER VALUE

Adopting a similar approach to antecedents of value, the following debate is based on the three themes (i.e., satisfaction, loyalty and other variables) that form the structure of the information found in Table B3.1.

B3.3.1 Satisfaction

Despite extensive attention (especially in the b2c domain) there is divergence in terms of defining satisfaction (Szymanski & Henard, 2001) with transaction-specific and cumulative or overall being the dominant approaches. The transaction-specific approach defines satisfaction as an emotional response by the consumer (or customer) to the most recent transactional experience with an organization (Oliver, 1993). The associated response occurs at a specific time following consumption, after the choice process is completed. The affective response varies in intensity depending upon the situational variables that are present. On the other hand, the overall satisfaction perspective views customer satisfaction in a cumulative evaluation fashion that requires summing the satisfaction associated with specific products and various facets of the firm, thus it is cumulative in nature.

⁸ Examples include products that visually present the brand of their components, such as PCs.

Table B3.1: Antecedents of Customer Value

Author(s)	Quality	Sacrifice	Other variables
Patterson & Spreng (1997)	√ (service)		Outcomes - √ Methodology - √ Relationship - √ Global - √ Problem identification - √
Lapierre <i>et al.</i> (1999)	√ (competence, reliability, communications)	√ (cost, time, effort)	
Kumar & Grisaffe (2004)	√	√ (price)	Customer focus - √ Industry leadership - √ Innovativeness - √
Eng (2005)			Resource interdependence - √ Resource fit - √ Relationship connections - √ Resource interdependence - √
Menon <i>et al.</i> (2005)	√ (core benefits)	Purchasing price - √ Acquisition costs - ns Operations costs - √	Add-on benefits - √
Eggert <i>et al.</i> (2006)	√ (core offering: (product quality, delivery performance))		Sourcing process (service support, personal interaction) - √ Customer operations (supplier know-how, time to market) - √
Cretu & Brodie (2007)	√ (product and service)	√ (prices and costs)	Brand image - ns Reputation - √
Whittaker <i>et al.</i> (2007)	Overall value - √ Emotional - √ Functional - √ Epistemic - ns Social - ns Image - √		Problem identification to: Overall value - √ Emotional - ns Functional - √ Epistemic - ns Social - ns

	Price/quality – ns		Image – √ Price/quality – ns Methodology to: Overall value – √ Emotional – √ Functional – √ Epistemic – √ Social – √ Image – √ Price/quality – √
Barry & Terry (2008)	√ (core benefits) √ (sourcing benefits: service efficiency, personal interaction)	Cost advantage – √ Switching costs – √	Operational benefits (supplier reliability, business understanding, flexibility) – √
Lee & Bellman (2008)	√ (hardware and human)		Image - ns Expectations - ns
Palmatier (2008)	√ (relationship)		Contact density – √ Contact authority – √ Service content – √ (partial)

Key: √= Relationship/pathway is supported; ns = Relationship/pathway not supported

The case for satisfaction to be an outcome of customer value is clearly explicated by Eggert and Ulage (2002). The core of their arguments is the predominantly cognitive nature of customer value and the affective evaluative nature of satisfaction. They summarise their position by stating that "... satisfaction must be considered as a post-purchase construct. Customer perceived value, in turn, is independent of the timing of the use of a market offering ..." (Eggert & Ulaga, 2002:110), a view shared with Lam *et al.* (2004). Unlike the b2c value literature in which, based on debate by Oliver (1999), there are studies that model value as an outcome of satisfaction (see Bolton & Drew, 1991; Duman & Mattila, 2005), the view that customer value impacts on satisfaction dominates the research in the b2b domain. In addition, consistent with the temporal and episodic nature of customer value, cumulative (i.e., overall) rather than transactional conceptualisations of satisfaction are employed (Spiteri & Dion, 2004; Brontis *et al.*, 2007).

With the exception of Kumar and Grisaffe (2004), Cretu and Brodie (2007) and Barry and Terry (2008) the rest of the studies in Table B3.2 include satisfaction as an outcome of value and/or its dimensions (see Spiteri & Dion, 2004; Whittaker *et al.*, 2007). The related results provide considerable support for the impact of customer value on satisfaction and this relationship appears to pertain to both short and long term business relationships (Liu *et al.*, 2005). Furthermore, as with debate in Section B3.2 there is evidence that the customer value to satisfaction relationship behaves differentially depending on the analytical level or aggregation of customer value. Although Spiteri and Dion (2004) and Whittaker *et al.* (2007) report significant impact of perceptions of customer value on satisfaction they also indicate that, the same does not always apply when this relationship is tested at the component or dimension level. Spiteri and Dion (2004) provide support for the benefit components of value but not for the sacrifice component. A more complex picture emerges from the Whittaker *et al.* (2007) study that reports significant impact on satisfaction only of the social and price/quality components (dimensions) of customer value. Although, as yet, there are no explanations for the incompatibility of the results reported by the above studies, this author suggests that they indicate the idiosyncratic and/or context specific nature of customer value; the Spiteri and Dion (2004) study was carried out amongst veterinarians while the research domain of the Whittaker *et al.* (2007) study is consultancy services.

B3.3.2 Loyalty

Given the central role of this construct to the research presented here the debate starts with an overview of the relevance of loyalty in the study and practice of marketing practice. This is followed by definitions and conceptualisations of loyalty and the section concludes with debate regarding the main antecedents, including information presented in Table B3.1, of loyalty.

B3.3.2.1 Relevance, Definitions and Conceptualisations

Within the marketing community, customer loyalty has long been regarded as an important goal (Reichheld & Schefer, 2000) with Taylor and Hunter (2003:21) stating that loyalty is “the ultimate endogenous construct for model prediction”. Examination of the subject pointed out that two of the more effective means of generating customer loyalty are to delight customers (see for example Oliver, 1999; Lee *et al.*, 2001;) and to deliver superior value derived from excellent services and quality products (Parasuraman & Grewal, 2000). In addition scholars argue that switching costs can significantly influence customer loyalty either as a direct determinant or through customer satisfaction (Fornell, 1992; Lee *et al.*, 2001; Oliver, 1999) and perceived value (Woodruff, 1997). The above imply that creating loyalty in the b2b domain is not only maintaining customers but also about developing mutually beneficial relationships and instilling a sense of value that encourage future purchases and advocacy by customers.

Furthermore, there is considerable agreement amongst academics of the impact of loyalty on company performance (see Reichheld & Sasser, 1990; Fornell, 1992; Anderson *et al.*, 1994; Innis & La Londe, 1994) with authors such as Rust *et al.* (2000) and Lam *et al.* (2004) suggesting that loyal customers represent a secure source of income that enables organisations to focus their marketing activities in the acquisition of new customers. In addition, loyal customers are more likely to engage in repeat purchases from a supplier or increase their ‘share’ of purchases from a particular supplier. They are also likely to provide referrals of business to suppliers or engage in positive word of mouth. Customer loyalty can lower costs and/or increase profitability, as the cost of recruiting a new customer is said to be five times more than the cost of retaining an existing customer (Reichheld, 1996).

Loyalty is defined as repeat purchase behaviour led by favourable attitudes or as a consistent purchase behaviour resulting from the psychological decision-making and

evaluative process (Jacoby & Kyner, 1973). According to Jacoby *et al.* (1978), customer loyalty is generated through a belief (service quality), affect (satisfaction), and cognitive (customer loyalty) process. Oliver (1999) further suggests that the development of (consumer) loyalty follows the cognitive-affective-conation-action pattern. The first phase is cognitive loyalty and at this stage there is recognition that one product or service is better than alternatives and preferences are formed based on evaluations. The second phase is affective loyalty, in which liking for and positive attitudes towards an offering are developed based upon continuous experiences. In the third loyalty phase, conation loyalty, a brand-specific commitment to repurchase is generated and the intention to return is formed. Finally, the return intention is "transformed into readiness to act" at the action loyalty phase (Oliver, 1999). During this process, a consumer can become loyal at any or each of these four phases.

Compared to the extensive study of loyalty in the b2bc domain, there is a paucity of studies in the b2b domain that focus on this construct (as compared to including loyalty or long-term-orientation as one of the nomologically related constructs). Nevertheless, there are a number of theories that link loyalty with other constructs, these can be summarised under three main streams of research: behavioural loyalty, attitudinal loyalty and composite loyalty. The behavioural perspective is related to early studies of loyalty and according to Jacoby and Chestnut (1978) related studies focused on interpreting patterns of repeat purchase or as Chaudri and Holbrook (2001:82) state "Behavioral, or purchase, loyalty consist of repeated purchases of the brand". On the other hand, the attitudinal perspective "includes a degree of dispositional commitment in terms of some unique value associated with the brand" (Chaudri & Holbrook, 2001:82) and is identified with word-of mouth and recommendation (see for example Zeithaml *et al.*, 1996; Andreassen & Lindestad, 1998). The composite perspective represents a reconciliation of the above components. Proponents of such as a perspective (see for example, Day 1969; Jacoby & Chestnut, 1978; Lam *et al.*, 2004; Chiou & Droge, 2006) base their arguments on the grounds that focusing only on the behavioural component of loyalty may lead to misinterpretation of spurious loyalty (e.g., convenience) as real loyalty, while examination only of attitudinal components of loyalty could provide misleading indication of performance.

Grounded on the above debate Rauyreun and Miller (2007:23) provide the following definition:

"The willingness of average business customers to repurchase the service and the product of the service provider and to maintain a relationship with the service

provider/supplier ... the level of customer's psychological attachments and attitudinal advocacy towards the service provider/supplier.”

This definition is consistent with the widely accepted views of loyalty expressed by Zeithaml *et al.* (1996) and Oliver (1999) and encapsulates both behavioural and attitudinal perspectives and is specific to the b2b domain. Consequently, it is adopted in this study and by extension implies that related operationalisations should account for both behavioural and attitudinal elements. However, such a need creates issues of domain coverage because there are a wide variety of behavioural and attitudinal expressions of loyalty. Some of the behavioural measures of loyalty include continuity of purchase, frequency of purchase, scope of a relationship and long term orientation, while attitudinal measures include intention to recommend, perceptions of commitment, willingness to wait for a service (see for example Prichard *et al.*, 1999; Lam *et al.*, 2004; Chiou & Droge, 2006).

C3.3.2.2 Antecedents

Loyalty can be generated through customer satisfaction, based on the perceived performance of the service product; hence service quality and customer satisfaction are the two main determinants of loyalty with satisfaction proposed to be a direct determinant of loyalty and a mediator of the service quality to loyalty relationship (see for example Shoemaker & Lewis, 1999; Cronin *et al.*, 2000; Lee & Cunningham, 2001; Fullerton, 2005; Rauyruen & Miller, 2007). Both satisfaction and service quality are opined as predictors of not only loyalty as an overall construct but of specific customer behaviours like purchase intentions and word of mouth advertising (Dabholkar, 1995).

In terms of online activities there is lack of documented empirical research, nevertheless, the reported studies provide some interesting findings. Exploratory research by Szymanski and Hise (2000) indicated that greater product choice did not influence customer satisfaction levels, although greater product information did have a significant effect on these levels. According to the findings of this study, good web site design also had a positive effect on customer satisfaction. The research further showed that concerns over transaction security constitute a major issue for customers when deciding whether to continue to make online transactions (an indication of loyalty). Another early investigation by Johnson *et al.* (2000) into online search behaviour suggested that customer loyalty is linked to experience with internet services. Their findings are broadly consistent with results reported by Andrews

and Currim (2000) whose investigation shown that online shoppers are less driven by price, and more by convenience. More recently, in a study of online purchasing of books and flights, Harris and Goode (2004) demonstrated that loyalty is directly and indirectly influenced by service quality, satisfaction and trust.

According to Eggert and Ulaga (2002:110) “The customer value construct ... points at future directions”. The same authors go on to suggest that “... in business markets, purchasing managers’ decision making is mainly guided by cognitive factors and not by affective ones.” (Eggert & Ulaga, 2002:111). Collectively the above provide conceptual support for a positive relationship between customers’ perceptions of value and behavioural intention and also indicate that this relationship should be a direct one. Using a variety of terms, e.g. loyalty, re-purchase intention, long-term orientation, patronage etc., with the exception of Lapierre *et al.* (1999), research indicates substantial support for the impact of customer value on loyalty. As indicated at the bottom of Table B3.2, the composite nature of the operationalisation employed by Lapierre *et al.* (1999) could be the reasons of the divergence of their results from those reported by other researchers. However, Brontis *et al.* (2007) model satisfaction as a complete or total mediator between customer value and loyalty while Lam *et al.* (2005) refer to the Theory of Planned Behaviour as a possible explanation for the mediating position of satisfaction. Through formal testing, Patterson and Spreng (1997) confirm that satisfaction totally mediates the customer value to loyalty relationship, and the same conclusion is reached by Eggert and Ulaga (2002), Lam *et al.* (2004). Finally, the differential behaviour of the value to loyalty relationship, depending on level aggregation is indicated by the results reported by Spiteri and Dion (2004) and Whittaker *et al.* (2007).

B3.3.3 Other Variables

Finally, a number of other outcomes of customer value are reported. The results by Eggert and Ulaga (2002) and Lam *et al.* (2004) should be considered in the context of their analytical approach, i.e. whether satisfaction mediates the effects of customer value (see Section B3.3.2 above). The limited research and diversity of constructs makes difficult to synthesise the evidence. However, insights could be gained from the results by Spiteri and Dion (2004); of the four components of value tested only product benefits is a significant determinant of market performance. This is considered to reflect the relative importance of

core or functional elements of value in the b2b domain, i.e. business relationships materialise only if the core offering meets customer requirements.

B3.4 CONCLUSION

The information and related debate presented above indicate that despite considerable convergence there is some evidence of uncertainty and divergence. Furthermore, the relatively small number of related studies makes it difficult to reach a conclusive position. In terms of antecedents of customer value, despite concerns regarding adopted operationalisations, there is conclusive evidence of the importance of core quality. In addition, the quality of the process through which business relationships develop and of the (sector specific) support activities are also significant determinants of customer value. On the other hand, the legitimacy of sacrifice as a determinant of customer value is questioned and there are questions regarding the position of image or brand reputation. This author suggests that sacrifice should be treated as *part or component* of value while image and brand reputation are either dimensions of the get component of customer value or act as supplier selection criteria. The evidence for outcomes of customer value is more conclusive with satisfaction and loyalty receiving empirical support by most of the papers reviewed for both short and long term relationships.

However, there are a number of issues that extant literature only alludes to. Consequently, the following areas merit attention, (a) the effect of degree of aggregation of the value concept on functional relationships, (b) the possible existence of hierarchical structures of antecedents and components of value, (c) the role of sacrifice within the nomological structure, (d) the role of risk in the formation of perceptions of value, and (e) the interrelationship of supplier selection and perceptions of value.

Table B3.2: Outcomes of Customer Value

Author(s)	Satisfaction	Loyalty	Other variables
Patterson & Spreng (1997)	√		
Lapierre <i>et al.</i> (1999)	√	ns ^s	
Eggert & Ulaga (2002)	√	√	Search for alternatives – √ Word of mouth – √
Kumar & Grisaffe (2004)		√	
Lam <i>et al.</i> (2004)	√	√	Recommendation - ns
Spiteri & Dion (2004)	Overall value - √ Product benefits – √ Personal benefits – √ Strategic benefits – √ Sacrifices – ns	Overall value - √ Product benefits – √ Personal benefits – √ Strategic benefits – √ Sacrifices – ns	Overall value to market performance – ns Product benefits to market performance – √ Personal benefits to market performance – ns Strategic benefits to market performance – ns Sacrifices to market performance – ns
Liu <i>et al.</i> (2005)	√ (short and long relationships)	√ (share of business*: short and long relationships)	Switching costs (short and long relationships) – √
Bontis <i>et al.</i> (2007)	√		
Cretu & Brodie (2007)		√ ^s	
Whittaker <i>et al.</i> (2007)	Overall value – √ Emotional – ns Functional – ns Epistemic – ns Social – √ Image – ns Price/quality – √	Overall value to loyalty – √ Emotional – ns Functional – ns Epistemic – √ Social – ns Image – ns Price/quality – √	
Barry & Terry (2008)		Overall value – √ Economic – √	Commitment – √

Lee & Bellman (2008)	√	Strategic – √	
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Key: √= Relationship/pathway is supported; ns = Relationship/pathway not supported

Loyalty is a 'catch all' term to also include re-patronage, repurchase etc.

§ = Classified as loyalty; however, the measures are composites of loyalty and recommendation.

¥ = Although termed as share business its operationalisation reflects loyalty in the form of long-time orientation and patronage.

PART C

RESEARCH DESIGN

This part of the thesis commences with the specification and justification of a conceptual framework that represents the research model under examination (Chapter C1). The remainder of this part (i.e., Chapters C2 to C3) presents the various deliberations, decisions and implantation details related to specific methodological aspects designed to enable the author to collect appropriate data and adopt a suitable analytical approach.

CHAPTER C1: RESEARCH FRAMEWORK

C1.1 INTRODUCTION

Despite acknowledgement of the central role that value plays in the study and practice of b2b marketing and more generally as a mechanism for organisations to achieve competitive advantage (see Section A1.3) the review presented in Part B demonstrates limited research and, in Section B3.4 five areas that merit research are identified. In addition, this author has been unable to identify research that examines the impact of e-technology in delivering value in the b2b domain. These observations provide the starting point of this study. Grounded on the literature reviewed in Part B the research model and its associated hypotheses are presented in Section C1.2 while a lower or model nested model (hereafter called the competing model) is specified in Section C1.3. The chapter concludes with a brief explanation of the philosophical foundations of this study (Section C1.4).

C1.2 THE RESEARCH MODEL

The theoretically grounded model presented in Figure C1.1 presents the nomological structure under investigation. The central theme of the framework is what Parasuraman and Grewal (2000) call the “quality-value-loyalty chain”. The functional relationship between quality and value finds overwhelming support in extant literature (see Section B3.2). Consequently, the first hypothesis is that:

H₁: e-service quality is positively related to perceived customer value.

Risk reduction is one of the key elements of organisational buying behaviour (see for example Wilson, 1995; Doney & Cannon, 1997; Mitchell, 1998; Kumar & Grisaffe, 2004) and is acknowledged as relevant in the adoption of e-technology (see for example Tan, 1999; Forsythe & Shi, 2003; Pavlou, 2003). It is consequently surprising to see that, although the impact of risk on consumer (i.e., the b2c domain) perceptions of value is examined (see Cronin *et al.*, 1997; Sweeney *et al.*, 1999; Agarwal & Teas, 2001; Chen & Dubinsky, 2003;

Snoj *et al.*, 2004; Hackman *et al.*, 2006; Kleijnen *et al.*, 2007), there is silence on the matter in the b2b literature. Adopting the definition by Lai (1995:386) that risk is “the uncertainty or potential negative consequences of consumer activities” implies that risk, like value, is perceptual and relates to consumption experience. A conclusion that justifies the existence of a functional relationship between these two constructs, a view supported by Sweeney *et al.* (1999), Snoj *et al.* (2004) and Kleijnen *et al.* (2007). Consequently, the following hypothesis is proposed⁹:

H₂: Perceptions of risk is negatively related to perceived customer value.

In terms of outcomes, debate in Section B3.3 provides overwhelming support for the functional relationship between customer value and satisfaction.

H₃: Perceived customer value is positively related to satisfaction

In the same section the evidence related to the impact of customer value on behaviour outcomes is presented. Despite evidence of the mediating (between customer value and behavioural intention) role of satisfaction, the evidence is still inconclusive. Consequently direct relationships between customer value and, grounded on the information presented in Section C3.3.1.1 the following behavioural and attitudinal outcomes are included, word of mouth, switching and lock-in. The related hypotheses are presented below.

H₄: Perceived customer value is positively related to word of mouth

H₅: Perceived customer value is negatively related to switching

H₆: Perceived customer value is positively related to lock-in

In the b2b value related literature, the impact of quality on satisfaction and satisfaction on behavioural intention is found to be significant (see for example Lam *et al.*, 2004; Liu *et al.*, 2005; Bontis *et al.*, 2007; Whittaker *et al.*, 2007). Thus it is proposed that:

H₇: Satisfaction is positively related to word of mouth

⁹ It is acknowledged that Agarwal and Teas (2001 & 2004) adopt a different approach and specifically treat the *give* (in the form of sacrifices) component of value as determinant of risk. However, their study examines only one of the two components of value while Sweeney *et al.* (1999), Snoj *et al.* (2004) and Kleijnen *et al.* (2007), despite concerns regarding adopted operationalisations, treat value as an overall concept.

H₈: Satisfaction is negatively related to switching

H₉: Satisfaction is positively related to lock-in

Finally, to the above hypotheses a number of functional relationships between the antecedents and outcomes of customer value are tested for nomological comprehensiveness, analytical completeness and explanatory clarity.

H₁₀: e-service quality is positively related to satisfaction

H₁₁: e-service quality is negatively related to perceptions of risk

H₁₂: Perceptions of risk is negatively related to satisfaction.

H₁₃: Perceptions of risk is negatively related to word of mouth

H₁₄: Perceptions of risk is positively related to switching

H₁₅: Perceptions of risk is negatively related to lock-in

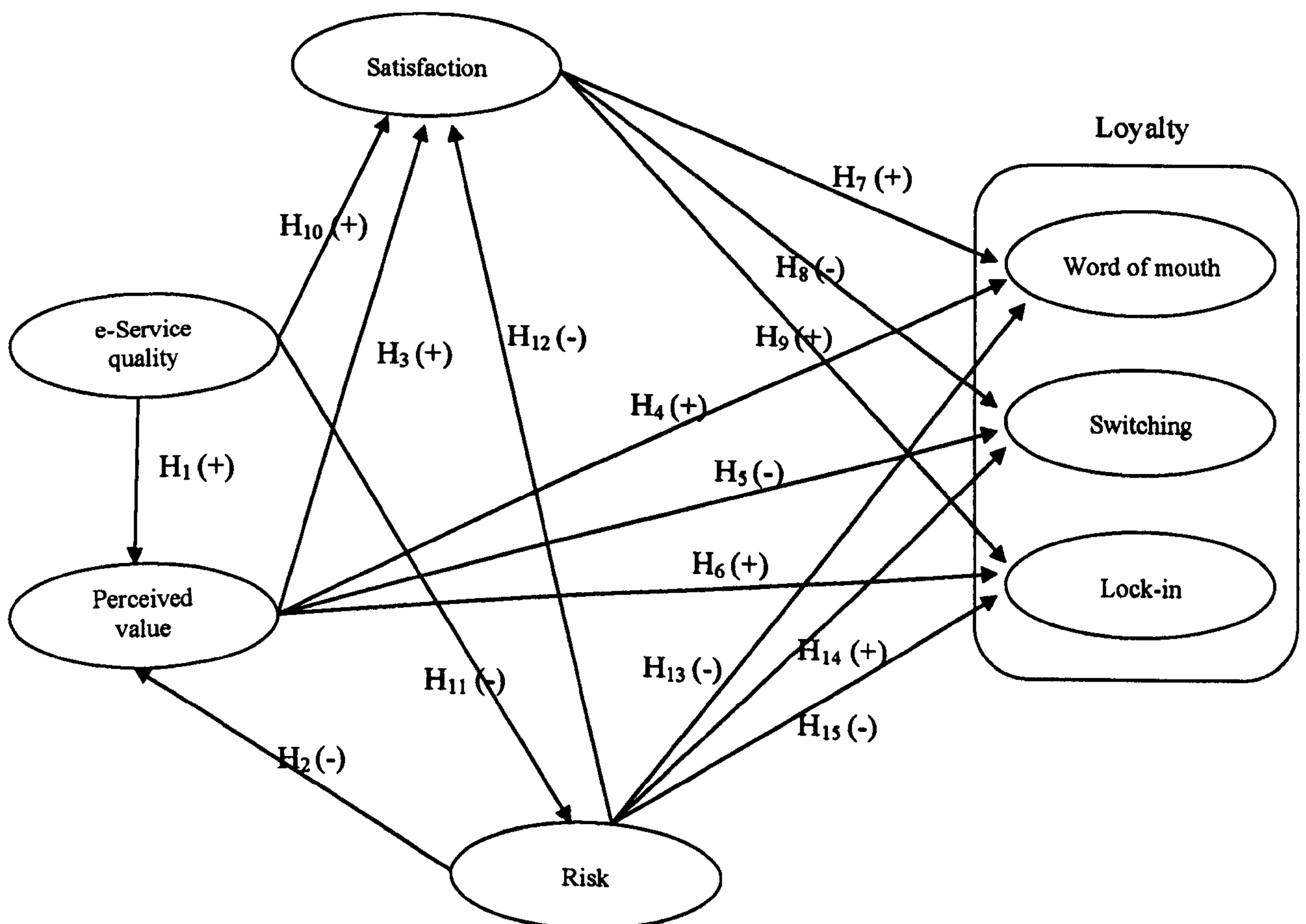


Figure C1.1: The Research Model

The specification of the research model is completed by explaining the adopted conceptualisations of the research constructs. Debate presented in Chapter B1 provides conclusive evidence of customer value being the trade-off of two main components, namely *get/benefits* and *give/sacrifices*. The as yet unresolved issue of the manner in which these components relate to value is debated in Section B2.3.2. On balance of available evidence and recent conceptualisations it is proposed that customer perceived value is a formative higher order construct of benefits and sacrifices. In terms of structure, examination of extant conceptualisations leads to the conclusion that each of these components should also be treated as a higher order formative construct (see Section B2.3.3). In terms of their formation, the existence of validated scales is acknowledged. However, the need to account for the temporal nature of the phenomenon under examination (i.e., investment in and use of an e-service) meant that a general conceptualisation is required. Grounded on debate presented by Woodall (1993), it is proposed that the dimensions of the *get* component are acquisition, transaction, in-use and redemption. In terms of the *give* component, the widely accepted position of this component accounting for monetary, time and effort costs is accepted; to these social costs is added. Although locating social aspects of value in the cost component is contrary to extant literature, this decision is based on contextual considerations. Specifically, it is argued that use of e-facilities limits personal interaction, something that for some users will be considered as a sacrifice. The above is presented in Figure C1.2.

Using the conceptualisation proposed by Parasuraman *et al.* (2005), e-service quality comprises four dimensions (i.e., efficiency, fulfilment, system availability, and privacy). Using the guidelines presented in Section C3.2 and taking into account recent conceptualisations of service quality (see amongst others Wolfinbanger & Gilly, 2003; Collier & Bienstock, 2006; Carr, 2007; Dagger *et al.*, 2007) e-service quality is treated as a formative latent variable (see Figure C1.3). Finally, reference to authors such as Ho and Ng (1994) and Mitchell (1998) guided this author in conceptualising risk as a second order latent variable of performance, financial and psychological risks. Once more by applying the guidelines specified in Section C3.2 risk is also treated as a formative latent variable and the proposed structure is presented in Figure C1.3.

C1.3 THE COMPETING MODEL

There is general agreement that, when examining multiple structural relationships (as in this study), the researcher should compare rival or competing models rather than testing a single model (Bollen & Long, 1992). Grounded on emerging evidence of differential behaviour of the two components of perceived value (see Spiteri & Dion, 2004; Whittaker *et al.*, 2007) and questions by Edwards (2001) regarding the efficacy of higher order structures a competing model is presented in Figure C1.4. The main difference from the research model is that, instead of treating perceived value as a higher order its two components of benefits and sacrifices are allowed to behave independently. For visual simplicity and brevity the hypotheses are not presented but are in line with the general rationale presented above and the logic that indicates the opposing direction of the benefits and sacrifices components of value.

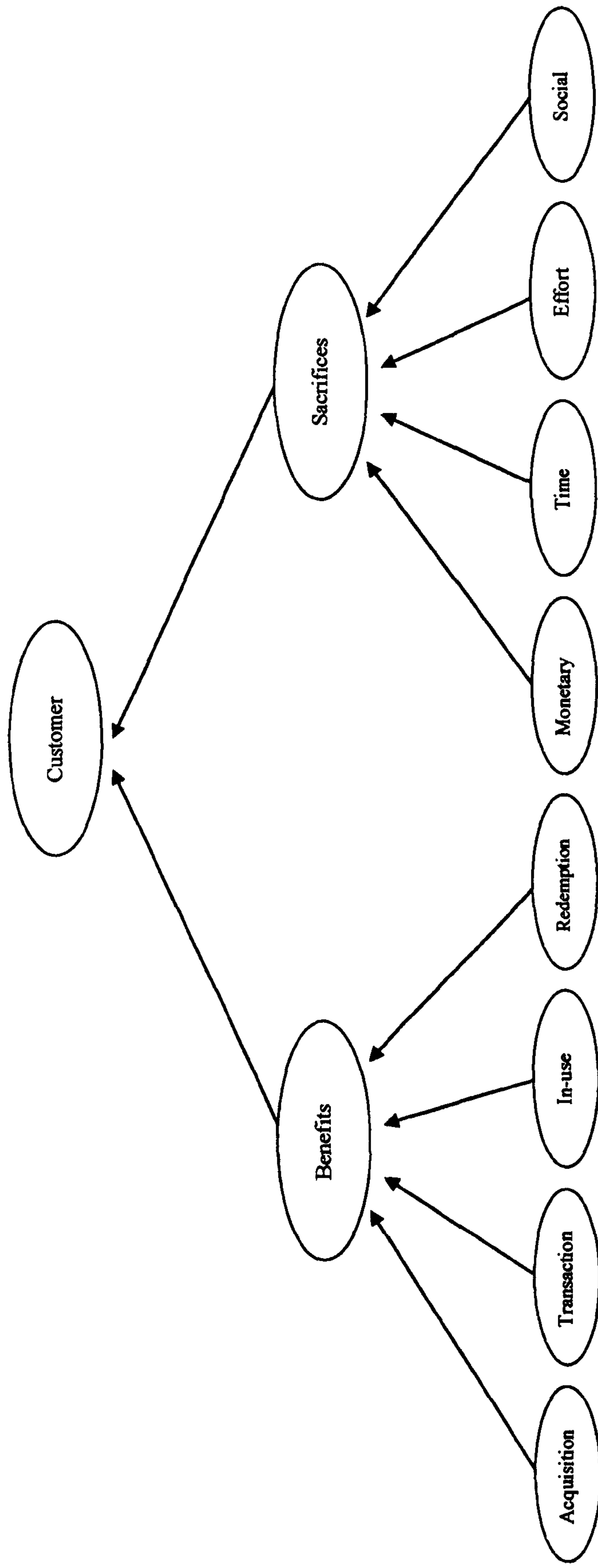


Figure C1.2: Conceptualisation of Perceived Customer Value

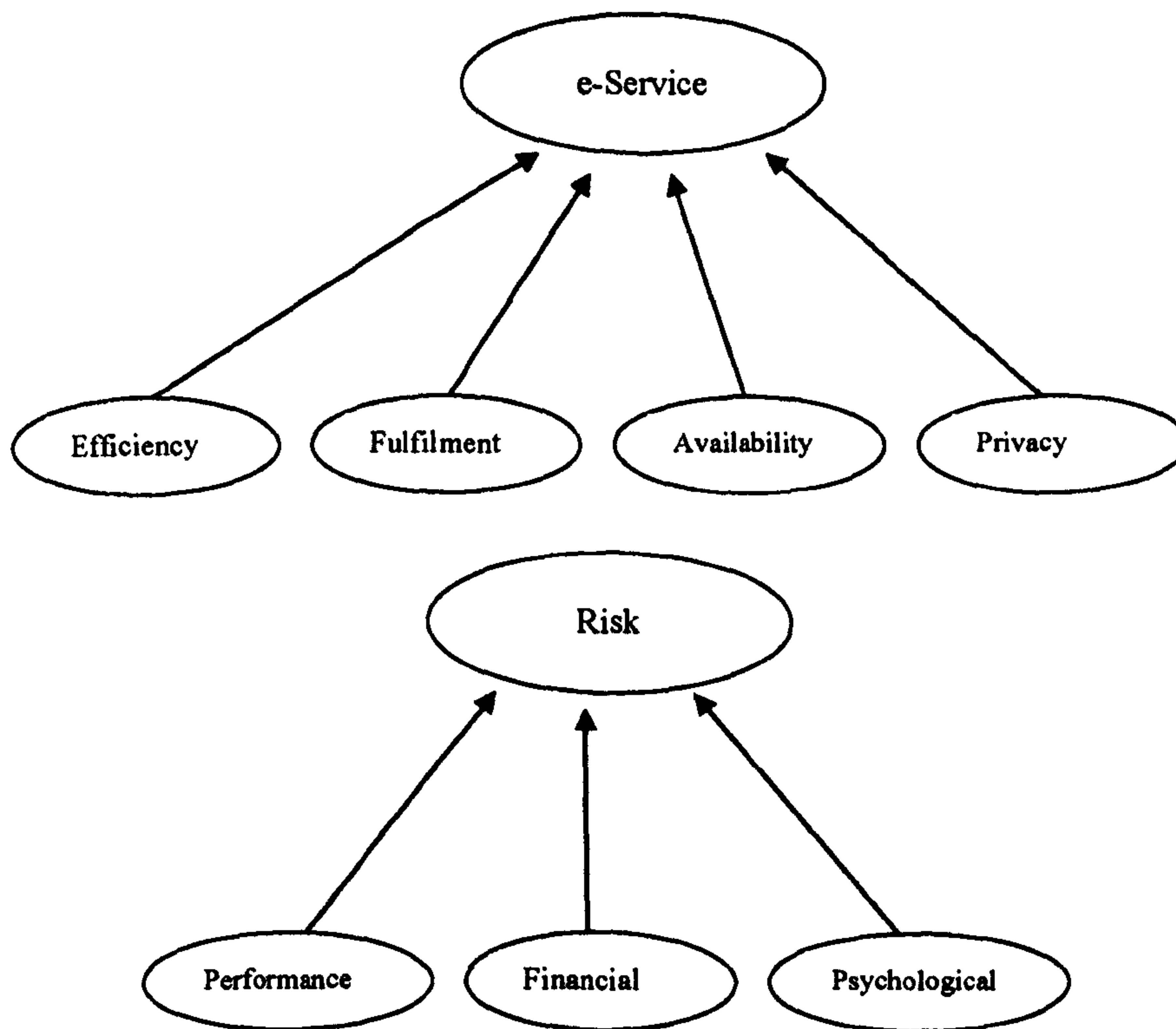


Figure C1.3: Conceptualisations of e-Service Quality and Risk

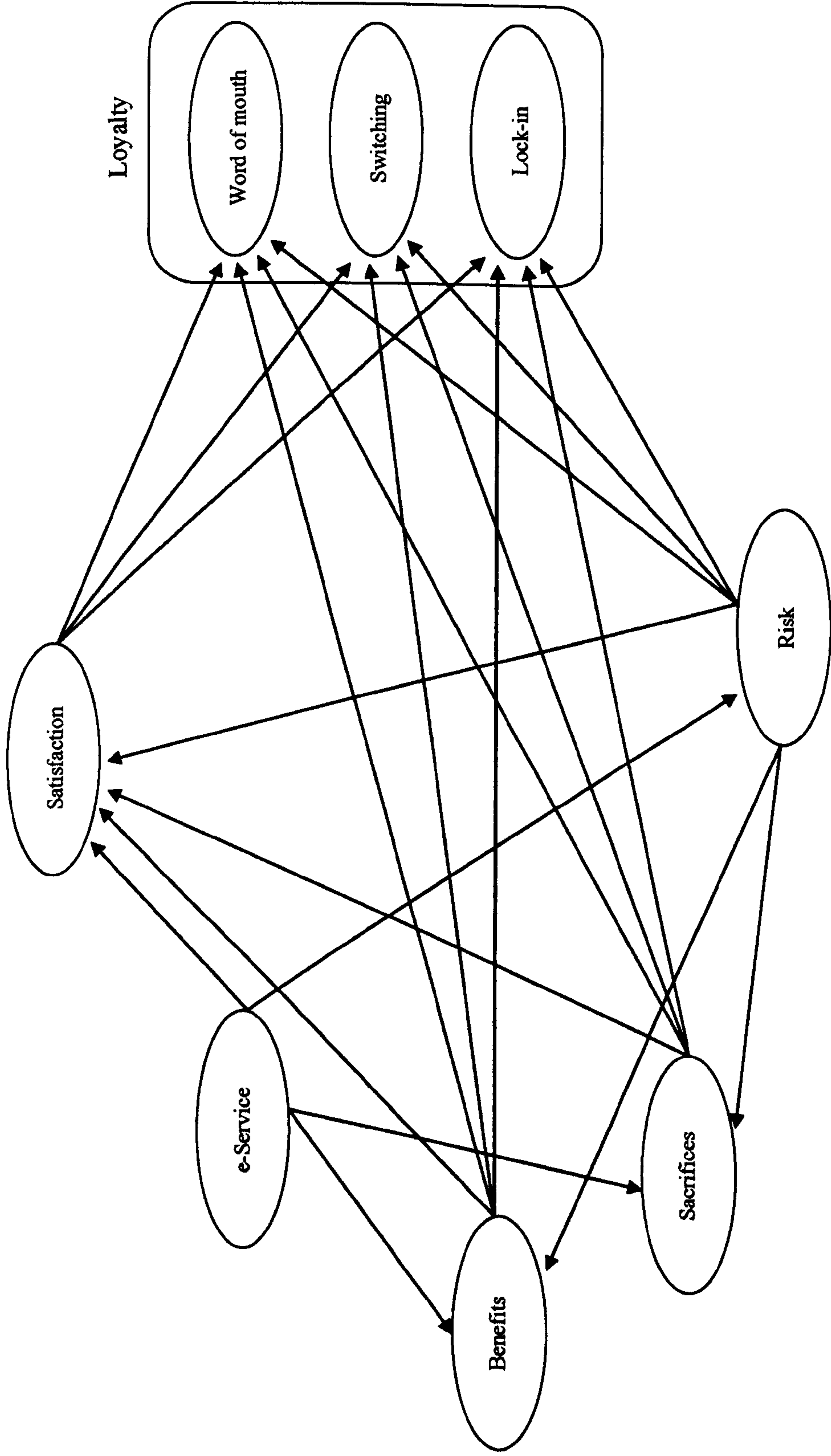


Figure C1.4: Competing Model

C1.4 PHILOSOPHICAL ORIENTATION AND RESEARCH ACTIVITIES

From the above it is clear that this study adheres to the principles of scientific research that involves a step-by-step, logical, organised and rigorous sequence of identifying problems, gathering data, analysing the data and drawing empirically derived conclusions. In order to understand the philosophical paradigm within which this research is located, it is first necessary to extend the discussion relating to the difference between empirical and theoretical studies. ‘Empirical’ is defined in *The Oxford Companion to Philosophy* (1995:226) as “based on experience”. That is, “an idea or concept is empirical if it is derived ultimately from the five senses, to which introspection is sometimes added”. In the same publication, ‘Theory’ is defined as “an attempt to bind together [in] a systematic fashion the knowledge that one has of some particular aspect of the world of experience” (p. 870). An empirical study implies an ‘understanding of the material under investigation and therefore some kind of theoretical position’ (Remenyi *et al.*, 2005:31). Empiricists draw conclusions from studying observations and collecting related evidence, they then add their claim to the body of knowledge on the subject. On the other hand, theorists study the subject from writings of others and discussion with learned persons on the subject without actually observing the subject or collecting any evidence. This study follows the empirical tradition of research.

We now proceed to briefly discuss the two main knowledge creation orientations of empirical studies, i.e. positivism and phenomenology. According to Cohen and Manion (1987; in Remenyi *et al.*, 2005:286) phenomenology is defined as “a theoretical point of view that advocates the study of direct experience taken at face value, and one which sees behaviour as determined by the phenomena of experience rather than by external, objective and physically described reality”. On the other hand, researchers adhering to (logical) positivism are considered to be objective analysts, interpreters of a tangible social reality. This position is predicated on the underlying assumption that the social world exists externally and that its properties could and should be measured through objective methods (Easterby-Smith *et al.*, 2002). It is necessary to observe, produce evidence, and to generalise or to model mathematically the object of the study. Parsimony (also termed ‘Ockham’s razor’) described in *The Oxford Companion to Philosophy* (1995) as “a methodological principle dictating a bias towards a simplicity in theory construction, where the parameters of simplicity vary from kinds of entity to the number of presupposed axioms to characteristics of curves drawn between data points” is an important consideration in such studies. The key features of the positivist and phenomenological paradigms are illustrated in Table C1.1.

Table C1.1: Key Features of Positivist and Phenomenological Paradigms

	Positivist Paradigm	Phenomenological Paradigm
Basic beliefs:	World is external and objective. Observer is independent. Science is value-free.	World is socially constructed and subjective. Observer is part of what is observed. Science is driven by human interest.
Researchers should:	Focus on facts. Look for causality and fundamental laws. Reduce phenomena to simplest elements. Formulate and test hypotheses.	Focus on meanings. Try to understand what is happening. Look at totality of each situation. Develop ideas through induction from evidence.
Preferred methods:	Operationalise concepts so they can be measured. Take large samples. Use multiple methods to establish different views of phenomena.	Small samples investigated in depth or over time.

Source: Remenyi, D., Williams, B., Money, A. & Swartz, E. (2005) *“Doing Research in Business and Management: An Introduction to Process and Method”*, London: Sage Publications Limited (p. 104).

The process of formulating and testing the proposed research and competing models places this study firmly within the positivist tradition of enquiry. The theoretically grounded formal research model and associated hypotheses is operationalised through a quantitative methodology and the collected data are analysed through the application of advanced analytical techniques that produce results suitable for logical deductions. This orientation stems from the author’s conviction that data can be classified and measured and, consequently, should be collected through quantitative methods (Easterby-Smith *et al.*, 2002). Consequently a hypothetico-deductive method of research is followed (Sekaran, 2002). Furthermore, the foundations of the operationalisations of the research constructs are grounded in logical empiricism (i.e., formative measures) and scientific realism (i.e., reflective measures; see Hunt, 2002 for detailed discussion).

CHAPTER C2: RESEARCH METHODOLOGY (I)

C2.1 INTRODUCTION

The structure of this, and the following two chapters, follows the research design framework suggested by Sekaran (2002) which is illustrated in Figure C2.1. Such a framework can be defined as:

The specification of methods and procedures for acquiring the information needed to structure or solve problems. It is the overall operational pattern or framework of the project that stipulates what information is to be collected, from which sources, and by what procedures. (Green *et al.*, 1988:68)

The adoption of a research design framework ensures that the methodological considerations and decisions will be relevant to the research problem, and that economical procedures will be employed in fulfilling the research aim and objectives (Churchill, 1979).

Each of the cells depicted in Figure C2.1 represents a discrete, but not mutually exclusive, set of activities/decisions designed to ensure the robustness of the research. Given that written communications must be presented sequentially, each cell in the research design is discussed separately. However it must be noted that research is an iterative process and hence some of the methodological elements, particularly the ones associated with data collection are interlinked with other elements (Tull and Hawkins, 1993). For each cell the main alternatives are listed in Figure C.2.1 while in the text emphasis is placed on the rationale and operational explanation of the adopted alternative(s). The shaded cells in the research design depict the components of the research process dealt with in the specific chapter.

Because of the above stated inevitable separation of debate, before proceeding to present and justify the methodological decisions and present implementation details a brief overview of the main considerations is presented in order to frame the design and provide an overall context within which the reader can appreciate specific actions. Given the specification of the research and competing models and the philosophical orientation outlined in Section C1.4 a quantitative approach is adopted. Obvious barriers prohibiting the examination of the

phenomena under experimental conditions means that an *ex post facto* cross-sectional approach is adopted that examines the phenomena under consideration in their natural environment and does not involve manipulation of the exogenous variables. The need for respondents to fully reflect on their answers resulted in the employment of a self-completion postal survey amongst a cross section of UK SME companies because it affords this researcher direct access to decision makers compared to large organisations. Although the potential for confounding effects due to the cross sectoral nature of the sample is acknowledged the generic nature of e-banking activities ameliorates such concerns. In terms of measures a combination of already validated scales (e.g., e-service quality and risk) and original scales constructed through examination of general e-banking literature (e.g., benefits and sacrifices) is employed.

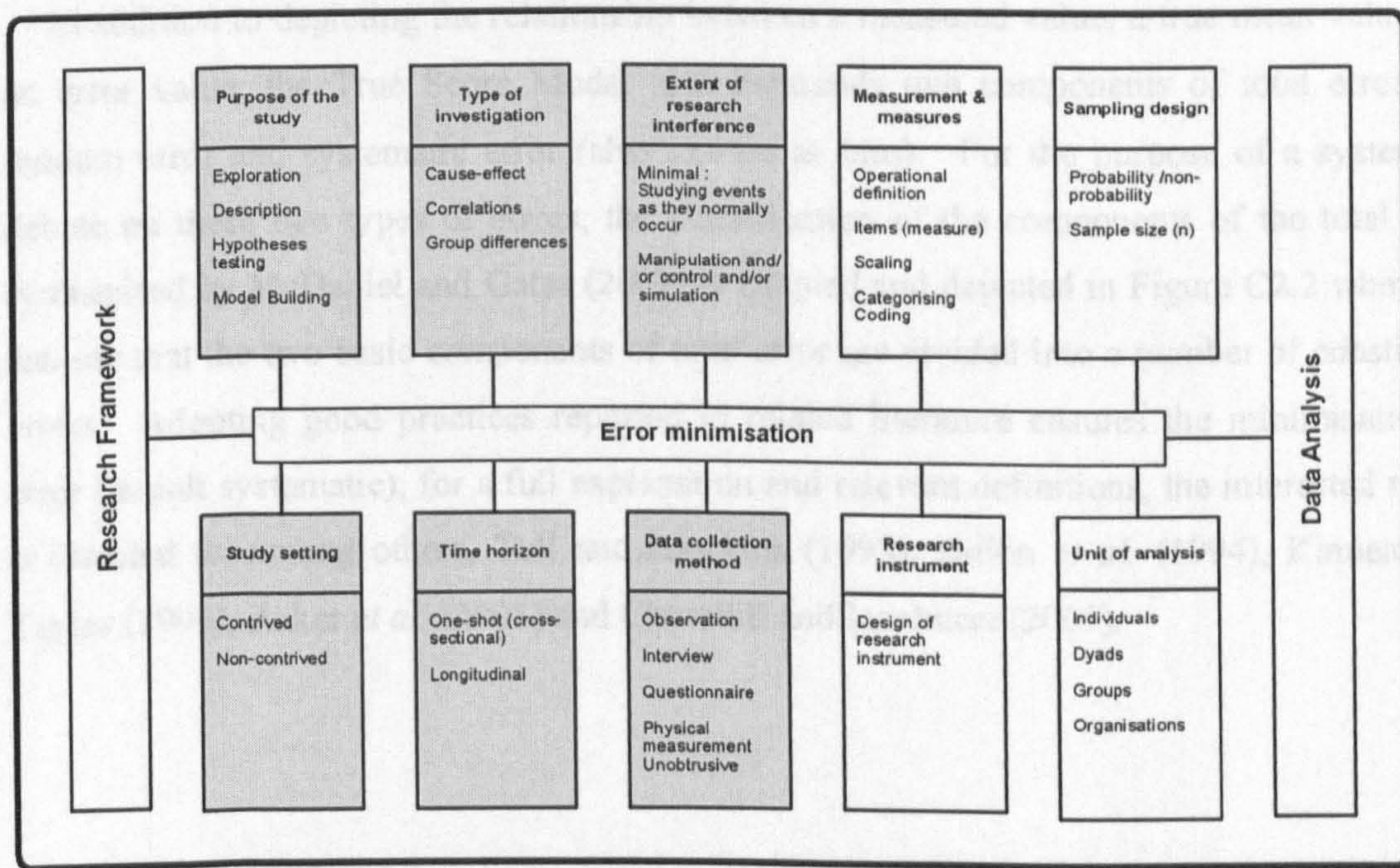


Figure C2.1: Research Design

Source: Sekaran, U. (2002), *Research Methods for Business: A Skill Building Approach*, 4th ed., New York: John Wiley and Sons Inc. (p. 93)

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As indicated by McDaniell and Gates (2002), Malhorta (2003) and Churchill and Iacobucci (2005), any effort to obtain information from a sample is bound to include errors. Consequently, examination for the presence of and minimisation of errors and biases is a necessary condition for empirical validation of models and hypothesis testing. An observed measure encompasses a true mean value and an error component. According to Malhorta (2003), the total error is the difference between the true mean value in the population of interest and the observed mean value obtained by the research. The ideology of a measure value is illustrated by "True Score Model", where a mathematical expression is provided for the understanding of accuracy of a measure. The observed measure X_O represents the sum of a number of values (see Malhorta, 2003; Churchill and Iacobucci, 2001):

$$X_O = X_T + \text{Total Error}$$

$$\text{Total Error} = (X_R + X_S)$$

where: X_T represents the true mean value of the characteristic being measured; X_R represents the random error; and X_S represents systematic error or bias

In addition to depicting the relationship between a measured value, a true mean value and an error value, the True Score Model also expounds two components of total error, i.e. random error and systematic error (also known as bias). For the purpose of a systematic debate on these two types of errors, the classification of the components of the total error synthesised by McDaniell and Gates (2002) is adapted and depicted in Figure C2.2 where we can see that the two basic components of total error are divided into a number of constituent errors. Adopting good practices reported in related literature ensures the minimisation of error (mainly systematic); for a full explanation and relevant definitions, the interested reader is directed to, among others, Tull and Hawkins (1993), Dillon *et al.* (1994), Kinnear and Taylor (1996), Aaker *et al.* (2001) and Churchill and Iacobucci (2005).

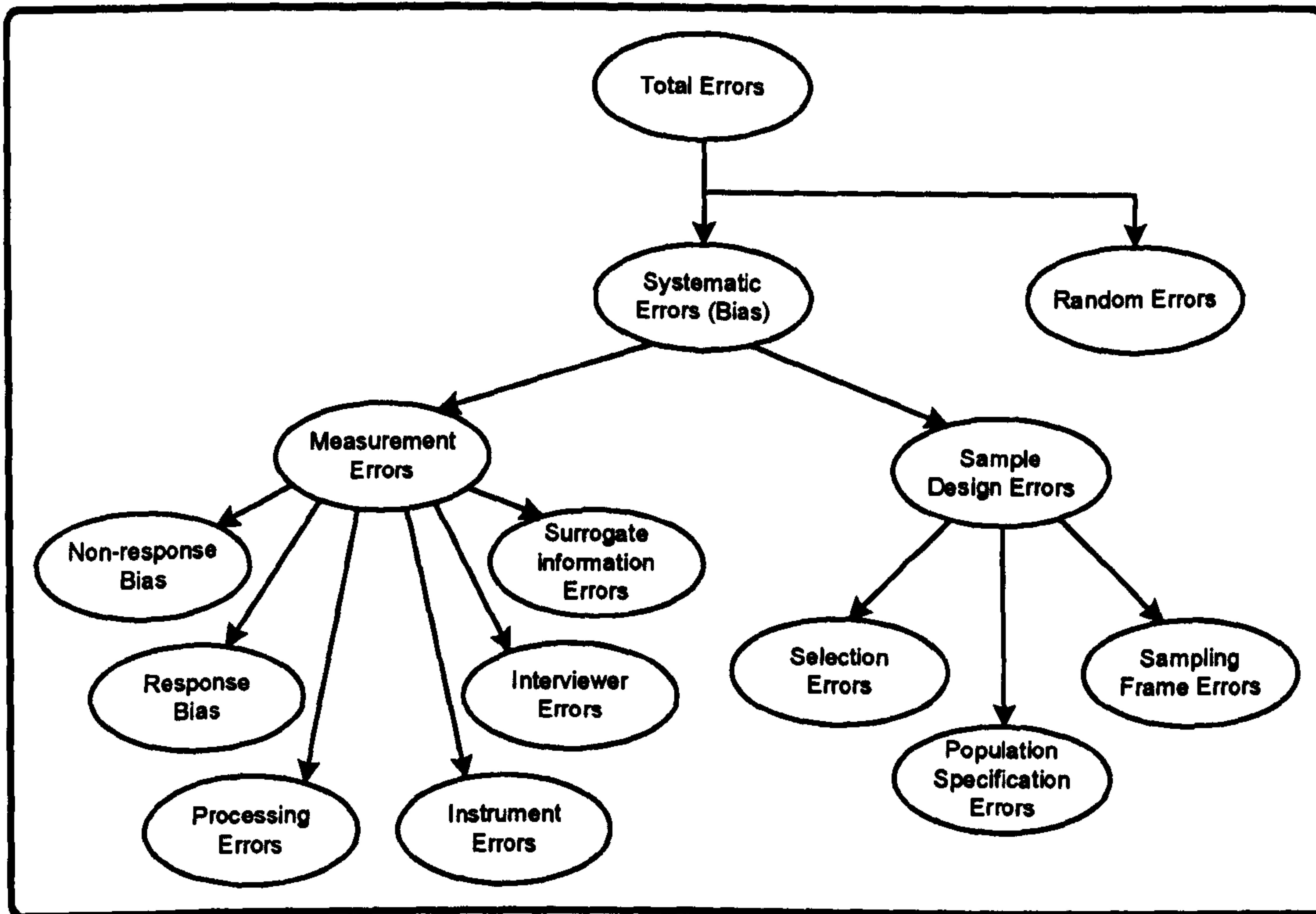


Figure C2.2: Sources of Research Error

Source: Adapted from, McDaniel, C. and Gates R. (2002), *Marketing Research: Impact of the Internet*, 5th ed., Cincinnati, Ohio: South-Western College Publishing.

C2.2 PURPOSE OF THE STUDY

This research utilises exploratory research, hypothesis testing and model building (Kinneer & Taylor, 1996; Malhotra, 2003; Churchill & Iacobucci, 2005). The purpose and role of each of these is discussed in turn.

C2.2.1 Exploratory Research

Prior to the main field study, exploratory research was undertaken, designed to shape the direction, structure and operationalisation of the main study (Churchill & Iacobucci, 2005). This involved a thorough review of extant literature, desk research and in-depth personal

interviews. Following review of the related literature, and prior to the commencement of the field research/data collection phase, face-to-face interviews were conducted with ‘expert informants’. The Collins English Dictionary (2000) defines experts as persons who have extensive skill(s) or knowledge in a particular field.

The decision to seek information from experts is in line with Dalebout and Wierenga’s (1997) assertions on the importance of soliciting expert opinions and perceptions about complex business and management phenomena. Using experts during the exploratory phase is recognised by scholars as a valid way of obtaining consensus and developing a holistic appreciation of the relevant issues (Winkler, 1981). In line with Kent (2007) discussions with experts:

- 1) Increased this author’s familiarity with the topic under investigation and specifically about issues related to inter-relationships between the constructs under examination. As a result accurate contextualisation of the research constructs is achieved.
- 2) Diagnosis, analysis and evaluation of the nature of the research problem. This helped the author to ensure the theoretical grounding and managerial relevance of the study and the research models.
- 3) Establishment of the priorities and objectives of the research. Initial research into the operationalisation of the conceptual model was required before it was possible to decide which particular issues merited further investigation.
- 4) Information related to practical problems involved with the research, such as issues of data collection and sampling.
- 5) Ideas, insights and suggestions for hypotheses that could be tested. This relates specifically to the separation of perceived value into its components (see competing model in Section C1.3).

C2.2.2 Hypothesis Testing and Model Building

Testing the significance of the hypothesised relationships depicted in the research and competing models as well the stability and predictive powers of these models are at the core of this investigation.

C2.3 TYPE OF INVESTIGATION, EXTENT OF RESEARCH INTERFERENCE AND STUDY SETTING

Given the formulation of formal hypotheses a causal study that involves experimentation should be employed. However, like most similar studies, the lack of control prohibits the execution of an experiment and consequently cannot be certain that statistically significant relationships are “true” relationships. Instead the independent variables are viewed as affording plausible explanations of the dependent variable. In this respect, this investigation is classified as an *ex post* factor research (Churchill & Iacobucci, 2005; Sekaran, 2002; Bryman & Bell, 2003).

The study takes place within a noncontrived setting that involves no manipulation (i.e., events are tested as they normally occur). The former is the result of employing a cross sectional postal survey in the collection of data (see Section 2.6) while the latter is implicit from above debate.

C2.4 TIME HORIZON

Studies can be either cross-sectional (i.e., data represent a snapshot of the research issues at a single point in time) or longitudinal (i.e., data are collected at two or more points in time). Given that time is not an issue under examination and due to time and expense constraints, a cross-sectional approach is adopted here (see limitations in Section A1.5).

C2.5 SAMPLING DESIGN AND UNIT OF ANALYSIS

Using the framework suggested by McDaniel and Gates (2001), the seven-step process for developing an operational sampling plan (depicted in Figure C2.3) is employed. Although each of the steps is dealt with in turn, it must be appreciated that, like most other methodological considerations, decisions taken at each stage are contingent on other aspects

of the research process (e.g., communication method) and determine subsequent decisions (e.g., permissible type(s) of analysis).

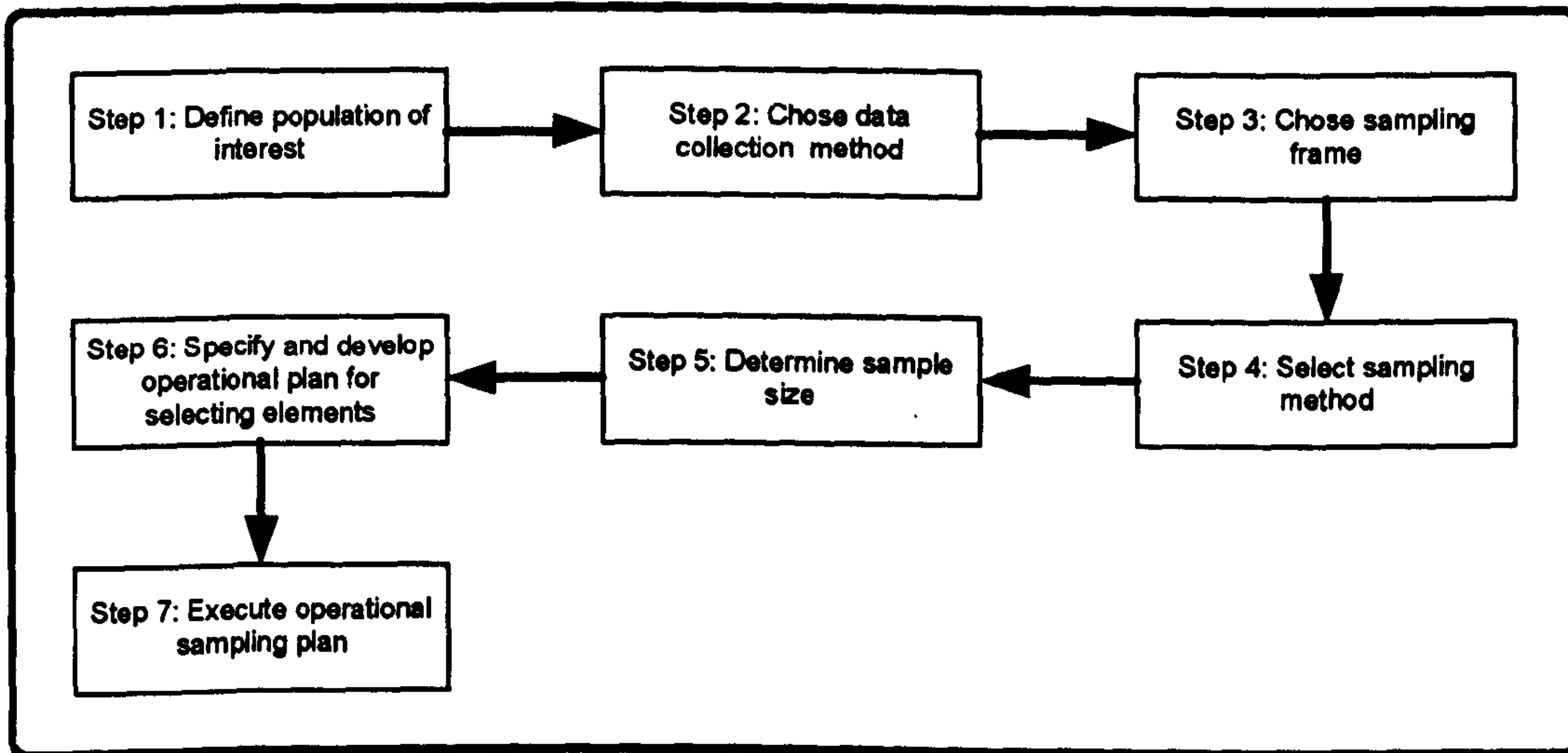


Figure C2.3: Sampling Process

Source: McDaniel, C. and Gates R. (2002), *Marketing Research: Impact of the Internet*, 5th ed., Cincinnati, Ohio: South- Western College Publishing.

C2.5.1 Step 1: Defining the Population of Interest

This initial step involves the definition of the population from which information is to be collected in order to meet the objectives of the research. Given the aim of this study it is decided to focus on large (over 150 employees) SME UK-based companies. Large SMEs are more likely to be involved in use of new technology for their operations, as well as having established procedures for their banking process (e.g., account reviews, day to day cash flow management, payments and receivable etc.). Compared to large multinational companies, identification of an appropriate respondent is easier in SMEs.

Although this author acknowledges the relevance of gathering data from both sides of the dyad (in this study banks and SME customers), the associated difficulties are considerable and have resulted in many published studies involving dyadic relationships to use “proxy reports” (Menon *et al.*, 1995: 77), i.e. estimate dyadic properties by surveying only one side (see, among others, Provan and Skinner, 1989; Noordewier *et al.*, 1990; Anderson & Weitz,

1992; Buchanan, 1992; Kaufmann & Dant, 1992; Zaheer & Venkatraman, 1995; Mohr & Spekman, 1994; Saxton, 1997; Artz, 1999; Jap, 1999; Lambe *et al.*, 2002). This is the approach adopted in this study and consequently the target population is defined as:

- Element: Highest-ranking corporate executive
- Sampling Unit: Top 1200 SMEs (in terms of turnover)
- Extent: Based in the UK
- Time: Winter/spring 2006

From the above it follows that the unit of analysis is the SME company with the selected executive acting as a spokesperson for the company.

C2.5.2 Step 2: Choice of Data Collection Method

Due consideration is given to ensure the congruence of the adopted sampling and data collection method. For example, the need for specific information with regard to corporate practices concerning opinions of business customer meant that a postal survey method was employed (see Section C3.4.2).

C2.5.3 Step 3: Choice of Sampling Frame

Once a target population is defined, an appropriate sampling frame needs to be obtained. Initial searches at the Kingston University Resource Centre and the Internet did not result in the identification of an appropriate sample frame (i.e., a list that, in addition to company information, contained accurate details of company executives). Consequently, a list was acquired from a specialist list broker. The list contained detailed company information (e.g., postal address, turnover, type of industry etc.) as well as names and contact details (i.e., telephone, fax and email address) of executives.

C2.5.4 Step 4: Selection of Sampling Method

As illustrated in Figure C2.4, the two main sampling methods are probability and nonprobability. The relative merits and disadvantages of these methods are well documented (for a detailed discussion of sampling methods see among others, Sudman, 1976; Kinnear & Taylor, 1996; McDaniel & Gates, 2002; Malhotra, 2003) and consequently are not debated here.

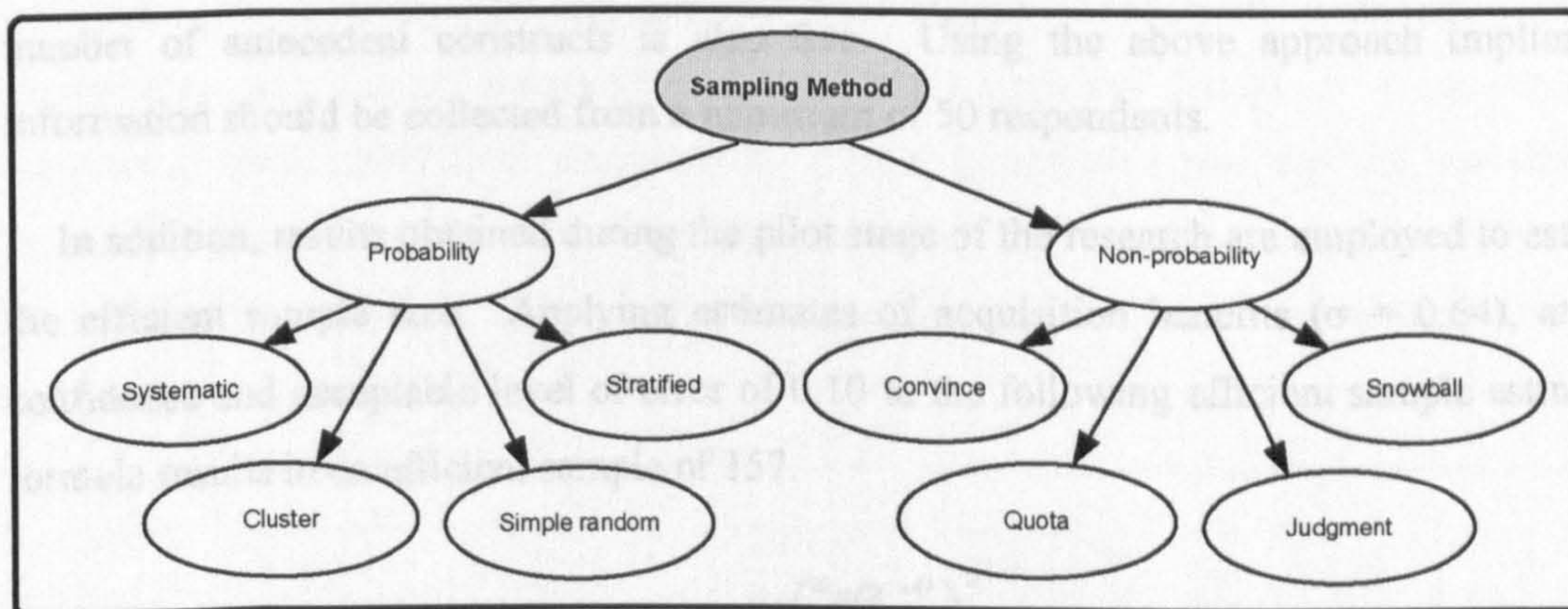


Figure C2.4: Sampling Methods

Source: McDaniel, C. and Gates R. (2002), *Marketing Research: Impact of the Internet*, 5th ed., Cincinnati, Ohio: South-Western College Publishing.

Probability sampling is adopted in order to allow statistical tests to be carried out (see main purpose of this study in Section C2.2.2 and analytical approach in Section C3.5). Given no prior knowledge of appropriate stratification, the list broker was instructed to apply random sampling when constructing the sample frame for this study.

C2.5.5 Step 5: Determination of Sample Size

Authors point to a number of factors that influence sample size, namely: a) the degree of accuracy required, b) the need/or not to examine sub-samples or populations, c) nature of population, d) proposed analytical technique(s), e) the method of survey demonstration, f) the

cost of additional information, and g) variation in the variables measured (see for example, Sudman, 1976; Tull & Hawkins, 1993; Churchill & Iacobucci, 2005). Given the adopted analytical approach (see Section C3.5) Barclay *et al.* (1995: 292) state ‘In general, the most complex regression will involve: (1) the indicators on the most complex formative construct, or (2) the largest number of antecedent constructs leading to an endogenous construct ... Sample size requirements, using the ‘rule of thumb’ of 10 case per predictor, become ten times the number of predictors from (1) or (2), whichever is greater.’ The single FLV (i.e, satisfaction) is operationalised with five indicators and in the completing model the largest number of antecedent constructs is also five. Using the above approach implies that information should be collected from a minimum of 50 respondents.

In addition, results obtained during the pilot stage of the research are employed to estimate the efficient sample size. Applying estimates of acquisition benefits ($\sigma = 0.64$), at 95% confidence and acceptable level of error of 0.10 to the following efficient sample estimation formula results in an efficient sample of 157.

$$n = \left(\frac{z_{\alpha/2} \cdot \sigma}{e} \right)^2$$

where: n = efficient sample size, $z_{\alpha/2}$ = desired confidence level; σ = standard variation; e = acceptable level of error

Adopting a conservative approach resulted in accepting the larger of the above as the desired sample size. Given lack of knowledge about the ‘quality’ of the sample frame and uncertainty about whether all companies in the list are users of e-banking a conservative 15% response rate is applied. Consequently, the acquired sample frame contains 1,200 potential respondents.

C2.5.6 Steps 6&7: Develop Operation Procedures for Selecting Sample Elements and Execute the Operational Sampling Plan

Once the above actions and decisions were completed the researcher implemented the resulting sampling plan.

CHAPTER C3: RESEARCH METHODOLOGY (II)

C3.1 INTRODUCTION

Many phenomena in business and management research are not directly observable, i.e. they are latent variables (LVs). They are theoretical constructs that cannot be physically observed and therefore are not directly quantifiable. However, what are generally quantifiable and, hence, measurable, are manifest variables linked to a corresponding underlying latent theoretical construct(s). These quantifiable and specific variables are assumed to represent indicators of the LV. It is from this point that fundamental questions arise about the nature of links or relationships between the indicators used (measures or measurement scales) and the LV they represent/measure.

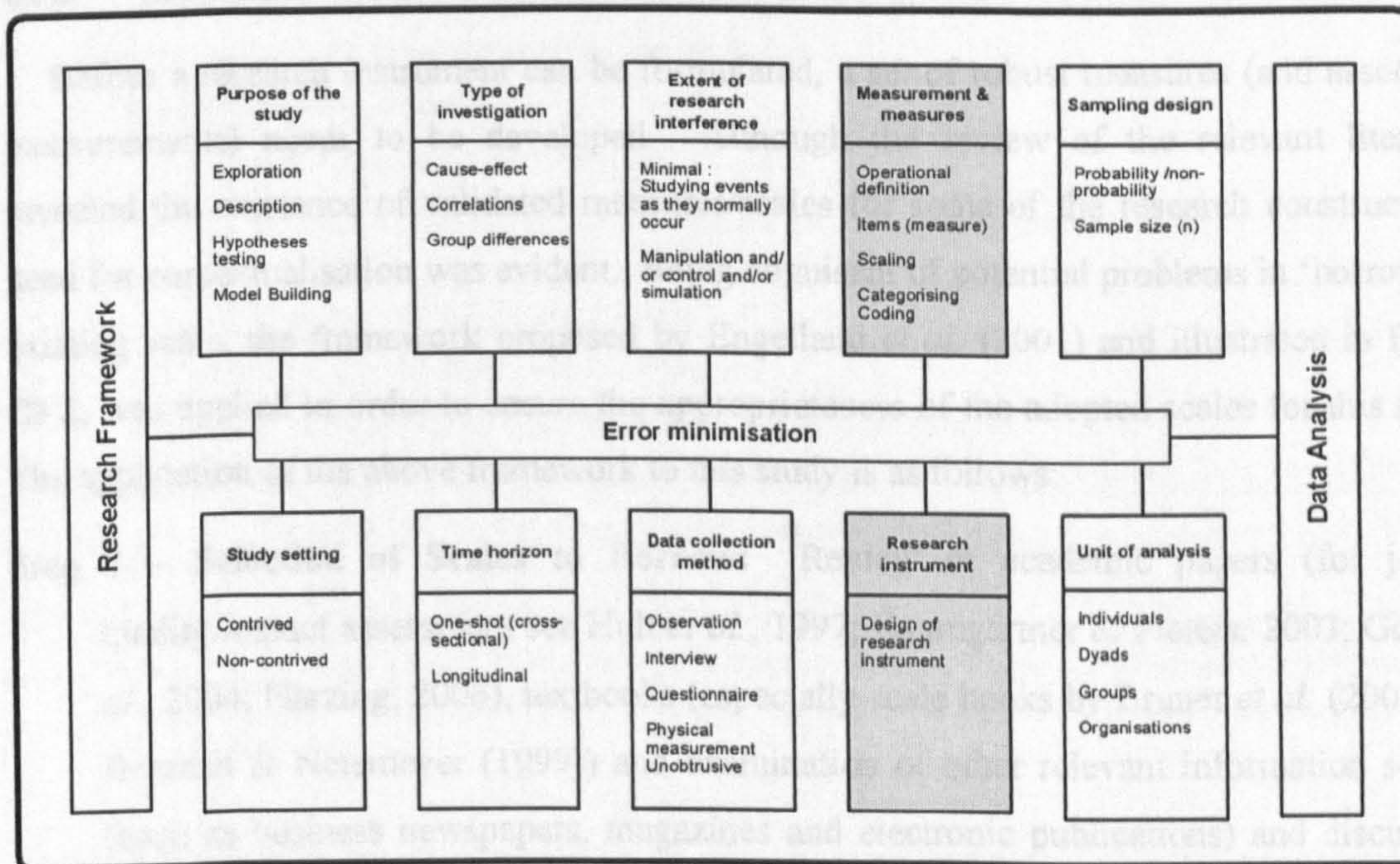


Figure C3.1: Research Design

Source: Sekaran, U.(2002), *Research Methods for Business: A Skill Building Approach*, 4th ed., New York: John Wiley and Sons Inc. (p. 93)

All the constructs in the research and competing models are LVs, consequently, this chapter commences by presenting debate related to the adopted measures and measurement for each construct (Section C3.2). Emphasis is placed in selecting measures that demonstrates acceptable psychometric properties (i.e., reliability and validity) and are suitable for the present context. Given recent concern regarding the impact of misspecification of the structure of LVs related issues are presented in Section C3.2. Finally, the conversion of the adopted measures and their measurements to the research instrument for the collection of the necessary data (i.e., questionnaire) follows in Section C3.3.

C3.2 MEASURES AND MEASUREMENTS

Before a research instrument can be formulated, a set of robust measures (and associated measurements) needs to be developed. Although the review of the relevant literature revealed the existence of validated measures/scales for some of the research constructs the need for contextualisation was evident. Being cognisant of potential problems in ‘borrowing’ existing scale, the framework proposed by Engelland *et al.* (2001) and illustrated in Figure C3.2, was applied in order to ensure the appropriateness of the adopted scales for this study. The application of the above framework to this study is as follows:

Step 1 – Selection of Scales to Borrow: Review of academic papers (for journal quality/impact assessment see Hult *et al.*, 1997; Baumgartner & Pieters, 2003; Geary *et al.*, 2004; Harzing, 2006), textbooks (especially scale books by Bruner *et al.* (2001) and Bearden & Netemeyer (1999)) and examination of other relevant information sources (such as business newspapers, magazines and electronic publications) and discussions with expert informants provided a sound base for the specification of the concepts related to the research constructs.

Step 2 – Assess Performance of Scales: Following from above, the scales are largely borrowed from papers and books published in the last decade. Consequently, the borrowed scales are up-to-date and representative of current thinking on the subject

matter. Examination of the psychometric properties of the scales assisted in the selection process and confirmed the stability of the adopted ones.

Step 1 - Selection of Scales to Borrow

Develop a precise and detailed conception of the target construct and its theoretical context. To precisely delineate the domain of a construct, four questions should be answered:

- What is the breadth of the domain?
- What is the appropriate level of abstraction?
- What is the the scope of the domain?
- Is the construct intended or realised?



Step 2 - Assess Performance of Scales

Consider these issues:

- Examine recent studies for validation of performance.
- Exercise caution with reverse-coded items



Step 3 - Examination of the Content and Phrasing of the Borrowed Items

Examine the content and phrasing of the scale items for:

- Relevance to the construct
- Relevance to the population of interest
- Consult experts for judgements relative to content and face validity



Step 4 - Appropriateness of Additional Items

Considerations for additional and modified items are:

Evaluate item comparability, e.g. time frame, research domain and wording
Items should be simple and appropriate to the reading age of the respondent

Figure C3.2: Framework for Selecting and Adopting Scales

Source: Engelland, B.T., Alsford, B.L. and Taylor, R.D. (2001), Caution and Precaution on the Use of 'Borrowed' Scales in Marketing Research, In: T.A. Slater (ed.) *Marketing Advances in Pedagogy, Process and Philosophy*, pp. 152-153. Society of Marketing Advances, New Orleans

Step 3 - Examination of the Content and Phrasing of Borrowed Items: The effectiveness of measurement scales in conveying the meaning of the intended variable in a clear and succinct manner was tested at meetings with expert informants (see Section C2.2.1). Suggested changes relating to the use of jargon, similarity or duplication of items, rephrasing of items and other relevant feedback were implemented.

Step 4 - Appropriateness of Additional Items: After making the changes suggested by expert informants, a pilot study was carried out to establish the adequacy and appropriateness of scales in measuring the proposed constructs). Feedback indicated that the deployed scales were explicit in their meaning and were clearly understood.

In addition to the above, given emerging interest in the potential effects that misspecification in the conceptualisation of LVs has in theory development and testing, decisions regarding the structure of the constructs had to be made. More specifically, the debate revolves around issues related to reflective and/versus formative conceptualisations of LV and associated problems of misspecification (Diamantopoulos & Winklhofer, 2001; MacKenzie *et al.*, 2005).

Reflective, or according to Bagozzi (1988) *molecular*, are those LVs whose indicators are influenced or affected by the underlying LV. The key feature of such LVs is that "... a change in the latent variable will be reflected in a change in all indicators" (Diamantopoulos, 1999:445). The above imply that there is a one-to-one correspondence between the LV and its indicators (i.e., the indicators are seen as empirical surrogates of a LV). The underlying assumption is that the LV exists, rather than being constructed, and is measured by its indicators or by other lower/first order LVs. Such LVs have their origins in the classical domain-sampling model (Nunnally & Bernstein, 1994) that assumes that the indicators are partially or entirely inter-correlated because of their underlying common LV. It consequently follows that, under such a perspective, a comparison of the *loadings* (λ_i) provides information of the relationship between an indicator and the LV it is considered to measure or represent. The following are characteristics present in RLVs and an illustration is provided in Figure C3.3 below:

- Direction of causality is from the construct to the measure
- Measures are expected to be correlated
- Removing an indicator from the measurement model *does not* alter the meaning of the construct
- Measurement error is taken into account at the *item* level

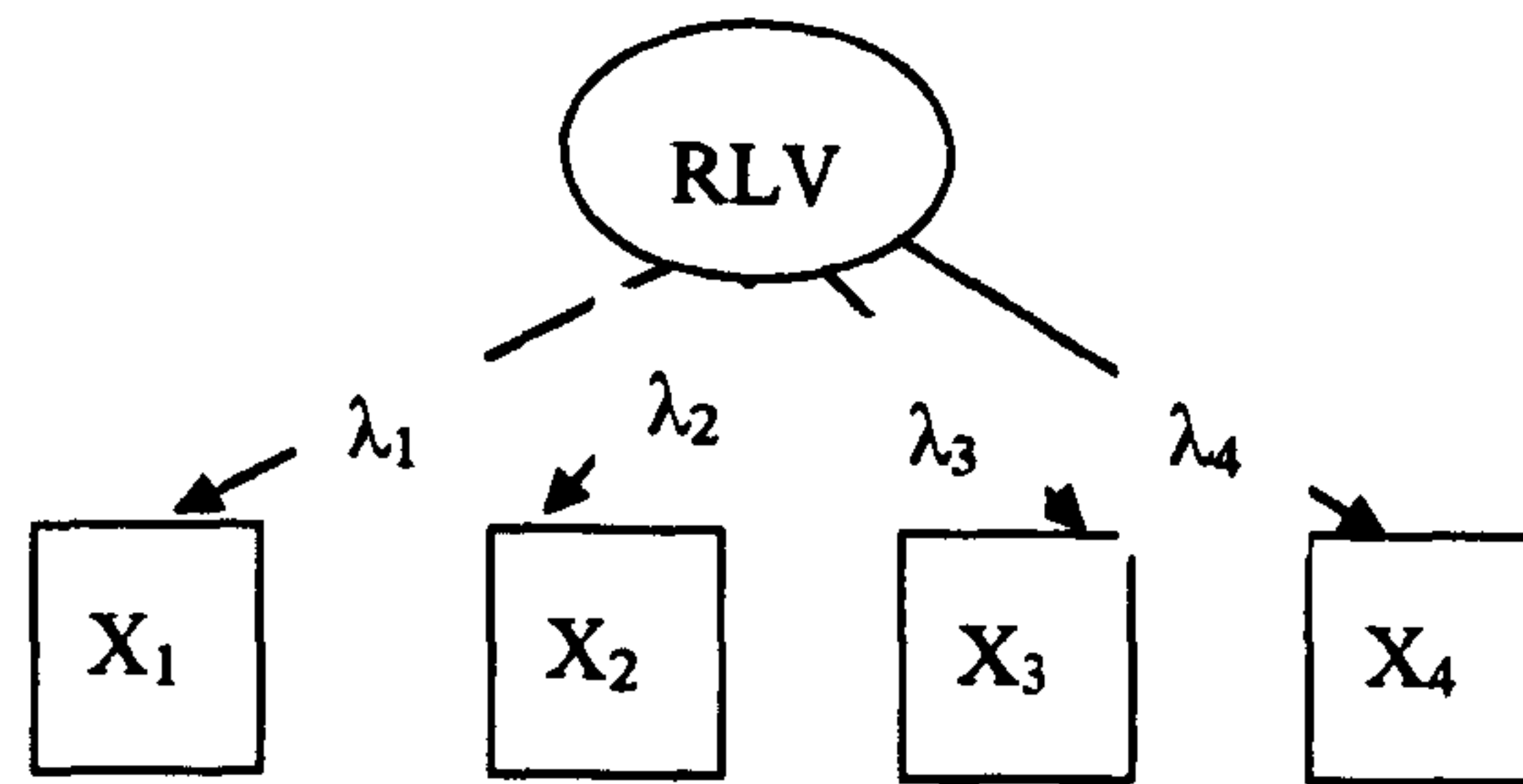


Figure C3.3: Illustration of a Reflective Latent Variable (RLV)

Formative, or according to Bagozzi (1988) *molar*, are variables whose indicators are causing rather than being caused by the underlying LV. Under such conditions “... a change in the latent variable is not necessarily accompanied by a change in all its indicators; rather if any one of the indicators changes, then the latent variable would also change.” (Diamantopoulos, 1999:446). In other words FLVs represent *emergent constructs* formed from a set of indicators or lower/first order factors. Unlike RLVs, there is no theoretical reason expect significant interdependencies (i.e., correlations) among the indicators. It follows that, since the indicators are not necessarily correlated but they can occur independently, it is their relative weights (γ_i) that are used to construct the FLV and these indicate the relative strength of their relationship to the intended LV. It is clear from the above that FLVs do not conform to the classical test theory of factor analysis models that treat indicators as effects of a construct. (Bollen & Lennox, 1991). The following are characteristics present in FLVs and an illustrative example is provided in Figure C3.4:

- Direction of causality is from the *measure* to the construct;
- There is no reason to expect that the measures are correlated
- Removing an indicator from the measurement model *may* alter the meaning of the construct
- Measurement error is taken into account at the *construct* level.

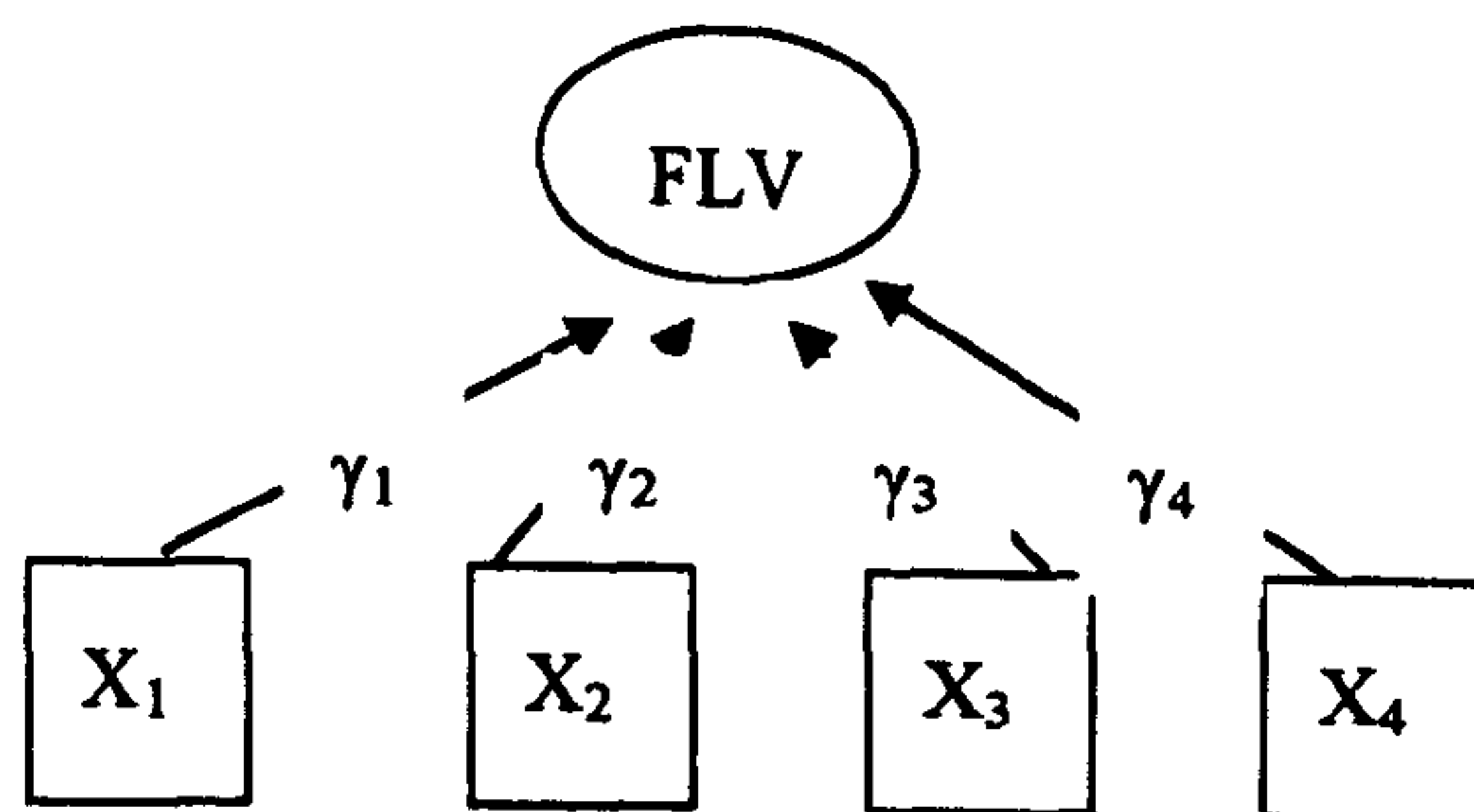


Figure C3.4: Illustration of a Formative Latent Variable (FLV)

The next section provides detailed information about the scales employed in this study as a result of the above defined actions and deliberations. With the exception of satisfaction, the scale items were evaluated on a five point likert scale anchored at Strongly Agree and Strongly Disagree.

C3.2.1 Perceived e-Service Quality

This construct is conceptualised as a second order LV that comprises the following four dimensions, efficiency, fulfilment, system availability and privacy, and is based on work by Parasuraman *et al.* (2005). These authors provide detailed account of development and testing of the dimensions and their measures.

C3.2.1.1 Efficiency

Efficiency refers to ease and speed of accessing and using the facilities offered. The scale originally proposed by Parasuraman *et al.* (2005) comprised eight items. However, discussions with experts and results from the pilot stage of this study resulted in a reduced set of the following four items:

- When we use our e-banking services we have found that the website has a fast response
- When we want to use our e-banking services it is clear how to login to our account page
- Once we have passed our e-banking security checks; the website take us directly to our account
- Our bank's e-banking pages are well laid out

C3.2.1.2 Fulfilment

The extent to which the promised performance of the service is delivered is termed fulfilment. The following four of the originally proposed seven items are employed.

- Our e-banking services keep us informed as to when a specific service will be performed
- Our e-banking services are prompt
- We have found our e-banking services to be an easy and convenient way of managing our accounts
- The speed with which our e-banking carries out our transactions has been very helpful to our business

C3.2.1.3 System Availability

This construct refers to issues of operational availability of the service. The original four item scale presented below is employed in this study

- Our bank's e-banking site is always available
- We have always found it possible to login to our bank's e-banking facilities
- Our bank's e-banking services have never generated an error that needed us to contact our bank directly
- Our bank's e-banking services enable us to easily download financial information to our accounting system

C3.2.1.4 Privacy

Privacy is the degree to which the service is safe and protects user information. The below four item scale represents an extension to the original operationalisation of three items.

- When we decided to use our bank's e-banking services, making sure that the service was secure was extremely important to us
- Our bank has gone a long way to demonstrate the e-banking security of our accounts and transactions made from these accounts
- Our bank's e-banking services require a number of important security checks before allowing the user access to our accounts
- Our bank's use of extensive encryption is something that makes us feel very secure when using their e-banking services

C3.2.2 Perceived Value

Perceived value is conceptualised as a third order LV that comprises two components (i.e., *get* or benefits and *give* or sacrifices) each comprising a number of dimensions. The first component refers to perceived benefits received from use and is a second order LV of acquisition, transaction, redemption and in-use. Sacrifices, on the other hand, relate to forfeits and is also a second order LV of monetary, time, social and effort.

C3.2.2.1 Get/Benefits

Grounded in debate presented by Woodall (1993) the get component of value is conceptualised as comprising four dimensions. The scale items employed in operationalising each of the dimensions and their sources are presented below¹⁰.

Acquisition: This dimension of the get component relates to business benefits that the e-service provides to the customer/user. The following four item scale is employed in operationalising this dimension:

- Enabled us to carry out our business more effectively than before (Stamoulis *et al.*, 2002)
- Improved our company's overall performance (Stamoulis *et al.*, 2002; Liao and Cheung, 2002)
- Made carrying out financial transactions much easier than before (Liao and Cheung, 2002; Laukkanen, 2006)
- Made a positive contribution to our company's revenue (Pikkarainen *et al.*, 2004)

Transaction: In addition to business benefits, use of an e-service provides operational benefits in the transactions between the provider and the user. These are reflected in this dimension and the employed scale items are presented below.

- Enabled our company to provide more extensive services (Ibbotson & Moran, 2003)
- Reduced the number of errors made during financial transactions (Indjikian, 2002)

¹⁰ The fact that the adopted conceptualisation is different to those debated in Section B2.3.3 resulted in employing sources outside those debated in that section. The author attempted to map extant operationalisations of value related constructs against financial and banking literature.

- Offered our company greater degree of privacy in our financial transactions (Pikkarainen *et al.*, 2004)
- Made a positive change to the quality of financial transactions carried out by our company (Rotchanakitumnuai & Speece, 2004; Ya-Yueh, 2006)

Redemption: Additional benefits derived from the use of the specific e-service under examination are related to financial reporting and accounting procedures of the user. The following represent the four item scale designed to capture such benefits.

- Provided our company with extensive reporting facilities (Yibin, 2003)
- Enabled us to have a clear audit trail of our financial transactions (Yibin, 2003)
- Simplified our reconciliation process (Rotchanakitumnuai & Speece, 2004)
- Made tracking of transactions much easier than before (Rotchanakitumnuai & Speece, 2004; Ya-Yueh, 2006).

In-use: The final dimension of the *get* component captures the extra, to those provided before the electronic version of the service was available, benefits provided by the e-service. The four items listed below are employed.

- Resulted in improved relationships with our business partners (Mukherjee & Nath, 2003)
- Enabled us to carry out a number of financial transactions that were not possible before (Rotchanakitumnuai & Speece, 2004; Ya-Yueh, 2006)
- Provided us with a number of customisation options that have made using it much easier (Rotchanakitumnuai & Speece, 2004; Ya-Yueh, 2006)
- Enabled us to implement procedures that have improved our company's cash flow (Pikkarainen *et al.*, 2004)

C3.2.2.2 Give/Sacrifices

The give component represents sacrifices made in order to obtain and use the e-service and comprises both monetary and non-monetary dimensions.

Monetary: The following four item scale is employed to account for financial costs associated with the e-service.

- In order to use our bank's e-banking services we have made a substantial monetary investment (González *et.al.*, 2004)

- Our bank imposes considerable charges in order for us to use their e-banking facilities (Altinkermer, 2001)
- We have invested extensively in our IT facilities in order to use the e-banking services offered by our bank (Sadiq & Shanmugham, 2003)
- Use of our bank's e-banking facilities was only possible after considerable investments in suitably competent personnel (Karjaluoto *et.al.*, 2002)

Time: This dimension of the get component refers to loss of time due to administrative and operational tasks. The following four item scale developed by Pikkarainen *et al.* (2004) is employed.

- Implementation of our bank's e-banking services has resulted in a long learning curve
- Because our bank's e-banking has a very methodical interface process of using it takes a long time
- Carrying out transactions using our bank's e-business services takes longer than before because of the various interfaces
- Because of security procedures login to our e-banking services takes a long time

Social: Transferring from a 'people intensive' to a technology driven provision of service results in loss of interpersonal interaction. This dimension of sacrifice is operationalised using the following items derived found in Rotchanakitumnuai and Speece (2004) and Ya-Yueh (2006).

- Use of our bank's e-banking services meant that we now communicate far less frequently with our bank's business manager
- Lack of personal interaction with our bank's staff because of e-banking services makes us feel just like another account
- When we use e-banking we get the feeling our bank perceive us as just another active business account
- Our e-banking services have reduced our normal interaction with our bank's business account manage

Effort: Use of a service involves the active participation of the use. Consequently, there are costs associated with the amount of effort required. These are captured through the following scale.

- We expend a lot of effort in using the e-banking services provided by our bank (Pikkarainen *et al.*, 2004)

- Due to lack of paper trail of our e-banking, we spend a lot of effort to ensure security of information and confirm transactions (Rotchanakitumnuai and Speece, 2004; Ya-Yueh, 2006)
- Keeping up-to-date with developments in the e-banking services provided by our bank involves considerable effort from our part (Lassar *et al.*, 2005; Karjaluoto *et al.*, 2002)
- In order to effectively use our bank's e-banking services extensive training of our staff is required (Karjaluoto *et al.*, 2002)

C3.2.3 Risk

This construct is conceptualised as a second order LV of performance, financial and psychological risks. The following operationalisations are based on a combination of extant scales and feedback from expert informants.

C3.2.3.1 Performance

Risks associated with inability of the adopted e-banking mechanisms to carry out the desired tasks are referred to as performance risks. The four item scale is a modified version of items employed by Pennathur (2001) and Cunningham *et al.* (2005).

- There is a chance that there will be something wrong (will not work properly) with the e-banking services offered by our bank
- There are possible risks in the way that our bank's e-banking services operate
- We are confident that our bank's e-services perform as described
- We are very certain that our bank's e-banking services work satisfactorily

C3.2.3.2 Financial

This risk refers to the likelihood that use of e-banking will result in un-recoverable financial losses. The four item scale listed below represents a combination of items employed by Pennathur (2001) and Cunningham *et al.* (2005).

- The risk of financial loss when using our bank's e-banking services is high

- We are concerned that our transactions may be compromised when we use our bank's e-banking services
- The risk of financial fraud is something we are very worried about when using our bank's e-banking services
- In terms of long term costs using our bank's e-banking services is risky

C3.2.3.3 Psychological

Psychological refers to risk that, use of specific product or service (in this study e-banking) will lower the self-image of the user or the perception of user image held by customers. The following four item scale is derived from work by Barnes and Corbitt (2003) and Sadiq and Shanmugham (2003).

- For our company, using the e-banking facilities offered by our bank is a symbol of success
- We consider that using the e-banking facilities offered by our bank is a status symbol
- Use of the e-banking facilities provided by our bank makes our staff feel good
- We look professional to our suppliers who are aware of our use of e-banking services

C3.2.4 Satisfaction, Word of Mouth, Switching and Lock-in

The final constructs in the research model are satisfaction and three forms of behavioural intention.

C3.2.4.1 Satisfaction

Satisfaction refers to feelings of fulfilment or gratification following a consumption experience. Using the method proposed by Peter *et al.* (1993) evaluation of the scale items is based on the following – “Think back on the time when your company started using your bank's e-banking services. Using the scale below please indicate how close your bank's e-banking services met your initial expectations.” and involved assessment on a 5-point interval scale anchored at “Very much better than expected” and “Very much poorer than expected”.

- Real time accessibility to our e-Banking accounts has been ... (Sadiq & Shanmugham, 2003; González *et.al.*, 2004)

- The level of functionality provided has proved to be ... (Liao & Cheung, 2002; Stamoulis *et al.*, 2002)
- The overall level of service quality has been ... (Liao & Cheung 2002)
- The length of time it took us to become competent in using the e-Banking services has been ... (Yousafzai, *et al.*, 2003)
- Our overall experience with the e-Banking service provided has been ... (Karjaluoto *et al.*, 2002; Liao & Cheung 2002)

C3.2.4.2 Word of Mouth

This construct refers to informal information or communications about the characteristics of a specific e-service. The four item scale and the source of each item are presented below.

- If people ask me, I would strongly recommend our bank's e-banking services (Polatoglu, *et al.*, 2001; Janda *et al.*, 2002; Yavas *et al.*, 2004)
- Our bank can use us as a reference customer for their e-banking services Polatoglu, *et al.*, 2001
- We would be glad to serve as a reference e-banking customer to our Bank Polatoglu, *et al.*, 2001
- I have said positive things about our Bank's e-banking services to other professional colleagues (Janda *et al.*, 2002; Yavas *et al.*, 2004)

C3.2.4.3 Switching

This construct measures the likelihood or propensity of a user of e-banking to substitute the current provider for another. The following three item scale is derived from extant banking and internet based research.

- If it were easy our company will switch to another provider of e-banking services (Ibbotson & Moran, 2003; Beerlie *et al.*, 2004)
- We are continuously looking for alternative providers of e-banking services to replace our current bank (Ibbotson & Moran, 2003)
- Recently we have spent some effort to search for an alternative bank with better e-banking services (Ibbotson & Moran, 2003)

C3.2.4.4 Lock-in

The final construct is designed to account for the fact that, under conditions of high specific investments, adoption of technology reduces ability to seek alternative business partners. Reference to banking literature led to the following two items.

- For us to consider switching to another provider of e-banking services, the quality of our current e-banking services have to seriously decline (Ibbotson & Moran, 2003; Yavas *et al.*, 2004)
- Due to integration of our e-banking services with our own internal billing and ordering systems, it is unlikely that we shall switch to another e-banking provider (Ibbotson & Moran, 2003)

C3.2.5 Structure of the LVs

Using the specification of characteristics presented above and guidelines developed by Jarvis *et al.* (2003), with the exception of satisfaction that is conceptualised as a FLV the remaining lower order constructs are treated as RLVs. As already stated in Section C1.2 the second order LVS of e-service quality, benefits, sacrifices and risk as well as the third order LV of perceived value are conceptualised as representing FLVs.

At the construct level the main consideration was expected correlation between scale items. For example, it is logical to expect the following four items that define psychological benefits to be correlated, consequently the construct is treated as a RLV.

- For our company, using the e-banking facilities offered by our bank is a symbol of success
- We consider that using the e-banking facilities offered by our bank is a status symbol
- Use of the e-banking facilities provided by our bank makes our staff feel good
- We look professional to our suppliers who are aware of our use of e-banking services

On the other hand each of the five items employed to measure satisfaction represent satisfaction with different aspect of the e-service and it is feasible that a customer will not be equally satisfied with each one (i.e., no compelling reason for correlation between the scale items).

- Real time accessibility to our e-Banking accounts has been ...

- The level of functionality provided has proved to be ...
- The overall level of service quality has been ...
- The length of time it took us to become competent in using the e-Banking services has been ...
- Our overall experience with the e-Banking service provided has been ...

For higher order structures, decisions were informed by expected correlation between the components and/or dimensions, and behaviour of the functional relationships of the constructs with their corresponding higher order construct, antecedents and consequences. The adopted conceptualisation of sacrifices (a FLV of monetary, time, effort, social costs) is used as an illustration. Consultancy services are often associated with high fees but the amount of effort and time spend by the customer is very low (i.e., low correlation between the dimensions of sacrifice). As a result compared to the other dimensions it is the perceptions of fees paid that dominate the formation of perceptions of sacrifice (i.e., differential relationship between the dimensions and the hypothesised higher order).

C3.3 DESIGN OF THE RESEARCH INSTRUMENT (QUESTIONNAIRE)

In the design of the research instrument, good practices as outlined by, among others, Sudman and Bradburn (1982), Tull and Hawkins (1993), Oppenheim (1994), Churchill and Iacobucci (2005), are followed. Figure C3.5 illustrates the various issues under consideration which, although depicted as sequential, are interrelated and should be viewed as a guide or checklist.

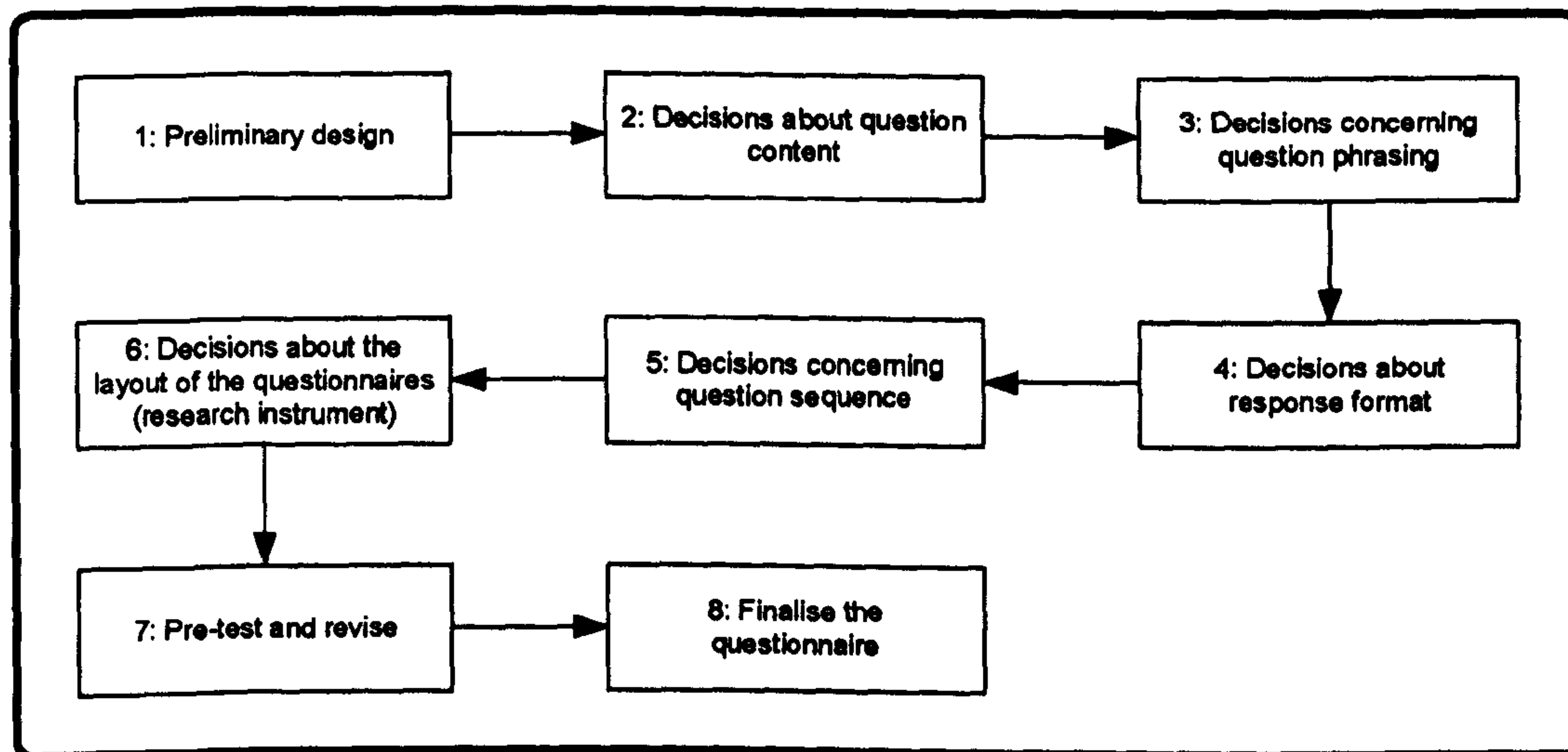


Figure C3.5: Research Instrument Construction Decisions

Source: Churchill, G. A., Jr. and Iacobucci, D. (2005): *Marketing Research: Methodological Foundations*, 9th ed., Mason, Ohio: Holt Rinehart and Winston

Each of the decisions is discussed in turn.

- 1) *Preliminary design*: Prior to the construction of the research instrument, decisions regarding the exact type of information sought from the respondents had to be considered in conjunction with the employed data collection method. Given the intended target population emphasis was placed on professional appearance and easy of completion.
- 2) *Decisions about questions content*: Once the topics were decided, due consideration was given to the question content, i.e. the general nature of the research instrument and the information it is designed to obtain. Question content was thoroughly verified during expert informant interviews and the pilot stage.
- 3) *Decisions concerning questions phrasing*: Due consideration was given to ensuring that the questions were phrased in a clearly understood way. Particular attention was placed on issues such as avoiding the use of jargon; ensuring the clarity of meaning; avoiding leading, double, or bias questions and ensuring clearly defined research the context.
- 4) *Decision about response format*: With the exception of satisfaction and the initial emporographic questions a unified approach in the presentation of the employed Likert scale is adopted.
- 5) *Decisions concerning the sequence of questions*: The questions are logically sequenced to make it easy/comfortable for the respondents to complete the questionnaire. Relatively

sensitive questions (e.g., questions related to switching and word of mouth) are placed towards the end of the questionnaire, and simple ‘tick-the-box’ questions are located at the beginning of the questionnaire. This allowed time for the respondent to ‘settle down’ and feel ‘at ease’ with the questionnaire. Furthermore, to assist comprehension, the questionnaire is divided into 7 sections each labelled with a title that indicates the general issues dealt with in the specific section.

- 6) *Decisions on the layout of the research instruments:* There is evidence that the physical characteristics of the research instruments affect not only the accuracy of the replies, but also the manner in which respondents react and the ease with which the replies can be processed. Therefore, particular attention was placed on issues of questionnaire layout during the pilot stage. As a result of the feedback, the questionnaire was professionally printed with a soft-photo design on the front cover displaying the Kingston Business School and Kingston University logos.
- 7) *Pre-test and revision:* Despite the extensive exploratory work conducted during the construction of the research instrument, the adequacy of the research instrument is an issue that merits attention. There is consensus that pre-testing is an integral part of the research instrument development process (e.g. Zelnio & Gagnon, 1981; Hunt *et al.*, 1982; Bolton, 1991; Zikmund, 1991; Tull & Hawkins, 1993; Churchill & Iacobucci, 2005). In highlighting the importance of pre-testing in the research development process, Churchill and Iacobucci (2001: 147) state that “... the researcher who avoids a questionnaire pre-test ... is either naive or a fool. The pre-test is the most inexpensive insurance the researcher can buy to ensure the success of the questionnaire and the research project.”

Pre-testing is defined as the “activity related to the development of the questionnaire to be used in a survey or experiment” (Green *et al.*, 1988:296). The purpose of pre-testing is “... to ensure that the expectations of the researcher in terms of the information that will be obtained from the questionnaire are met” (Aaker *et al.*, 2001:268). Furthermore, as language is basically ambiguous and words can have different meanings to different people (Bradburn & Sudman, 1991), it is important to ensure that the words used in survey questions have the meaning to the respondents that the researcher intends them to have (Kinnear & Taylor, 1991).

The literature on pre-testing (reviewed by Reynolds *et al.*, 1993) identified the following two main issues that should be addressed by a pre-test: a) respondents’ understanding of the instrument and of individual questions; and b) the physical characteristics such as size

and layout of the research instruments. To ensure that potential problems associated with the research instrument and their administration were fully dealt with; the researcher undertook the following pre-tests. Initially, meetings and discussions were held with a number of DBA candidates at the Kingston Business School, to evaluate the original pool of questions and ascertain any suggested additions/modifications. The draft version of the research instrument was distributed to eighty potential respondents randomly drawn from the sample frame. Feedback was obtained using a combination of protocol and debriefing mechanisms (Presser *et al.*, 2004) and comments received resulted in a small number of structural and wording changes.

- 8) *Finalise questionnaire*: The final version of the research instrument reflects the improvements made during the pilot stage and is presented in Appendix 4. The location of the scale items for each construct is presented in Table C3.1

Table C3.1: Location of Scale Items in Questionnaire

Construct	Component	Dimension	Section & Questions
Emporographic e-Service quality		Efficiency	Section A
		Fulfilment	Section B – Q1-4
Perceived value	Benefits	System availability	Section B – Q5-8
		Privacy	Section B – Q9-12
Risk	Sacrifices	Acquisition	Section B – Q13-16
		Transaction	Section C – Q1-4
		Redemption	Section C – Q5-8
		In-use	Section C – Q9-12
		Money	Section C – Q13-16
		Time	Section D – Q1-4
		Social	Section D – Q5-8
		Effort	Section D – Q9-12
		Performance	Section E – Q1-4
		Financial	Section E – Q5-8
		Psychological	Section E – Q9-12
			Section E – Q13-16

Satisfaction			Section F
Word of mouth			Section G – Q1-4
Switching			Section G – Q5-9

C3.4 DATA COLLECTION

Before proceeding to describe the data collection method employed in the main empirical phase of the study a brief account is presented of the adopted approach during the exploratory phase of the study.

C3.4.1 Exploratory Research

Given the nature and purpose of this phase of the study, qualitative methodology is considered appropriate. There is considerable debate regarding the merits and shortcomings of the various qualitative techniques (see for example, Richie & Lewis, 2003; Denzin & Lincoln, 2005). This study utilises face-to face in-depth interviews because of the nature of the subject matter (potentially sensitive), target population (executives) and the complexity of the issues involved. Face-to face interviews, also referred to as ‘experience surveys’ and ‘key-informant surveys’ (Churchill & Iacobucci, 2005), were undertaken with ten ‘expert informants’.

The interviewees were DBA candidates at the Kingston Business School and were selected because of their routine involvement with decision making in various sectors of the UK economy. Furthermore, they held senior positions in their respective companies, enabling them to have clear views in matters relating to this study. In addition, interviews with two academic professors were conducted. They were selected on the basis of their extensive research background in the specific area of study and their considerable experience in the adopted data collection methodology.

Good practices specified in Richie and Lewis (2003) and Kvale and Brinkmann (2004) are implemented. Each of the expert informants was interviewed for approximately 1 to 1.5 hours. The time for the interview was prearranged and information about the topics to be

discussed was posted in advance of the meeting. The interviewees provided information about their experiences with e-banking, commended on the structure of the relationships under examination, evaluated the appropriateness of initial wording of scale items and made suggestions regarding the proposed data collection methodology.

C3.4.2 Field Research

Collecting data in quantitative studies involves decisions related to type of data collection method(s), administration and communication of the adopted method(s) (de Vaus, 2002). Each of these is dealt with in turn.

C3.4.2.1. Data Collection Method

The data collection methods used most often in quantitative studies are survey, observation and experimentation. Briefly, surveys include the distribution of questionnaires to a sample of the chosen population. Observations involve recording the behavioural patterns of people, objects or occurrences without direct interaction. Finally, experimentation involves the manipulation of one or more independent factors or treatments by the researcher who then measures their effects on one or more dependent factors. The merits and drawbacks of these methods are extensively described in literature, see for example Bryman and Bell (2003), Saunders *et al.* (2003), Churchill and Iacobucci (2005) and McDaniel and Gates (2002).

Based on reviews by the above authors, and notwithstanding concerns regarding response bias (e.g., potential for respondents to provide inaccurate or untruthful information), survey is considered to be the most suitable method. The comparatively low cost afforded by surveys is one of the reasons for this decision (see geographical dispersion of the target population; Section C2.5). The relative speed of surveys, especially compared to observations and experiments, is another contributing factor. In addition, surveys allow respondents to decide whether or not to participate (ethical considerations). Furthermore, surveys allow the inclusion of a wide variety of question formats designed to elicit respondents' underlying thinking process that could not be otherwise obtained using observations or experimentation. Finally, surveys are extensively used in research similar to this study (see for example,

Patterson & Spreng, 1997; Lapierre, 2000; McDougal & Levesque, 2000; Eggert & Ulaga, 2002; Baxter & Metear, 2004; Yan & Peterson, 2004; Menon *et al.*, 2005; Gounaris *et al.*, 2007).

C3.4.2.2 Mode of Administration

Literature points to the existence of four modes of survey administration. These are personal interviews, phone interviews, mail surveys and various electronic types of administrative survey. Combinations of these four modes of administration are also possible. Following review of their respective merits and limitations (see for example de Vaus, 2002; Fink, 2003; Groves *et al.*, 2004; Churchill & Iacobucci, 2005; Sapsford, 2006) mail was considered to be the most appropriate mode for administering the survey.

Suitability of mail surveys for the collection of (perceived) sensitive information and avoiding interviewer bias are strong contributors to this decision. In line with reasons for adopting surveys outlined in Section C3.4.2.1, the relative cost advantage of mail over personal and telephone administration, especially when a reliable sample frame is obtained represents the second reason for their adoption. Although electronic surveys offer speed and cost advantages over their mail counterparts (Kent & Lee, 1999; Grant *et al.*, 2005; Deutskens *et al.*, 2006), expected need for respondents to reflect carefully on their replies and the rather large number of question (74) dissuaded this researcher from using them. Acknowledging that mail surveys suffer from loss of control in terms of who completes the questionnaire, lack of opportunity to provide clarifications in cases of uncertainty and low response rates a number of actions are introduced (e.g., personalisation, piloting etc.). Some of these are elaborated in the following section while others are presented in Section C2.1 that deals with mechanisms designed to minimise errors and bias. Data were collected between March and April 2006.

C3.4.2.3 Communication Method

A structured and undisguised communication method is employed. The related actions are presented below and broadly conform to the Tailored Design Approach proposed by Dillman (2006) and to good practices reported by Cavusgil and Elvey-Kirk (1998).

- *Degree of structure:* This refers to the degree of standardisation imposed on the questionnaire (Churchill & Iacobucci, 2005). Using a highly structured method, the questions are strictly predefined. The questionnaire followed a logical sequence and relied primarily on closed-ended, scaled responses (5-point Likert scale) questions. This provided a uniform platform designed to minimise response time.
- *Amount of disguise:* This involves the extent to which the respondent is aware of the underlying purpose of the research (McDaniel & Gates, 2002). Despite the existence of some questions that could potentially be perceived as sensitive, there is no compelling reason to disguise the research purpose. On the contrary, it is believed that by stating the purpose of the research at the outset, the respondents were in a better position to provide accurate and relevant answers. Consequently, the respondents were informed in the cover letter accompanying the questionnaire of the purpose and legitimacy of the study (see Appendix 1). Contact details are also included in case of queries.
- *Respondent targeting:* The name of each of the respondents was included as part of the postal address. Directing the questionnaire to a named respondent helps increase/improve response rate and the likelihood the questionnaire will reach the person in the best position to complete it (Dillman, 2006). All the addresses were laser-printed for legibility and professional appearance (Greer & Lohtia, 1994).
- *Letterhead and cover letter:* Following recommendations by Cavusgil and Elvey-Kirk (1998) and Dillman (2006), Kingston Business School letterhead was used for the cover letter. Adhering to good practices outlined by the above authors, the cover letter is laser printed and restricted to one page, contains explanation about the purpose of the survey, provides completion instructions and emphasises the importance of the respondent's reply. Assurances for complete confidentiality are also included (Faria & Dickinson, 1996). Each letter was signed as an act of personal attention towards each respondent (Greer & Lohtia, 1994).
- *Identifying the questionnaire:* Although inclusion of an identification number designed to remove those that reply from the sampling frame and avoid unnecessary reminders has no impact on response rate (Kalafatis & Blankson, 1996) potential perceptions of subject sensitivity dissuaded the researcher from employing such a technique. Instead a self-addressed, pre-paid post card is included in the outbound package with a request to return it separately from the questionnaire (Appendix 2). In addition to a number corresponding to the sampling there is provision for the respondents to request a summary of the results.

- *Incentives:* Lack of consensus about the use of incentives in business surveys is acknowledged. Nevertheless, following suggestions by Diamantopoulos and Schlegelmilch (1996), Cavusgil and Elvey-Kirk (1998) and Dillman (2006) and evidence by other researchers at Kingston Business School of their effectiveness, in addition to the above mentioned summary, respondents were informed that their names will be entered in a draw for three iPods.
- *Posting of the questionnaire:* Given the target audience, the questionnaires were posted by first-class post on a Monday to reach intended respondents by mid-week.
- *Questionnaire return-envelopes:* Self-addressed (to Kingston Business School), pre-paid return envelopes were enclosed as a part of the outgoing pack (de Vaus, 2002).

Follow-up mailing: A single reminder (see Appendix 3) was posted approximately three weeks after the initial mail to those who did not respond (Claycomb, 2000; de Vaus, 2002; Dillman, 2006).

C3.5 RESPONSE RATE AND ANALYTICAL APPROACH

The activities presented above are designed to elicit responses that will provide an appropriate basis on which the research and competing models are evaluated and the hypotheses tested. Consequently, response rate, quality of data and analytical approach employed are important issues that are debated in this section.

C3.5.1 Response Rate

As stated in Section C3.4.2 data were collected between March and May 2006. The first wave comprised 1200 questionnaires. At the end of four weeks a total of 92 responses were received. An additional 35 companies declined to take part, 22 replies were unusable and 208 returned as undelivered. The second wave returned a further 149 replies of which, 75 were usable, 18 declined to participate, 19 replies were unusable and 43 undeliverables. The

total number of 167 usable replies complies with the desired sample size calculations presented in Section C2.5.5 and represents a 22% effective response rate.

Despite all the efforts not all recipients replied. Therefore it is necessary to test for possible non-response bias. Following suggestions by Armstrong and Overton (1977), late respondents are treated as behaving similar to non-respondents and their replies are tested against early respondents. Lack of significant differences is considered to indicate non-response bias. In this study responses to the first wave are considered to represent early respondents, while those responding after the second wave are classified as late respondents. Testing for data collection bias is carried out using independent sample *t*-tests to test possible differences between mail and internet responses. A randomly selected sample of 15 scale items is tested. Table C3.2 shows that, at 5%, the mean value of only one scale item (Q15.2) is significantly different between early and late respondents. Consequently, conclude that there is no evidence of serious non-response bias.

Table C3.2: Non-response Bias Analysis

Constructs and scale items	Levene's test of variances		<i>t</i> -test of means		
	<i>F</i>	Sig.	<i>t</i> -value	df	Sig. (2-tailed)
Efficiency (e-service)					
When we use our e-banking services we have found that the website has a fast response [Q1.1]	.544	.462	-.037	165	.971
When we want to use our e-banking services it is clear how to login to our account page [Q1.2]	7.151	.008	-.259	100	.796
Privacy (e-service)					
Our bank has gone a long way to demonstrate the e-banking security of our accounts and transactions made from these accounts [Q4.2]	3.757	.054	-.138	165	.891
Transaction (benefits)					
Reduced the number of errors made during financial transactions [Q6.2]	5.530	.020	.220	116	.826
Offered our company greater degree of privacy in our financial transactions [Q6.3]	9.280	.003	1.129	115	.261
Time (sacrifice)					
Implementation of our bank's e-banking services has resulted in a long learning curve [Q10.1]	1.965	.163	-.634	165	.527
Effort (sacrifice)					
We expend a lot of effort in using the e-banking services provided by our bank [Q12.1]	2.250	.135	-.477	165	.634
Due to lack of paper trail of our e-banking, we	2.338	.128	.205	165	.838

spend a lot of effort to ensure security of information and confirm transactions [Q12.2]					
Performance (risk)					
There is a chance that there will be something wrong (will not work properly) with the e-banking services offered by our bank [Q13.1]	1.795	.182	1.598	165	.112
We are confident that our bank's e-services perform as described [Q1.3]	1.558	.214	.292	165	.770
We are very certain that our bank's e-banking services work satisfactorily [Q13.4]	2.171	.143	.275	165	.784
Psychological (risk)					
We consider that using the e-banking facilities offered by our bank is a status symbol [Q15.2]	.137	.712	2.834	165	.005
Use of the e-banking facilities provided by our bank makes our staff feel good [Q15.3]	.835	.362	.947	165	.345
Satisfaction					
Real time accessibility to our e-Banking accounts has been325	.570	1.778	165	.077
The level of functionality provided has proved to be ...	2.792	.097	1.074	165	.284

C3.5.2 Analytical Approach

Before discussing the adopted analytical approach a brief account of observations related to missing cases is presented. Following inputting the collected data to SPSS the first task was to determine the pattern and prevalence of missing cases and if needed to consider appropriate remedial strategies (Hair *et al.*, 1998). Examination revealed that only four cases (i.e., respondents) contained missing information and that there is no discernable pattern in the distribution/pattern. Consequently no action is required.

The analytical technique applied in order to test the hypothesised structural relationships depicted in the research and competing models is Structural Equation Modelling (SEM). According to Fornell (1987:413), SEM techniques are examples of “a second generation of multivariate analysis”, that offer researchers greater flexibility when compared against first generation techniques such as multiple regression, factor analysis. The *covariance-based approach* for SEM, made initially popular through the development of the LISREL program and subsequently by the availability of other similar software such as EQS, AMOS, SEPath, CALIS and RAMONA, is widely employed in developing theory and testing related models.

Covariance-based approaches assume that the observed variables follow a multivariate normal distribution, large sample sizes (above 100) and independence between observations (Fornell & Bookstein, 1982; Chin, 1998; Chin & Newsted, 1999). In addition, such approaches require that the LVs are reflective in nature. An alternative to the covariance-based approach is *partial least squares* (PLS) developed by Wold (1985). ‘As an alternative to covariance-based SEM analysis, the variance-based approach of PLS shifts the orientation from causal model/theory testing to component-based predictive modelling. Rather than focusing on building models that are meant to explain the covariances of all the observed indicators, the objective of PLS is prediction’ (Chin & Newsted, 1999: 310). Compared to covariance-based approaches, PLS imposes minimal constraints/assumptions on the measurement scales. In terms of types of measurements PLS can simultaneously handle metric and categorical types of indicators. In addition, its models can comprise both RLVs and FLVs. Finally, there is no assumption of multivariate normality and it can handle sample sizes as small as 30 which is achieved through the employment of an iterative algorithm that consists of a series of ordinary least squares analyses that, (a) make no presumptions as to the distribution of the variables, and (b) almost always converge to a stable set of weight estimates. Thus PLS avoids the two main problems associated with covariance-based approaches, i.e. inadmissible solutions and factor indeterminacy (Fornell & Bookstein, 1982).

Despite the fact that Fornell and Bookstein (1982) provided a thorough examination and comparison of LISREL and PLS, it is not until very recently (mainly due to the availability of software such as LVPLS developed by J.B. Lohmöller and the graphics based PLSGraph and Smart PLS, that applications of PLS started to appear in the literature. Review of the literature indicates that PLS has been applied in a diverse range of business and management problems, e.g. adoption of technology (Barclay, *et al.*, 1995), international marketing (Kadipasaoglu *et al.*, 1999), positioning (Vandenbosch, 1995), organisational buying (Barclay, 1991), and strategy (Cool *et al.*, 1989). Given the inclusion of both FLs and RLs and taking into account the above debate PLS provides the analytical platform of this study. Specifically, the collected data are analysed using the PLSGraph software developed by Chin.

PART D

DATA ANALYSIS

Following accepted principles set out by Anderson and Gerbing (1998) a two stage approach is adopted. Initially the quality of the adopted measures (i.e., the measurement model) is examined in Chapter D1 before proceeding to test the proposed higher order structures, the research model and the related hypotheses (i.e. the structural model) in Chapter D2.

CHAPTER D1: TESTING THE MEASUREMENT MODEL

D1.1 INTRODUCTION

In this chapter the quality of the adopted measures is assessed. The evaluation, and if needed refinement of the measures, is an important first stage in order to ensure that subsequent analysis of functional relationships is based on accurate measurements of the constructs. This study incorporates both RLVs and FLVs, with the exception of content and face validity these require different assessment procedures.

D1.2 FORMATIVE CONSTRUCTS

Although, unlike RLVs (see Section D1.3), in the case of FLVs there is no need to eliminate/omit non-significant indicators, according to Mathieson *et al.* (2001) and Diamantopoulos *et al.* (2008), under conditions of excessive collinearity amongst scale indicators estimates of FLVs are highly unstable. The above is clearly articulated in the following passage from Mathieson *et al.* (2001:107):

‘The inclusion of non-significant formative measures should not affect the estimates and any re-analyses after dropping non-significant items is not required. Because PLS is based on standard ordinary least squares regression, misspecification due to the inclusion of ‘irrelevant’ items will not bias the estimates of significant items. The only potential problem is if the degree of correlation for the ‘irrelevant item’ and the other items is high, whereupon standard error estimates can increase.’

As stated in Section C3.2 the only construct treated as a FLV is satisfaction. Testing multicollinearity was achieved by regressing the indicators of this LV against an appropriate dependent variable, which in this case was the word of mouth. When assessing collinearity the author employed two tests (Hair *et al.*, 1998):

- The variance inflation factor (VIF) denotes the amount of variance in the dependent variable not explained by the other independent variables. The benchmark of 10 has been adopted.
- The two-part process that involves first identifying conditional indices exceeding a value of 30 followed by identifying variables with variance proportions above 0.9.

The results presented in Tables D1.1 indicate that all VIF values are below the adopted benchmark and from the collinearity diagnostics we observe that none of the conditional indices are above 30. On the strength of these observations conclude that there is no evidence of collinearity and consequently all indicators of this construct are retained.

Table D1.1: Satisfaction – Collinearity Analysis

Model	Collinearity Statistics	
	Tolerance	VIF
(Constant)		
Real time accessibility to our e-Banking accounts has been ...	0.5093	1.9635
The level of functionality provided has proved to be ...	0.4101	2.4386
The overall level of service quality has been ...	0.4278	2.3378
The length of time it took us to become competent in using the e-Banking services has been ...	0.5140	1.9454
Our overall experience with the e-Banking service provided has been ...	0.3653	2.7373

Collinearity Diagnostics(a)

Model	Dimension	Eigen-value	Condition Index	Variance Proportions					
				(Constant)	Satisfaction 1	Satisfaction 2	Satisfaction 3	Satisfaction 4	Satisfaction 5
1	1	5.886	1.000	0.00	0.00	0.00	0.00	0.00	0.00
	2	0.032	13.510	0.30	0.18	0.00	0.02	0.41	0.02
	3	0.030	14.079	0.64	0.15	0.08	0.02	0.12	0.02
	4	0.023	15.827	0.02	0.23	0.18	0.31	0.10	0.13
	5	0.015	19.700	0.00	0.01	0.59	0.49	0.15	0.18
	6	0.013	20.945	0.05	0.44	0.14	0.16	0.22	0.65

D1.3 REFLECTIVE CONSTRUCTS

This section presents investigations related to the accuracy of the RLVs and includes reliability and validity tests. Churchill (1979) states that “if a measure is valid, it is reliable”. However, Gronlünd (1982) points out that ‘reliability is necessary to obtain validity’, and, similarly, it has been suggested by Spector (1992) that one should first establish the essential property of reliability before conducting validity tests. Therefore, by following Spector (1992) and Gronlünd (1982), reliability is assessed first, followed by the evaluation of validity.

D1.3.1 Reliability

Reliability concerns the degree of stability and consistency when a scale is used repeatedly (Malhotra & Birks, 2002; Chisnall, 1997). The author is aware of scorer reliability (degree of agreement amongst expert judges or scorers), test-retest (the same participants are administered identical sets of scale items at two different times, with conditions as near equivalent as possible), alternative-form (use of equivalent forms of scales are administered to the same participants at two different times) and split-half (separation of scale items into two parts and examining their correlation) However, concerns regarding the application of such tests (see for example, DeVellis, 1991; Tull & Hawkins, 1993; Malhotra & Birks, 2002) and obvious constraints because of their prescribed use of experts (i.e., engaging senior executives) resulted in these test not being employed. Those applied in this study are debated below.

- **Cronbach alpha:** This represents a measure designed to overcome the above mentioned problem and involves calculating the average of all possible split-half coefficients. In assessing the reliability of the constructs two indices are examined:
 - a) the overall scale alpha value provides an overall measure of reliability; suggestions for appropriate benchmarks vary with Nunnally (1978) recommending 0.5, while Malhotra and Birks (2002) and Tull and Hawkins (1993) suggesting 0.6 and Churchill (1997) 0.7. In this study, a mid-point benchmark of 0.6 is adopted. For constructs with values less than 0.6, a sequential approach of removing those item(s) whose deletion resulted in a higher

Cronbach's alpha value is performed until the scale reached the adopted benchmark.

b) item-to-total correlations indicate the correlation between a specific scale item and the overall (or total) test score; the widely adopted benchmark of 0.3 is employed here (see Spector, 1992). Failure to meet this benchmark resulted in a similar iterative procedure as described above.

- **Internal Consistency:** A deficiency of Cronbach's alpha is that it presumes *a priori* that each indicator of a construct contributes equally, is sensitive to the number of items in a scale and fails to account for the indicator to construct relationship. To overcome this Fornell and Larcker (1981) proposed a measure that utilises the item to construct loadings and is invariant to the number of items. Their proposed 0.7 benchmark is adopted in this study (denoted as composite reliability – CR). In addition for an item to be retained it should be associated with a loading that is significant and greater than 0.7. In assessing the statistical significance of loadings (given as standardised values) a bootstrapping analysis was employed (Chin, 1998 for justification as to preference of bootstrapping over jack-knife) with estimates based on 500 samples (Mathieson *et al.*, 2001). Using Student t-value tables with n-1 degrees of freedom (where n is the number of samples) resulted in one-tail critical values of, 1.65, 2.33 and 3.09 (i.e., 1-tail test), for respectively 0.05, 0.01 and 0.001 levels of significance.

When testing for reliability Cronbach's is examined first before testing for internal consistency, consequently changes made after the Cronbach test were incorporate into subsequent analysis. Presentation and debate of the related results for each RLV follows.

D.1.3.1.1 Service Quality

The information presented in Table D1.2 indicates that, for efficiency, the Cronbach's alpha is above 0.6 and all item-to-total correlations were above 0.3, therefore. In addition, all loadings are significant and the CR value of 0.859 is also above the acceptable benchmark of 0.7. Consequently, no purification was deemed necessary for this construct. The same pattern, i.e. acceptable Cronbach alpha, item-to-total correlation and CR values as well as significant loadings is observed for the other three dimensions of service quality.

Table D1.2 – Reliability of the Service Quality Dimensions

Construct	Cronbach's alpha		Internal consistency	
	Item to total correlation	α value	Loadings	CR
<i>Efficiency</i>		.773		.859
When we use our e-banking services we have found that the website has a fast response [Q1.1]	0.493		0.701 ^c	
When we want to use our e-banking services it is clear how to login to our account page [Q1.2]	0.623		0.812 ^c	
Once we have passed our e-banking security checks; the website take us directly to our account [Q1.3]	0.591		0.787 ^c	
Our bank's e-banking pages are well laid out [Q1.4]	0.633		0.804 ^c	
<i>Fulfilment</i>		.833		.893
Our e-banking services keep us informed as to when a specific service will be performed [Q2.1]	0.842		0.756 ^c	
Our e-banking services are prompt [Q2.2]	0.773		0.852 ^c	
We have found our e-banking services to be an easy and convenient way of managing our accounts [Q2.3]	0.766		0.847 ^c	
The speed with which our e-banking carries out our transactions has been very helpful to our business [Q2.4]	0.744		0.830 ^c	
<i>Availability</i>		.735		.836
Our bank's e-banking site is always available [Q3.1]	0.570		0.781 ^c	
We have always found it possible to login to our bank's e-banking facilities [Q3.2]	0.664		0.848 ^c	
Our bank's e-banking services have never generated an error that needed us to contact our bank directly [Q3.3]	0.392		0.693 ^c	
Our bank's e-banking services enable us to easily download financial information to our accounting system [Q3.4]	0.500		0.761 ^c	
<i>Privacy</i>		.773		.861
When we decided to use our bank's e-banking services, making sure that the service was secure was extremely important to us [Q4.1]	0.485		0.674 ^c	
Our bank has gone a long way to demonstrate the e-banking security of our accounts and transactions made from these accounts [Q4.2]	0.517		0.723 ^c	
Our bank's e-banking services require a number of important security checks before allowing the user access to our accounts [Q4.3]	0.661		0.845 ^c	
Our bank's use of extensive encryption is something that makes us feel very secure when using their e-banking services [Q4.4]	0.683		0.865 ^c	

Note: ^a $p < 0.05$; ^b $p < 0.01$; ^c $p < 0.001$.

D.1.3.1.2 Perceived Value

From Table D1.3 we can see that the proposed operationalisations of all the benefit dimensions of the benefit component of value met the adopted benchmarks and criteria. The same conclusion applies to the dimensions of the give component of value (Table D1.4). Consequently, no modifications to any of the operationalisations of the value dimensions were necessary.

D.1.3.1.3 Risk

Initial analysis (results not presented) of performance risk resulted in a Cronbach alpha of .208 which is considerably lower than the adopted benchmark. Following the purification approach already explained the scale becomes acceptable after removal of two of the initial four indicators. For the remaining dimensions there is no need for purification. The final results are presented in Table D1.5.

D.1.3.1.4 Word of Mouth, Switching and Lock-in

As seen in Table D1.6, for word of mouth the Cronbach's alpha is 0.802 and all item-to-total correlations are above the 0.3 benchmark. All loadings exceed 0.7, are significant and the CR of .867 is larger than the adopted benchmark of 0.7. Consequently, no purification to the scale is required. However, for switching, subsequent analysis (see Section D1.3.2.2) indicates that the proposed conceptualisation contains two constructs, switch and lock-in. The related analysis in Table D1.6 confirms the reliability of these two new constructs.

Table D1.3 – Reliability of the Benefit Dimensions of Perceived Value

Construct	Cronbach's alpha		Internal consistency	
	Item to total correlation	α value	Loadings	CR
<i>Acquisition</i>		.814		.877
Enabled us to carry out our business more effectively than before [Q5.1]	0.569		0.725 ^c	
Improved our company's overall performance [Q5.2]	0.782		0.896 ^c	
Made carrying out financial transactions much easier than before [Q5.3]	0.675		0.816 ^c	
Made a positive contribution to our company's revenue [Q5.4]	0.523		0.759 ^c	
<i>Transaction</i>		.801		.873

Enabled our company to provide more extensive services [Q6.1]	0.547	0.753 ^c
Reduced the number of errors made during financial transactions [Q6.2]	0.610	0.772 ^c
Offered our company greater degree of privacy in our financial transactions [Q6.3]	0.651	0.818 ^c
Made a positive change to the quality of financial transactions carried out by our company [Q6.4]	0.665	0.833 ^c
<i>Redemption</i>	.827	.855
Provided our company with extensive reporting facilities [Q7.1]	0.608	0.804 ^c
Enabled us to have a clear audit trail of our financial transactions [Q7.2]	0.680	0.849 ^c
Simplified our reconciliation process [Q7.3]	0.719	0.841 ^c
Made tracking of transactions much easier than before [Q7.4]	0.611	0.747 ^c
<i>In-Use</i>	.785	.861
Resulted in improved relationships with our business partners [Q8.1]	0.501	0.717 ^c
Enabled us to carry out a number of financial transactions that were not possible before [Q8.2]	0.690	0.859 ^c
Provided us with a number of customisation options that have made using it much easier [Q8.3]	0.699	0.857 ^c
Enabled us to implement procedures that have improved our company's cash flow [Q8.4]	0.500	0.674 ^c

Note: ^a $p < 0.05$; ^b $p < 0.01$; ^c $p < 0.001$.

Table D1.4 – Reliability of the Sacrifice Dimensions of Perceived Value

Construct	Cronbach's alpha		Internal consistency	
	Item to total correlation	α value	Loadings	CR
<i>Money</i>		.858		.905
In order to use our bank's e-banking services we have made a substantial monetary investment [Q9.1]	0.711		0.838 ^c	
Our bank imposes considerable charges in order for us to use their e-banking facilities [Q9.2]	0.588		0.734 ^c	
We have invested extensively in our IT facilities in order to use the e-banking services offered by our bank [Q9.3]	0.796		0.898 ^c	
Use of our bank's e-banking facilities was only possible after considerable investments in suitably competent personnel [Q9.4]	0.727		0.879 ^c	
<i>Time</i>		.867		.914
Implementation of our bank's e-banking services has resulted in a long learning curve [Q10.1]	0.664		0.828 ^c	
Because our bank's e-banking has a very methodical interface process of using it takes a long time [Q10.2]	0.819		0.914 ^c	
Carrying out transactions using our bank's e-business	0.822		0.912 ^c	

services takes longer than before because of the various interfaces [Q10.3] Because of security procedures login to our e-banking services takes a long time [Q10.4]	0.600	0.749 ^c
<i>Social</i>	.805	.873
Use of our bank's e-banking services meant that we now communicate far less frequently with our bank's business manager [Q11.1]	0.527	0.671 ^c
Lack of personal interaction with our bank's staff because of e-banking services makes us feel just like another account [Q11.2]	0.736	0.908 ^c
When we use e-banking we get the feeling our bank perceive us as just another active business account [Q11.3]	0.675	0.885 ^c
Our e-banking services have reduced our normal interaction with our bank's business account manage [Q11.4]r	0.561	0.696 ^c
<i>Effort</i>	.865	.909
We expend a lot of effort in using the e-banking services provided by our bank [Q12.1]	0.731	0.844 ^c
Due to lack of paper trail of our e-banking, we spend a lot of effort to ensure security of information and confirm transactions [Q12.2]	0.662	0.799 ^c
Keeping up-to-date with developments in the e-banking services provided by our bank involves considerable effort from our part [Q12.3]	0.764	0.881 ^c
In order to effectively use our bank's e-banking services extensive training of our staff is required [Q12.4]	0.709	0.856 ^c

Note: ^a $p < 0.05$; ^b $p < 0.01$; ^c $p < 0.001$.

Table D1.5 – Reliability of the Risk Dimensions

Construct	Cronbach's alpha		Internal consistency	
	Item to total correlation	α value	Loadings	CR
<i>Performance</i>		0.727		0.879
There is a chance that there will be something wrong (will not work properly) with the e-banking services offered by our bank [Q13.1]	Removed			
There are possible risks in the way that our bank's e-banking services operate [Q13.2]	Removed			
We are confident that our bank's e-services perform as described [Q1.3]	0.571		0.867	
We are very certain that our bank's e-banking services work satisfactorily [Q13.4]	0.571		0.903	
<i>Financial</i>		.820		.881
The risk of financial loss when using our bank's e-banking services is high [Q14.1]	0.667		0.814 ^c	
We are concerned that our transactions may be compromised when we use our bank's e-banking services [Q14.2]	0.702		0.848 ^c	
The risk of financial fraud is something we are very	0.673		0.814 ^c	

worried about when using our bank's e-banking services [Q14.3]		
In terms of long term costs using our bank's e-banking services is risky [Q14.4]	0.536	0.742 ^c
<i>Psychological</i>	.855	.902
For our company, using the e-banking facilities offered by our bank is a symbol of success [Q15.1]	0.602	0.764 ^c
We consider that using the e-banking facilities offered by our bank is a status symbol [Q15.2]	0.733	0.858 ^c
Use of the e-banking facilities provided by our bank makes our staff feel good [Q15.3]	0.799	0.899 ^c
We look professional to our suppliers who are aware of our use of e-banking services [Q15.4]	0.660	0.815 ^c

Note: ^a $p < 0.05$; ^b $p < 0.01$; ^c $p < 0.001$.

Table D1.6 – Reliability of Word of Mouth, Switching and Lock-in

Construct	Cronbach's alpha		Internal consistency	
	Item to total correlation	α value	Loadings	CR
<i>Word of Mouth</i>		.802		.865
If people ask me, I would strongly recommend our bank's e-banking services [Q17.1]	0.596		0.813 ^c	
Our bank can use us as a reference customer for their e-banking services [Q17.2]	0.633		0.738 ^c	
We would be glad to serve as a reference e-banking customer to our Bank [Q17.3]	0.716		0.832 ^c	
I have said positive things about our Bank's e-banking services to other professional colleagues [Q17.4]	0.520		0.765 ^c	
<i>Switch</i>		.853		.913
If it were easy our company will switch to another provider of e-banking services [Q18.1]	0.655		0.837 ^c	
We are continuously looking for alternative providers of e-banking services to replace our current bank [Q18.2]	0.798		0.922 ^c	
Recently we have spent some effort to search for an alternative bank with better e-banking services [Q18.3]	0.732		0.885 ^c	
<i>Lock-in</i>		.716		.875
For us to consider switching to another provider of e-banking services, the quality of our current e-banking services have to seriously decline [Q18.4]	0.557		0.872 ^c	
Due to integration of our e-banking services with our own internal billing and ordering systems, it is unlikely that we shall switch to another e-banking provider [Q18.5]	0.557		0.892 ^c	

Note: ^a $p < 0.05$; ^b $p < 0.01$; ^c $p < 0.001$.

D1.3.2 Validity

Validity is the process by which we can determine whether a construct measures what it is intended to measure (Churchill, 1979). There are three broad classes of validity tests, content (content and face), criterion (predictive and concurrent) and construct (convergent, discriminant and nomological). Unfortunately due to time limitations predictive and concurrent validity are not examined and nomological is assessed in model testing. The remaining validity tests are debated below.

D.1.3.2.1 Content and Face Validity

Content validity refers to whether the domain of the characteristics of the constructs is captured by the measure while face validity denotes the extent to which the scale items appear to sample that which is to be measured (Churchill, 1979; Hardesty & Bearden, 2004; Lee & Hooley, 2005). In order to develop measures capable of capturing the content of the research constructs/dimensions and are face valid, the procedure proposed by Churchill (1979) was followed during the operationalisation of the measurements. The procedure started with an exhaustive study of the subject matter in order to gain a thorough understanding and grounding of the issues involved. An extensive examination of previous studies and theoretical literature was carried out (see Part B - Literature Review and Chapter C1 - Research Framework). Following this, the measurements of the research constructs/dimensions were operationalised from previous studies that provided the empirical definitions of the constructs/dimensions. The next stage was to interview professionals and practitioners from the target population. At this stage, suggestions were incorporated in order to enrich the content of the measurements, and inappropriate or unclear items measuring the research constructs/dimensions were eliminated or modified. This has provided sufficient evidence of both face and content validity for all RLVs and FLVs.

D.1.3.2.2 Convergent Validity

Convergent validity of a construct represents the ratio of the amount of variance of its indicators captured by the construct, relative to the amount of total variance, including the variance due to measurement error (Cool *et al.*, 1989; Lee & Hooley, 2005). In other words, convergent validity requires that a measure (or indicator) should correlate highly with other

measures of the same construct (Malhotra and Birks, 2002). The following three approaches are utilised for the purposes of this research.

- **Average Variance Extracted (AVE)** represents shared or common variance in a LV, the amount of variance that is captured by the LV in relation to the amount of variance due to its measurement error. Consequently, AVE is a measure of the error-free variance of a set of items. As suggested by Fornell and Larcker (1981), AVE provides a measure of convergent validity. In this study their recommendation that AVE should be greater than 0.50, i.e. that 50% or more variance of the indicators should be accounted for.
- The adopted analytical approach provides estimates of the loadings of each scale item on its intended as well as on the remaining (**cross loadings**) constructs. This is referred to as the theta matrix. For convergent validity to be confirmed, indicators should be associated with high loadings with their hypothesised LV and low with other LVs in the model. Although cross-loadings of all indicators are examined simultaneously, in order to simplify the presentation of the results only cross-loading within higher order structures are presented.
- **Exploratory Factor Analysis (EFA)** is an alternative, to cross-loadings, method for assessing convergent validity. According to Hair *et al.* (1998), EFA is designed to extract a set of latent factors that aggregate a number of variables. These latent factors can be seen as a set of common underlying dimensions of the research constructs. Items within the same common underlying dimension show high correlation, while showing low correlation with other items loaded on different sets of common underlying dimensions. Two approaches have been employed to assess convergent validity when utilising EFA (see amongst others Simpson, 1990; Mehta, 1993). The first is to pull all multiple-item scales, within the same perceptual constructs, into a pool and then to proceed with factor analysis. Items loading on conceptually unjustifiable dimensions are removed in order to purify the measurement. In contrast, in the second approach, all research multiple-items scales (not only those within a particular construct) are factor-analysed together. Due to the large number of multiple-item scales and constructs in this study, the first approach was adopted. This approach is considered to simplify the complexity of extraction of the EFA. In applying EFA, the following, as recommended by Hair *et al.* (1998), are considered.

Objectives of EFA: – As already stated, the purpose of testing for convergent validity is to examine the correlations between the scale items and the latent constructs they are expected to measure. This is considered to be consistent with the application of EFA.

Designing an EFA – Given that we are interested in correlations between items, R-type factor analysis is employed. All items are metric and, for the sample size, the observations to scale items exceed the suggested 5:1 ratio. The total number of respondents (i.e., 167) was also within the recommended limits.

Assumptions in EFA – We carried out a visual examination of the correlations between the scale items and tested for the associated probability of the Bartlett test of sphericity (at a 5% level of significance). The Kaiser-Mayer Olkin (KMO) statistic is used to examine sampling adequacy and its adopted benchmark is 0.50. In addition the anti-image matrix is examined (results not included), with a benchmark value of 0.30.

Deriving Factors and Assessing Overall Fit – We decided to use the principal component analysis because the aim is to identify the minimum number of factors that would account for the maximum portion of the variance of the original items. In order to determine the number of factors to be extracted the criterion adopted was Eigenvalues greater than 1, given the a priori expectation of obtaining a single factor.

Interpreting the Factors – In cases where, contrary to expectations, more than a single factor is derived, the initial solution is rotated. Since no compelling theoretical reason exists in favour of a specific rotation method, varimax (according to Kinnear and Gray (1997) the most commonly used method), is applied. Using guidelines found in Hair *et al.* (1998), loadings above 0.40 are considered to be significant. Possible removal of scale items is examined by reference to communality (i.e., amount of variance of each item is accounted for by the solution) with a benchmark of 0.50.

We now proceed to examine each of the research constructs on the basis of the above criteria and indices.

Service Quality

At 0.605 the AVE value of efficiency is above the adopted benchmark. In addition, we can see from Table D1.7 that, broadly (see Q1.2 on fulfilment), cross loadings are in line with the hypothesised structure. In terms of EFA, the KMO is 0.659, the significance associated

with the Bartlett test is 0.00, a single factor is extracted that accounts for a satisfactory 60% of variation, and all loadings are above 0.40. Results similar to the above are observed for fulfilment, availability (marginal AVE) and privacy. Collectively, the information presented in Table D1.7 confirms the stability of the proposed structure for all the service quality dimensions and confirms the convergent validity of these constructs.

Table D1.7: Validity of Service Quality Dimensions

	Efficiency	Fulfilment	Privacy	Availability		Derived Common Factors Factor 1
<i>Efficiency</i>						
Q1.1	0.755	0.412	0.418	0.530		0.703
Q1.2	0.770	0.702	0.529	0.451		0.807
Q1.3	0.745	0.586	0.519	0.397		0.792
Q1.4	0.825	0.667	0.463	0.493		0.804
AVE	0.605				Eigenvalue Perc.var. Cum. Var.	2.419 60.475 60.475
<i>Fulfilment</i>						
Q2.1	0.599	0.777	0.572	0.518		0.736
Q2.2	0.688	0.850	0.536	0.463		0.849
Q2.3	0.611	0.843	0.478	0.425		0.861
Q2.4	0.564	0.809	0.495	0.529		0.839
AVE	0.676				Eigenvalue Perc.var. Cum. Var.	2.707 67.668 67.668
<i>Availability</i>						
Q3.1	0.424	0.461	0.303	0.825		0.848
Q3.2	0.513	0.473	0.377	0.880		0.887
Q3.3	0.285	0.348	0.271	0.510		0.718
Q3.4	0.575	0.489	0.519	0.726		0.812
AVE	0.565				Eigenvalue Perc.var. Cum. Var.	2.023 67.420 67.420
<i>Privacy</i>						
Q4.1	0.360	0.406	0.635	0.269		0.694
Q4.2	0.476	0.397	0.759	0.443		0.715
Q4.3	0.534	0.588	0.820	0.309		0.844
Q4.4	0.518	0.588	0.877	0.454		0.857
AVE	0.610				Eigenvalue Perc.var. Cum. Var.	2.440 60.988 60.988

Perceived Value

The convergent validity of the proposed operationalisations of all the benefit and sacrifice dimensions of perceived value is confirmed. Specifically, from Tables D1.8 and D1.9 we observe that the AVE values of all dimensions are greater than the adopted 0.50 benchmark. In addition loadings to the intended value dimension are noticeably higher than the corresponding to other dimensions of value. Finally, for all constructs EFA resulted in a single factor solution with loadings above the 0.40 benchmark and acceptable percentage variation explained.

Table D1.8: Validity of the Benefit Dimensions of Perceived Value

	Acquisition	Transaction	Redemption	In-use		Derived Common Factors Factor 1
<i>Acquisition</i>						
Q5.1	0.709	0.331	0.313	0.299		0.760
Q5.2	0.881	0.493	0.360	0.466		0.897
Q5.3	0.832	0.363	0.363	0.377		0.833
Q5.4	0.769	0.629	0.341	0.487		0.711
AVE	0.643				Eigenvalue Perc.var. Cum. Var.	2.582 64.553 64.553
<i>Transaction</i>						
Q6.1	0.651	0.762	0.33	0.566		0.735
Q6.2	0.343	0.731	0.445	0.431		0.787
Q6.3	0.391	0.826	0.525	0.471		0.826
Q6.4	0.425	0.845	0.610	0.542		0.830
AVE	0.632				Eigenvalue Perc.var. Cum. Var.	2.529 63.230 63.230
<i>Redemption</i>						
Q7.1	0.386	0.586	0.786	0.532		0.779
Q7.2	0.366	0.606	0.876	0.566		0.833
Q7.3	0.381	0.378	0.841	0.494		0.856
Q7.4	0.250	0.339	0.725	0.380		0.778
AVE	0.658				Eigenvalue Perc.var. Cum. Var.	2.639 65.969 65.969
<i>In-use</i>						
Q8.1	0.388	0.486	0.454	0.701		0.704
Q8.2	0.466	0.593	0.555	0.892		0.854
Q8.3	0.412	0.511	0.549	0.862		0.857
Q8.4	0.346	0.363	0.315	0.624		0.698

AVE	0.611				Eigenvalue	2.445
					Perc. var.	61.127
					Cum. Var.	61.127

Table D1.9: Validity of the Sacrifice Dimensions of Perceived Value

	Money	Time	Social	Effort		Derived Common Factors Factor 1
<i>Money</i>						
Q9.1	0.876	0.383	0.218	0.508		0.847
Q9.2	0.682	0.336	0.262	0.443		0.748
Q9.3	0.913	0.390	0.327	0.59		0.899
Q9.4	0.853	0.613	0.369	0.723		0.861
AVE	0.706				Eigenvalue	2.826
					Perc. var.	70.656
					Cum. Var.	70.656
<i>Time</i>						
Q10.1	0.700	0.647	0.336	0.699		0.812
Q10.2	0.486	0.938	0.408	0.702		0.919
Q10.3	0.501	0.941	0.462	0.689		0.918
Q10.4	0.377	0.760	0.356	0.638		0.755
AVE	0.729				Eigenvalue	2.917
					Perc. var.	72.923
					Cum. Var.	72.923
<i>Social</i>						
Q11.1	0.163	0.304	0.586	0.253		0.709
Q11.2	0.343	0.446	0.857	0.497		0.885
Q11.3	0.318	0.497	0.876	0.548		0.851
Q11.4	0.225	0.236	0.799	0.273		0.740
AVE	0.639				Eigenvalue	2.557
					Perc. var.	63.931
					Cum. Var.	63.931
<i>Effort</i>						
Q12.1	0.564	0.594	0.310	0.725		0.850
Q12.2	0.554	0.538	0.454	0.799		0.805
Q12.3	0.578	0.665	0.423	0.908		0.878
Q12.4	0.592	0.736	0.428	0.875		0.849
AVE	0.715				Eigenvalue	2.861
					Perc. var.	71.535
					Cum. Var.	71.535

Risk

The convergent validity of all the risk dimensions is confirmed in Table D1.10. All constructs are uni-dimensional, the variance explained is acceptable, the indicators have significant loadings, expected cross loading patterns and above 0.50 AVE values.

Table D1.10: Validity of the Risk Dimensions

	Performance	Financial	Psychological		Derived Common Factors Factor 1
<i>Performance</i>					
Q13.1	Removed				
Q13.2	Removed				
Q13.3	0.731	0.156	0.276		0.886
Q13.4	0.917	0.135	0.369		0.886
AVE	0.785			Eigenvalue Perc.var. Cum. Var.	1.571 78.56 78.56
<i>Financial</i>					
Q14.1	0.025	0.810	0.139		0.822
Q14.2	0.091	0.883	0.247		0.847
Q14.3	0.048	0.811	0.101		0.829
Q14.4	0.125	0.693	0.310		0.722
AVE	0.649			Eigenvalue Perc.var. Cum. Var.	2.601 65.033 65.033
<i>Psychological</i>					
Q15.1	0.290	0.154	0.749		0.763
Q15.2	0.167	0.258	0.822		0.861
Q15.3	0.189	0.223	0.900		0.901
Q15.4	0.295	0.208	0.853		0.812
AVE	0.699			Eigenvalue Perc.var. Cum. Var.	2.795 69.876 69.876

Word of Mouth, Switching and Lock-in

The indices related to word of mouth, switching and lock-in are in accordance with expectations and/or exceeded adopted benchmarks (Table D1.11), consequently the convergent validity of these constructs is confirmed.

Table D1.11: Validity of Word of Mouth and Switching

	Word of Mouth	Switch	Lock-in		Derived Common Factor 1
<i>Word of mouth</i>					
Q17.1	0.824	0.432	0.287		0.774
Q17.2	0.738	0.512	0.198		0.812
Q17.3	0.823	0.422	0.090		0.865
Q17.4	0.758	0.487	0.176		0.710
AVE	0.621			Eigenvalue Perc. var. Cum. Var.	2.512 62.796 62.796
<i>Switching</i>					
Q18.1	0.256	0.921	0.008		0.874
Q18.2	0.198	0.895	0.062		0.745
Q18.3	0.201	0.754	0.074		0.769
AVE		0.786		Eigenvalue Perc. var. Cum. Var.	2.09 66.011 66.011
<i>Lock-in</i>					
Q18.4	0.089	0.008	0.888		0.878
Q18.5	0.101	0.044	0.876		0.812
AVE			0.778	Eigenvalue Perc. var. Cum. Var.	2.984 68.545 68.545

D1.3.2.3 Discriminant Validity

Discriminant validity implies that a measure should correlate poorly with other dimensions/items that are supposed to be different (Churchill & Iacobucci, 2001). In this respect, an indication of adequate discriminant validity is that a LV shares more variance with its measures than it does with other constructs in the model. It is recommended that, for a construct to exhibit adequate discriminant validity the square root of the construct's AVE should be noticeably greater than its bivariate correlation with the other constructs in the model. As seen in Table D1.12 this holds true for all RLV constructs.

Table D1.12 Correlation Matrix for the Dimensions of the Research Constructs

Dimensions	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
[1] - Efficiency	0.778																			
[2] - Fulfillment	0.768	0.823																		
[3] - Availability	0.61	0.582	0.752																	
[4] - Privacy	0.622	0.639	0.482	0.782																
[5] - Acquisition value	0.538	0.584	0.41	0.465	0.802															
[6] - Transaction value	0.476	0.455	0.437	0.48	0.573	0.795														
[7] - Redemption value	0.492	0.492	0.469	0.529	0.431	0.602	0.812													
[8] - In Use value	0.435	0.373	0.442	0.355	0.519	0.63	0.61	0.782												
[9] - Financial value	0.295	0.091	0.16	0.153	0.159	0.344	0.258	0.321	0.841											
[10] - Time value	0.006	-0.114	0.021	0.044	-0.134	0.152	0.088	0.059	0.663	0.854										
[11] - Effort value	0.069	-0.043	0.102	0.005	-0.049	0.192	0.089	0.216	0.69	0.815	0.846									
[12] - Social value	-0.159	-0.122	-0.146	-0.146	-0.134	-0.066	-0.14	-0.01	0.369	0.492	0.516	0.798								
[13] - Performance risk	0.433	0.394	0.284	0.376	0.256	0.255	0.411	0.341	0.13	0.039	0.001	0.032	0.614							
[14] - Financial risk	0.18	0.063	0.17	0.065	0.2	0.287	0.16	0.256	0.393	0.427	0.429	0.244	0.152	0.806						
[15] - Psychological risk	0.311	0.215	0.259	0.143	0.273	0.428	0.355	0.452	0.388	0.284	0.346	0.14	0.356	0.258	0.837					
[16] - Satisfaction	0.54	0.426	0.421	0.436	0.405	0.409	0.448	0.387	0.182	-0.114	-0.063	-0.204	0.364	0.242	0.283	-				
[17] - WOM	0.595	0.582	0.436	0.534	0.478	0.41	0.424	0.332	0.125	-0.052	0.008	-0.04	0.455	0.212	0.287	0.553	0.789			
[18] - Lock-in	-0.113	-0.089	0.136	-0.084	0.106	0.141	0.141	0.156	0.154	0.239	0.254	0.214	0.072	0.242	0.25	-0.097	0.109	0.882		
[19] - Switch	0.292	0.249	0.304	0.372	0.166	0.437	0.379	0.268	0.282	0.175	0.193	-0.032	0.223	0.197	0.333	0.41	0.39	0.053	0.806	

Note: Diagonal elements represent the square roots of AVE of RLVs. Off-diagonal elements are the correlations of the respective constructs.

CHAPTER D2: TESTING THE STRUCTURAL MODEL

D2.1 INTRODUCTION

The focus of this chapter is the analysis of the research and competing models. However, before proceeding to test the hypothesised functional relationships the proposed higher order structures of the service quality, perceived value and risk and are examined.

D2.2 HIGHER ORDER STRUCTURES

When testing for second order structures, Chin under the FAQ heading of his PLS webpage (<http://disc-nt.cba.uh.edu/chin/plsfaq/plsfaq.htm>), suggests that the method of repeated manifest variables is an acceptable approach. Quoting from a reply provided by Chin on his website “If the number of indicators for each of our two constructs are approximately equal, we can use the method of repeated manifest variables.” and “Essentially, our overall factor that represents the two first order constructs is created by using all the indicators used for the first two order constructs”.

An illustrative example is presented in Figure D2.1. The structure depicts one higher order RLV that comprises two first order RLVs each operationalised through three indicators. Unlike covariance based SEM, when using PLS indicators must be assigned to the higher order construct (irrespective of whether a RLV or a FLV). The repeat manifest variables method implies that the indicators of the first order constructs are also assigned to the higher order construct. Consequently, in the below example, the higher order FLV is operationalised as a composite of X_1 to X_6 which are the indicators of the two first order FLVs. For the structure to be supported, the regression coefficients γ_1 and γ_2 should be statistically significant.

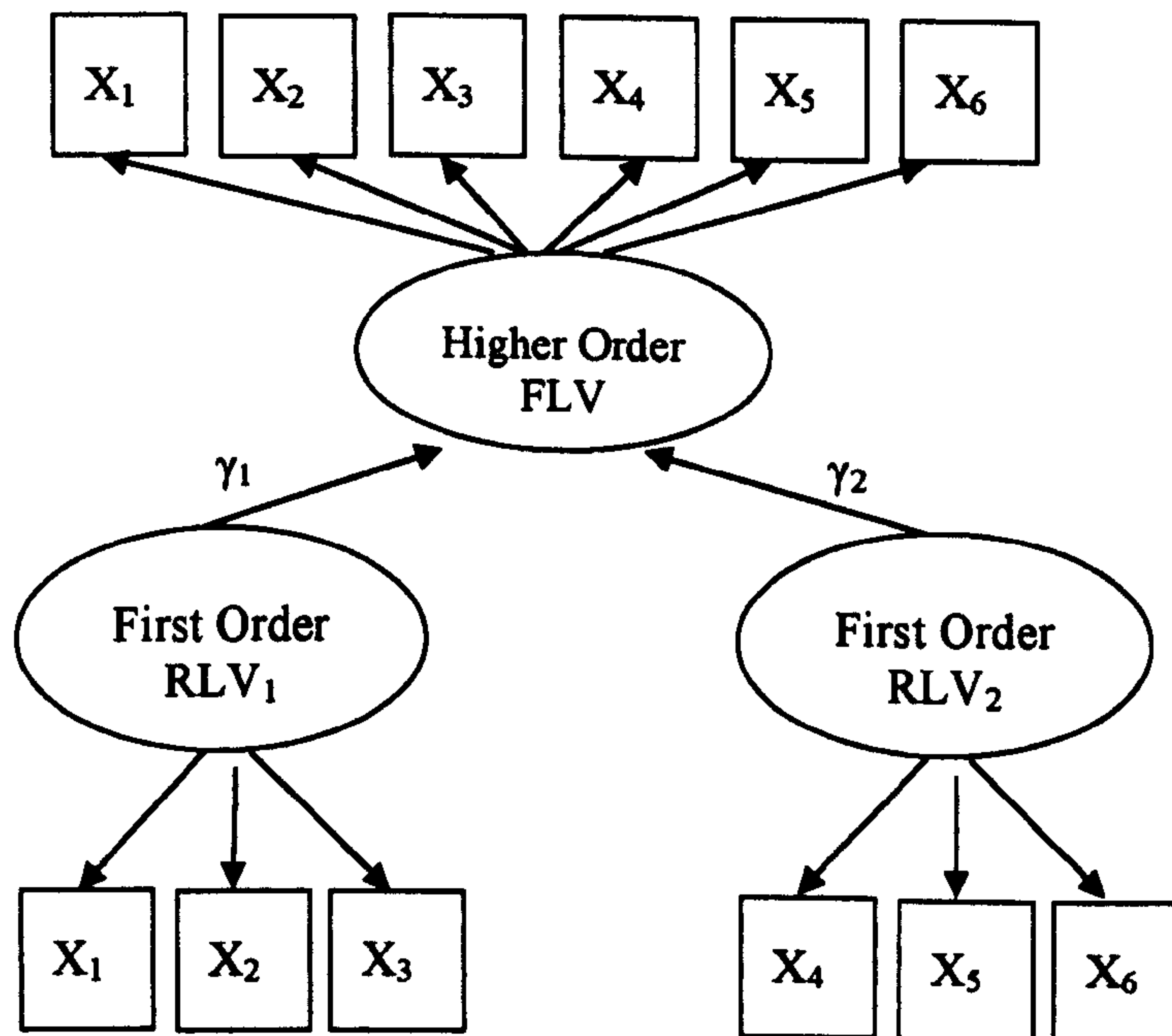


Figure D2.1: Example of Testing Higher Order Structures Using Repeated Measures

D2.2.1 Second Order Structure of e-Service Quality

e-Service quality is hypothesised to represent a second order FLV that comprises of four lower order constructs (i.e., efficiency, fulfilment, system availability and privacy). The solution presented in Figure D2.2 indicates that all regression coefficients are significant thus confirming the proposed structure.

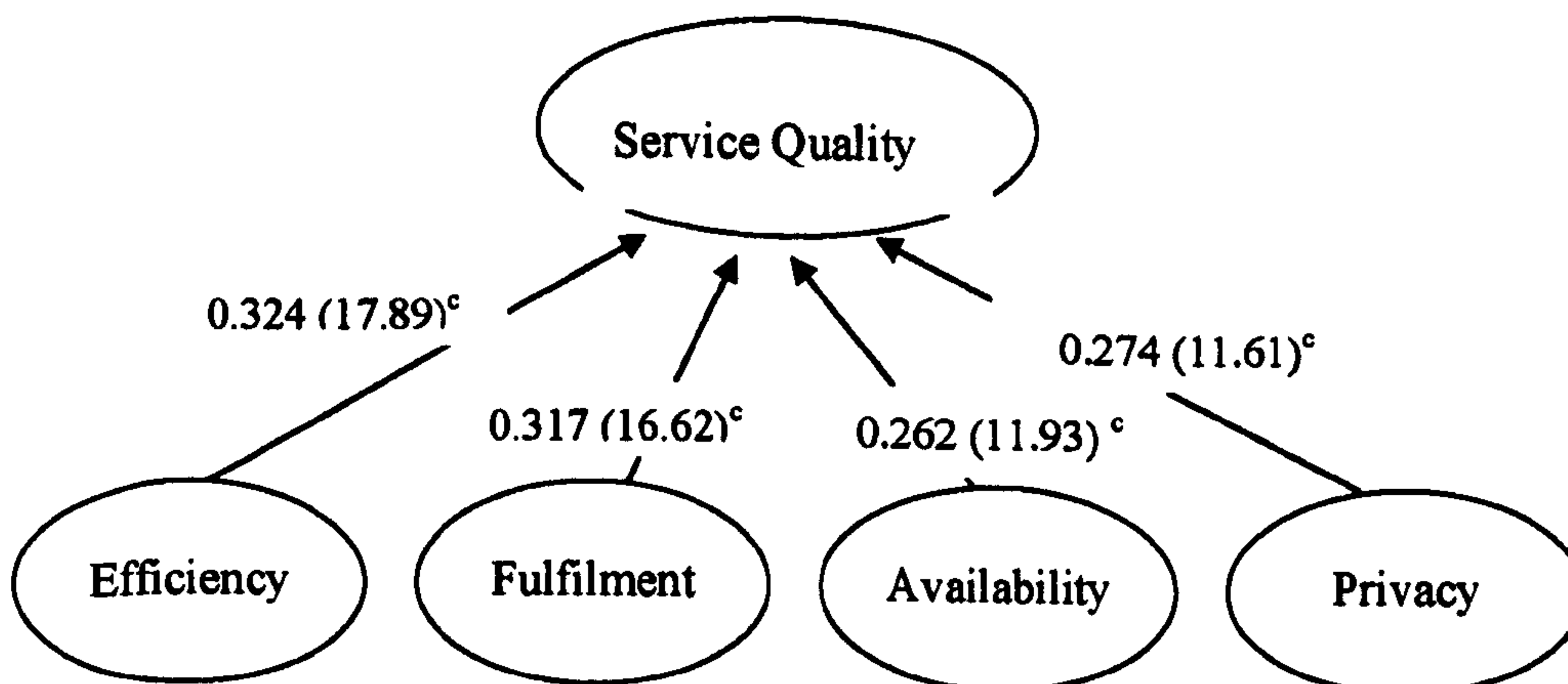


Figure D2.2: Second Order Structure of Service Quality

Note: ^a $p < 0.05$; ^b $p < 0.01$; ^c $p < 0.001$; values in parentheses are t-statistics

D2.2.2 Third Order Structure of Perceived Value

Perceived value is conceptualised as a third order FLV of benefits and sacrifices that are conceptualised as second order FLVs each comprising a number of lower order RLVs. From Figure D2.3 we can see that all pathways are significant thus confirming the proposed higher order structure of perceived value

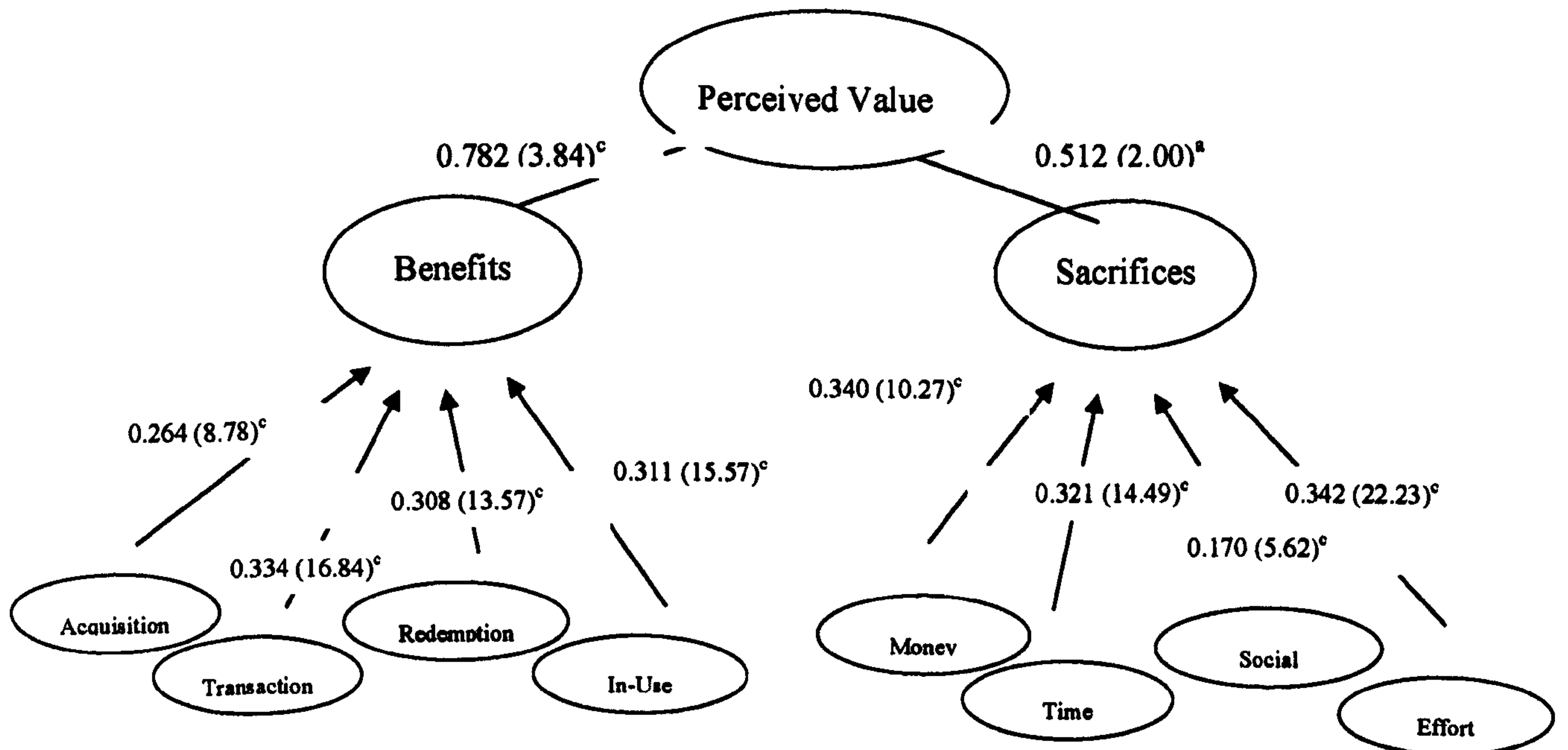


Figure D2.3: Third Order Structure of Perceived Value

Note: ^a $p < 0.05$; ^b $p < 0.01$; ^c $p < 0.001$; values in parentheses are t-statistics

D2.2.3 Second Order Structure of Risk

Examination of the regression coefficients linking the first order LVs (i.e., performance, financial and psychological) to the hypothesised higher order of risk indicates that all are significant thus confirming the proposed structure. (Figure D2.4).

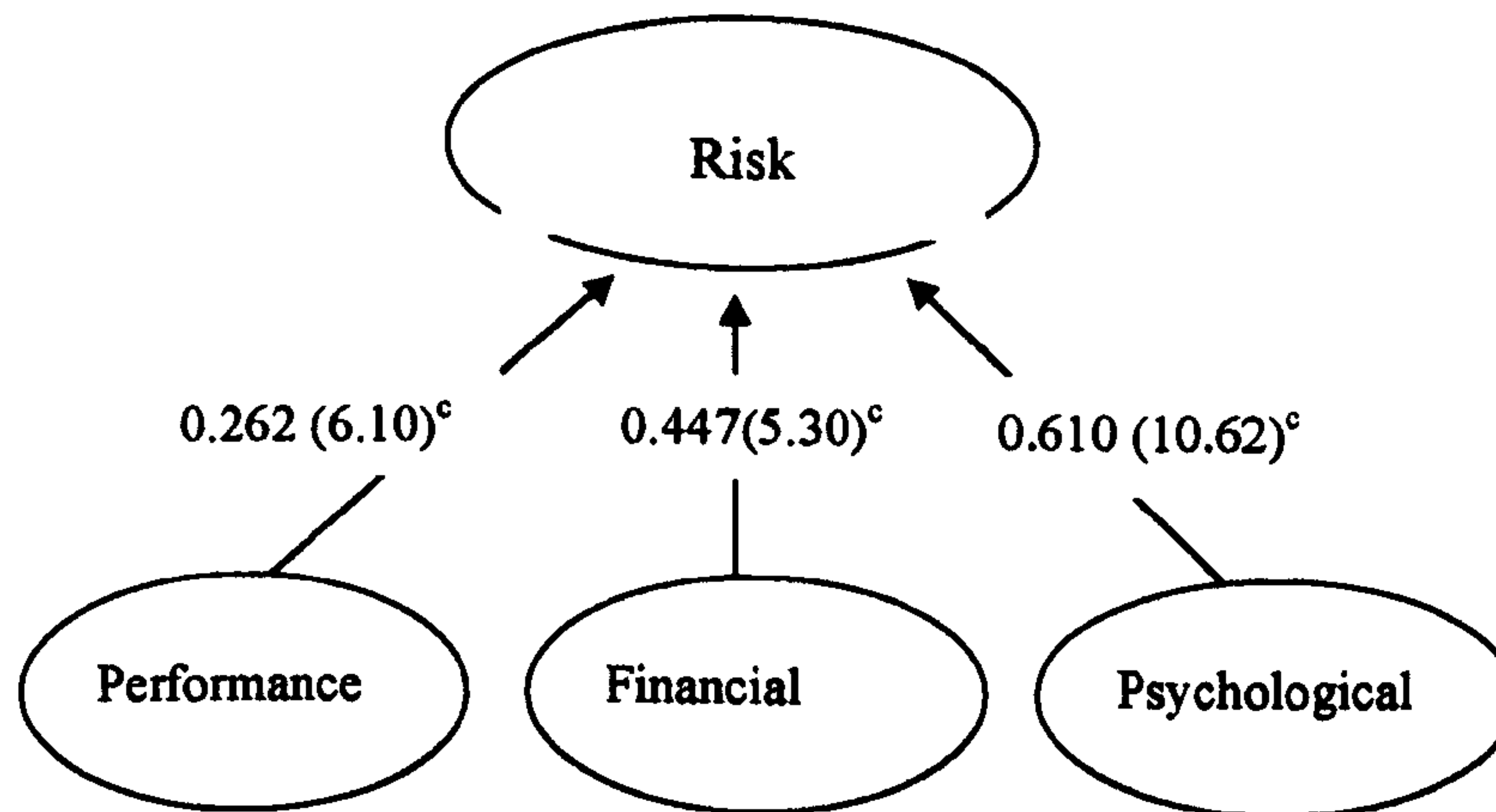


Figure D2.4: Risk Dimension - PLS Results of Second Order Solution

Note: ^a $p < 0.05$; ^b $p < 0.01$; ^c $p < 0.001$; values in parentheses are t-statistics

D2.3 TESTING THE RESEARCH AND COMPETING MODELS

As already specified in Section C3.5 PLS is the adopted analytical framework. In terms of model goodness of fit PLS makes no assumptions about the distribution of the variables and, consequently, traditional parametric-based approaches cannot be employed. Instead the recommendation (Chin, 1998) is to use non-parametric measures such as R^2 for dependent LVs, the Stone-Geisser test for predictive relevance of independent variables and resampling procedures (e.g., jack-knife and bootstrapping) when testing the significance of estimates. This means that unlike covariance-based SEM, PLS does not provide a single goodness-of-fit metric for the entire model; instead the R^2 values of individual dependent values are examined. The following borrow heavily from the explanations and guidelines provided by Barclay *et al.* (1995) and Chin (1998).

Statistical significance: In assessing the statistical significance of loadings, weights and pathway coefficients (given as standardised values) a bootstrapping analysis was employed (Chin, 1998 for justification as to preference of bootstrapping over jack-knife) with estimates based on 500 samples (Mathieson *et al.*, 2001). Using Student t-value tables with $n-1$ degrees of freedom (where n is the number of samples) resulted in one-tail critical values of, 1.65, 2.33 and 3.09 (i.e., 1-tail test), for respectively 0.05, 0.01 and 0.001 levels of significance.

R^2 : The interpretation is similar to that employed under traditional multiple regression analysis, i.e. indicates the amount of variance explained.

Contribution to R^2 : According to Tenenhaus *et al.* (2005:178-179) “The value of multiple R^2 in the case of standardized variables, may be decomposed in terms of the multiple regression coefficients and correlations between the dependent variable and the explanatory ones.”

Q^2 Predictive Relevance: This relates to the predictive sample reuse technique that represents a synthesis of cross-validation and function fitting and applies only to RLVs (consequently in this study it can be applied only to the three behavioural outcomes). In PLS this can be achieved through a blindfolding procedure that omits part of the data for the particular block of indicators during parameter estimations and then attempts to estimate the omitted part using the estimated parameters. In terms of interpretation a $Q^2 > 0$ implies that the model has predictive relevance while $Q^2 < 0$ indicates a lack of predictive relevance.

Once a solution is obtained, following recommendations by Barclay and Benson (1990), and in line with traditional regression analysis, an iterative process of eliminating non-significant pathways as well as examination of correlations for possible additional pathways is employed. The process is repeated until a stable solution is obtained. Before proceeding to test the research and competing model, the reader is reminded that, following analysis presented in Chapter D1, the initially considered unidimensional construct of switching is now disaggregated into switch and lock-in.

D2.3.1 Research Model

Results related to the initial and revised solutions of the research model are presented in Table D2.1; the remaining debate refers to the revised solution only. Of the 15 initial pathways 11 are supported. The impact of service quality on its three hypothesised outcomes is supported. Perceived value is a significant determinant of the three modelled outcomes (i.e., word of mouth, switch and lock-in) but not of satisfaction. The impact of risk on the three outcomes is not supported but it is a significant determinant of satisfaction and perceived value. Finally, satisfaction is found to significantly affect all three outcomes. Of the two determinants of perceived value (i.e., service quality and risk), at around 7%

compared to 28%, the latter dominates explained variance. On the other hand, service quality (at approximately 12%) is a considerably stronger contribution to satisfaction than risk (around 4%) and the non-significant perceived value. In terms of the three outcomes, satisfaction (11%) is the main contributor to the R^2 of word of mouth and perceived value is the main contributor of the R^2 of switch (9%) and lock-in (15%). For completeness, the contribution of service quality on the R^2 of risk is just under 7%. The model contains substantial explanatory powers in terms of perceived value (78%), the corresponding values of satisfaction, word of mouth and lock in have merit while the rest are associated with R^2 values of around 10%. The marginal decline of R^2 value from the initial to the revised model provides evidence of parsimony and all Q^2 values are greater than 0 thus confirming the predictive relevance of the model.

Table D2.1: Research Model Solution

Hypotheses and structural Pathways	Initial Solution Coefficients & T statistics	Revised Solution Coefficients & T statistics	Contribution to R^2 (%)
e-Service Quality → Perceived Value	0.326 (4.09) ^c	0.279 (3.86) ^c	7.65
e-Service Quality → Satisfaction	0.43 (4.90) ^c	0.466 (6.63) ^c	11.75
e-Service Quality → Risk	-0.393 (4.53) ^c	-0.387 (3.79) ^c	6.95
Perceived Value → Satisfaction	0.101 (0.65)	-	
Perceived Value → Word of mouth	0.239 (1.88) ^a	0.263 (2.99) ^b	5.79
Perceived Value → Switch	-0.252 (1.50)	-0.389 (3.67) ^c	9.09
Perceived Value → Lock-in	0.321 (2.37) ^b	0.332 (4.47) ^c	15.10
Risk → Satisfaction	-0.141 (1.11)	-0.206 (2.40) ^b	3.75
Risk → Word of mouth	-0.054 (0.48)	-	
Risk → Switch	0.165 (1.03)	-	
Risk → Lock-in	-0.011 (0.09)	-	
Risk → Perceived Value	-0.703 (8.85) ^c	-0.739 (8.66) ^c	28.52
Satisfaction → Word of mouth	0.418 (6.11) ^c	0.438 (6.45) ^c	11.29
Satisfaction → Switch	-0.285 (2.90) ^b	-0.274 (2.85) ^b	3.18
Satisfaction → Lock-in	0.252 (3.35) ^c	0.264 (3.76) ^c	5.03
		R^2	Q^2
Risk	0.154	0.149	
Perceived Value	0.780	0.780	
Satisfaction	0.338	0.334	
Word of mouth	0.370	0.363	0.11
Lock-in	0.252	0.257	0.19
Switch	0.136	0.132	0.09

Note: ^a $p < 0.05$; ^b $p < 0.01$; ^c $p < 0.001$

D2.3.2 Competing Model

Results related to testing the competing are presented in Table D2.2. The revised solution indicates that 15 (of the originally hypothesised 21) pathways are significant. Both focal constructs, i.e. benefits and sacrifices, are significant determinants of satisfaction and lock-in. In addition, benefits exert significant impact on word of mouth. Of the two antecedents, risk significantly affects both while service quality has a significant effect only on benefits. Service quality is also a significant determinant of satisfaction and perceptions of risk while the latter is a significant determinant of satisfaction and intention to switch. Finally, satisfaction is a significant determinant of all three outcomes (i.e., word of mouth, switch and lock-in). In terms of contributions to R^2 values, at almost 19% service quality has the greatest effect on variance explained for benefits while at just over 12% it is risk that impacts greatest on sacrifices. Service quality is the main contributor to the R^2 values of satisfaction (close to 9%) and risk (just 7%). For the three outcomes satisfaction, at correspondingly 10% and 6%, makes the greatest contribution to the R^2 of word of mouth and lock-in while benefits (7%) is the main contributor to the R^2 of word of mouth.

Excluding the overall measure of value and its two components the R^2 values of the remaining constructs are very similar to those in the research model so there is no need to repeat the related debate. However, the differential decomposition of the R^2 value associated with the overall measure of value (i.e., research model) into its two components is of interest. We observe that the model has notably higher explanatory powers for benefits (0.563) compared to sacrifices (0.269). Once again there is considerable stability in the R^2 values between the initial and revised solutions and the predictive relevance of the solution is confirmed (i.e., all $Q^2 > 0$).

Table D2.2: Competing Model Solution

Structural Pathways	Initial Solution Coefficients & T statistics	Revised Solution Coefficients & T statistics	Contribution to R ² (%)
e-Service Quality → Benefits	0.567 (9.63) ^c	0.573 (10.06) ^c	18.98
e-Service Quality → Sacrifices	-0.188 (1.72) ^a	-	
e-Service Quality → Satisfaction	0.328 (3.71) ^c	0.339 (4.15) ^c	8.81
e-Service Quality → Risk	-0.377 (3.85) ^c	-0.362 (2.76) ^b	6.64
Benefits → Satisfaction	0.162 (1.97) ^a	0.167 (1.94) ^a	4.09
Benefits → Word of mouth	0.240 (2.85) ^b	0.306 (3.58) ^c	7.47
Benefits → Switch	-0.139 (1.43)	-	
Benefits → Lock-in	0.168 (2.09) ^a	0.202 (2.75) ^b	3.82
Sacrifices → Satisfaction	-0.215 (2.40) ^b	-0.200 (2.01) ^a	0.10
Sacrifices → Word of mouth	-0.101 (1.37)	-	
Sacrifices → Switch	0.105 (1.10)	-	
Sacrifices → Lock-in	0.140 (1.54)	0.193 (2.99) ^b	2.07
Risk → Satisfaction	-0.285 (2.84) ^b	0.269 (2.40) ^b	5.06
Risk → Word of mouth	-0.194 (1.99) ^a	-	
Risk → Switch	0.235 (1.86) ^a	0.358 (3.36) ^c	4.57
Risk → Lock-in	-0.107 (0.97)	-	
Risk → Benefits	-0.318 (4.30) ^c	0.319 (4.06) ^c	8.20
Risk → Sacrifices	0.562 (3.85) ^c	0.518 (4.11) ^c	12.45
Satisfaction → Word of mouth	0.346 (4.39) ^c	0.393(5.55) ^c	10.41
Satisfaction → Switch	-0.263 (2.62) ^b	-0.234 (2.44) ^b	1.10
Satisfaction → Lock-in	0.292 (3.71) ^c	0.312 (4.41) ^c	6.19
		R²	Q²
Risk	0.142	0.131	
Benefits	0.559	0.563	
Sacrifices	0.271	0.269	
Satisfaction	0.379	0.372	
Word of mouth	0.383	0.370	0.22
Lock-in	0.255	0.251	0.20
Switch	0.139	0.120	0.15

Note: ^a $p < 0.05$; ^b $p < 0.01$; ^c $p < 0.001$

D2.4 CONCLUSION

The solutions obtained from the research competing models demonstrate considerable predictive powers, especially for value and its components, satisfaction, word of mouth and lock-in. In terms of the behaviour of the hypothesised pathways the patterns depicted in Figure D2.1 indicate areas of convergence and divergence between the two models.

In terms of determinants of value we observe that risk has a significant impact irrespective of level of aggregation (i.e., significant determinant of value as a composite construct and on both of its components). On the other hand the significant impact of e-service when value is treated as an aggregate construct (research model) appears to be mainly due to the e-service to benefits relationship (competing model).

The relevance of the level of aggregation is also evident in the behaviour of the pathways linking value with its consequences. Results from the research and competing model are comparable in terms of the value or its components relationships with satisfaction (significant irrespective of aggregation). However, the significant impact of value on the three behavioural outcomes (research model) hides the fact that word of mouth has a significant relationship only with benefits, both benefits and sacrifices have a significant impact on lock-in while partitioning value to its components results in non-significant relationships with switching.

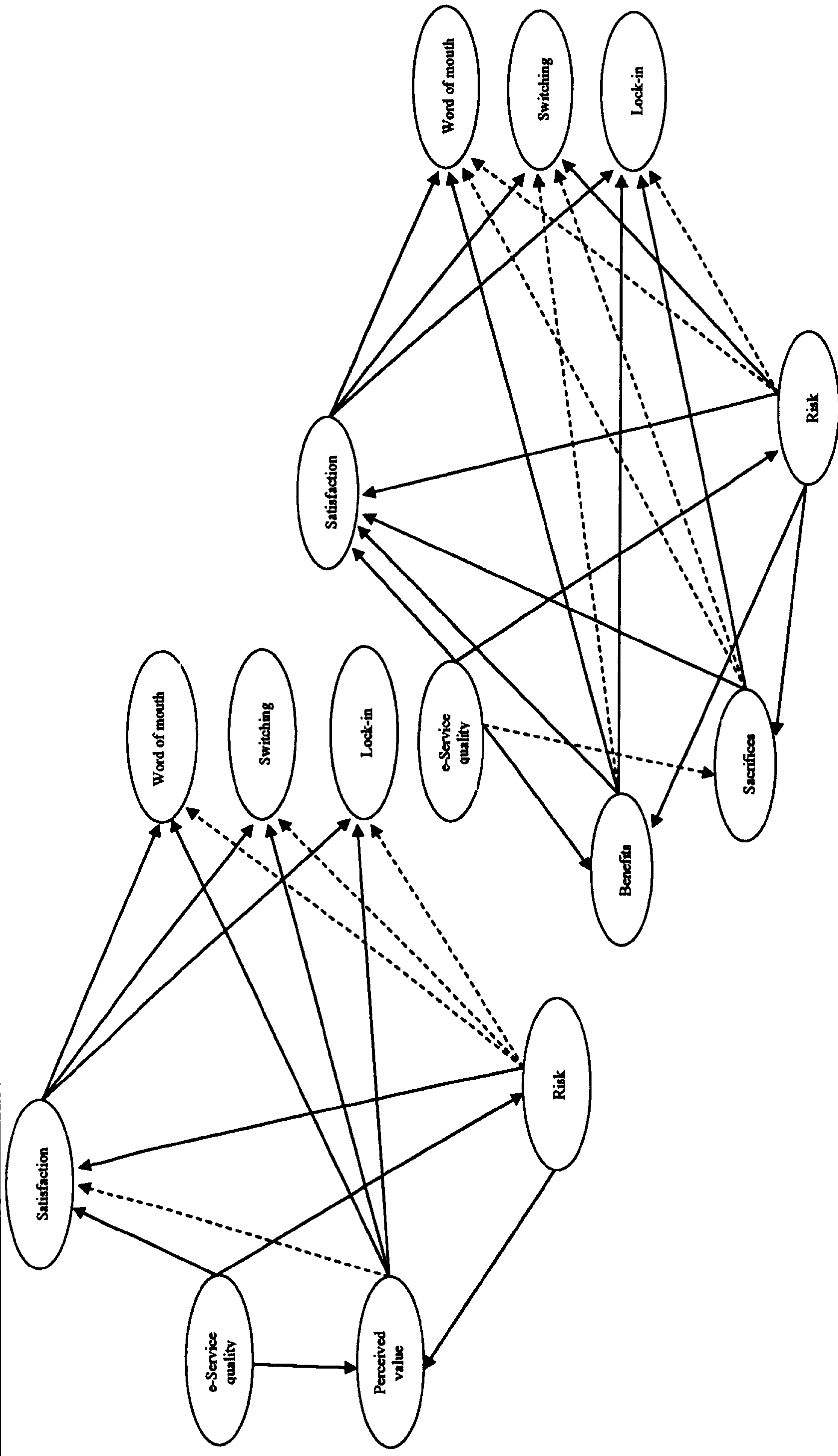


Figure D2.5: Solutions of the Research and Competing Models

Note: Solid lines indicate significant and dotted lines non-significant pathways

PART E
DISCUSSION AND CONCLUSIONS

This part comprises a single chapter (Chapter E1) in which the research findings are presented and discussed with reference to extant literature. The contributions of this study to knowledge and practice are presented and suggestions for further research are offered.

CHAPTER E1: DISCUSSION AND CONCLUSIONS

E1.1 INTRODUCTION

Before proceeding to discuss the findings of this study, the reader is briefly reminded of the need for this study and its aim and objectives. Discussion in Section A1.2 established the impact of technology and specifically internet-driven changes on the delivery and management of e-banking and finance in the b2b domain. In addition, there is recognition of the need to better understand the drivers of customer satisfaction and loyalty. Value is proposed to provide an appropriate theoretical platform on which understanding of the development and maintenance of customer satisfaction and loyalty in the e-banking domain can be furthered. The literature reviewed in Part B revealed acceptance that value is a multi-dimensional construct comprising the *get* and *give* components (Section B1.4). Despite enduring lack of convergence in the conceptualisations of the above components of value, there is emerging consensus that they also represent multi-dimensional constructs defined by their corresponding dimensions (Section B2.4). In terms of functional relationships, quality is the dominant determinant of value and literature provides conclusive support for the impact of value on satisfaction and intentional loyalty. However, there are as yet unresolved questions as to whether value should be treated as a composite construct or its two components should be allowed to behave independently and in addition the role of risk in the b2b value related literature is overlooked (Section B3.4). Collectively the above indicate the need for the research presented here. Grounded on the above rationale this study provides an empirical examination of the functional relationship between service quality, perceived value and risk associated with e-services and their impact on customer (specifically SMEs) satisfaction and loyalty.

In order to achieve the research aim, five objectives were identified. Objective 1 was to construct a theoretically-grounded model that depicts the functional relationships identified in the research aim. Grounded in the related literature a conceptual framework was developed in Chapter C1 in which e-service quality and risk are hypothesised as determinants of customer value, while satisfaction and three types of behavioural intention (word of mouth, switching and lock-in) are treated as outcomes of customer value. Direct functional relationships between value and the three behavioural intention constructs are proposed. In

addition, the model contains functional relationships between risk, e-service quality, satisfaction and behavioural intention.

Objectives 2 and 3 refer to appropriate conceptualisations and operationalisations of the constructs in the research model. With Zeithaml's (1988) definition as a starting point, value is conceptualised as comprising the *get* and *give* components, which are higher order factors of their respective dimensions. Given the temporal element of customer value, especially relevant in purchases that include sequential evaluations and investments such as e-banking, the conceptualisation of the *get* component of value is based on Woodall's (1993) delineation of acquisition, transaction, in-use and redemption dimensions. The *give* component comprises financial and non-financial costs. The conceptualisation of e-service quality proposed by Parasuraman *et al.* (2005) is adopted while risk, satisfaction and behavioural intentions are also grounded on extant literature (Section C1.2). Details and sources of the corresponding operationalisations are presented in Section C3.2.

The fourth objective states "Employ efficient and effective mechanisms and techniques in collecting and analysing data from an appropriate b2b domain". After consideration of the alternatives, data collection was implemented according to the discussion in Section C3.4. A questionnaire was administered to executives in large (in terms of turnover) UK based SMEs (Section C2.5). The resultant data were analysed using the PLS approach to structural equation modelling, as reported in Part D. The final objective provides the focus for this, the final chapter, in which the results of the analysis are discussed in relation to extant literature. The chapter concludes by discussing the theoretical and managerial contributions of the research and providing directions for future research.

E1.2 DISCUSSION OF THE FINDINGS

The results related to testing the research and competing models and the hypotheses contained in each (see Section D2.3) are debated in this section. However, before discussion can commence a decision needs to be reached as to whether the research or the competing model should be adopted. Examination of the explanatory powers (i.e., R^2) indicates equivalence in terms of risk, satisfaction and the three types of behavioural intention. However, there are differences depending on the level of aggregation of customer value.

Treating value as an aggregate construct (i.e., research model) results in an R^2 value of 0.780, while allowing *get* (benefits) and *give* (sacrifices) to behave independently (i.e., competing model) produces corresponding R^2 values of 0.563 and 0.269. As for patterns of the functional relationships, there are cases of convergence and divergence. Examples of the former are the impact of risk on benefits and sacrifices and the corresponding impact of these constructs on satisfaction and lock-in. On the other hand, the analysis provides support for the impact of e-service only on benefits and, of the two components of value, only benefits is a significant determinant of word of mouth.

There is merit in adopting either of the models. The research model possesses considerable explanatory powers and offers parsimony and consequently is considered appropriate for theory development. However, the competing model affords greater insight into the relative behaviour of the two components of customer value and provides superior clarity in terms of managerial decision making. In addition examination of the R^2 values offers additional insight, specifically the 0.780 associated with value as an overall construct is decomposed into two notably different R^2 value of its *get* and *give* components (correspondingly 0.563 and 0.269). This finding has important theory development implications because it implies that the antecedents included in this study have superior explanatory powers in terms of the *get* rather than the *give* component. By extension, the results indicate that acceptance of the research model hides the fact that additional determinants of value (especially of satisfaction) need to be identified and included in future research (see third indication for further research). Consequently, given the overall orientation of this study (i.e., to contribute in comparable measure to theory and practice) the competing model offers is adopted. Table E1.1 provides a summary of the final solution. The table is organised according to the numbering of the hypotheses in the research model and where necessary the notation of the hypotheses is expanded to reflect the disaggregation of value into its two components.

Table E1.1: Summary of results of the competing model

Structural Pathways	Hypotheses	Significance	Contribution to R ² (%)
e-Service Quality → Benefits	(+) H _{1a}	✓	18.98
e-Service Quality → Sacrifices	(-) H _{1b}	NS	
Risk → Benefits	(-) H _{2a}	(-) ✓	8.20
Risk → Sacrifices	(+) H _{2b}	✓	12.45
Benefits → Satisfaction	(+) H _{3a}	✓	4.09
Sacrifices → Satisfaction	(-) H _{3b}	(-) ✓	0.10
Benefits → Word of mouth	(+) H _{4a}	✓	7.47
Sacrifices → Word of mouth	(-) H _{4b}	NS	
Benefits → Switch	(-) H _{5a}	NS	
Sacrifices → Switch	(+) H _{5b}	NS	
Benefits → Lock-in	(+) H _{6a}	✓	3.82
Sacrifices → Lock-in	(+) H _{6b}	✓	2.07
Satisfaction → Word of mouth	(+) H ₇	✓	10.41
Satisfaction → Switch	(-) H ₈	(-) ✓	1.10
Satisfaction → Lock-in	(+) H ₉	✓	6.19
e-Service Quality → Satisfaction	(+) H ₁₀	✓	8.81
e-Service Quality → Risk	(-) H ₁₁	(-) ✓	6.64
Risk → Satisfaction	(-) H ₁₂	(-) ✓	5.06
Risk → Word of mouth	(-) H ₁₃	NS	
Risk → Switch	(+) H ₁₄	✓	4.57
Risk → Lock-in	(-) H ₁₅	NS	

Note: ✓ = significant; NS = not significant

E1.2.1 e-Service quality → Customer Value

Extending the hypothesis in the research model, a positive relationship between e-service quality and the two components of value is hypothesised. Examination of the results reveals that this is supported only for benefits, i.e. the *get* component of value. These findings are broadly in line with the general b2b literature and the comparable study by Lee and Bellman (2008) debated in Section B3.2.1. However, the differential behaviour of the value components raise questions about the stability of current knowledge because with the exception of Whittaker *et al.* (2007) the studies examining this relationship treat customer

value as either a uni-dimensional construct (Patterson & Spreng, 1999; Lapierre *et al.*, 1999; Kumar & Grisaffe, 2004; Menon *et al.*, 2005; Eggert *et al.*, 2006; Cretu & Brodie, 2007; Berry & Terry, 2008) or as a business or economic outcome (Eng, 2005; Palmatier, 2008). In addition, a number of the uni-dimensional operationalisations do not explicitly include aspects of sacrifice. For example Lapierre *et al.* (1999) and Cretu and Brodie (2007) measure value at an overall level, while Eggert *et al.* (2006) and Berry and Terry (2008) include only aspects of benefits. Nevertheless, the results are in line with those by Whittaker *et al.* (2007) who found support for the impact of (service) quality on dimensions of the *get* component of value (i.e., emotional, functional, image) but not on the single dimension of *give* (i.e., price/quality) included in their study.

The differential impact of quality on the *get* and *give* components of value is consistent with general considerations in the b2b domain. Specifically, organisations operating in this domain have precise (and in many cases regulated) specifications that their suppliers must deliver. In addition, given the expert (at least compared to most consumers) knowledge embedded in organisations there is acceptance and appreciation of the sacrifices that need to be made in order to obtain products or services that comply with their requirements. Thus, the significant relationship of quality with benefits but not with sacrifices. In addition, based on results by Lee and Bellman (2008)¹¹ the need to account for both physical (hardware) inter-personal (human) related aspects of quality is acknowledged. Finally, reference to the contribution to the R² column reveals that e-service is the dominant determinant of benefits.

E1.2.2 Risk → Customer Value

The significant impact of risk on both components of value provides evidence of the relevance of this construct in the study of customer value and justifies its inclusion in this investigation. As already stated in Section C1.2 this is the first study in the b2b domain that examines the impact of risk on the formation of value, consequently directly comparable literature is not available. Nevertheless, the results reported here are in line with those found in the b2c value related literature in which Sweeney *et al.* (1999), Snoj *et al.* (2004) and

¹¹ The limitations of the uni-dimensional operationalisation of value employed by these authors are reported in Section B2.2.4.

Kleijnen *et al.* (2007) find that risk is a significant determinant of value (value treated as an overall construct). Accepting that e-banking represents a distribution channel of financial services to UK-based SMEs implies that, given the sector dominance of a few well established providers, reduction in perceptions of risk by selecting a well known provider (Wright, 2004) is not a feasible tactic. Spreading the risk associated with e-banking is also constrained by the ability of customers to employ alternative suppliers of such services (Dwyer & Tanner, 2008).

The contribution of risk on the R^2 values of the two components indicates that risk is especially pertinent in explaining variation of the *give* component of value and is consistent with Sweeney *et al.* (1999:81) view that with the value domain risk represents a “subjective expectation of loss”. At the same time, the significant impact of risk on the *get* component of value supports Agarwal and Teas (2001) who suggest that assessment of risk also affects customer perceptions of expected performance.

E1.2.3 Value → Satisfaction

Extant literature is silent on the matter, however, it is logical to expect that if customer value has a positive impact on satisfaction its two components will also be significant determinants of satisfaction. In addition, taking into account the nature of each of the value components would expect the relationship between *get* and satisfaction to be positive while the corresponding relationship between *give* and satisfaction to be negative. As illustrated in Table E1.1, this position is confirmed.

Despite the comparability of the behaviour of the two components of customer value with satisfaction their respective contributions to the R^2 of satisfaction indicate notable differences in their comparative impact. Benefits make a notable, albeit not the largest, contribution to the R^2 of satisfaction while the contribution of sacrifices is marginal. Based on these findings, and using the rationale presented in Section E1.2.1 concerns regarding the confounding effects of aggregation and the impact of incomplete operationalisations on current knowledge are raised. The former is already expressed because of the potential implications of aggregating constructs, such as *get* and *give*, that operate in opposite directions. Although in this study the two components of value exhibit comparable behaviour with satisfaction, this may not be the case in other domains or under different economic

circumstances. The latter of the above concerns is best illustrated by reference to the studies by Spiteri and Dion (2004) and Whittaker *et al.* (2007) that examine the impact of value on satisfaction at both aggregate (value as an overall construct) and disaggregate (the dimensions of value operate independently) levels. The former study finds no support for the impact of sacrifice on satisfaction while the latter study supports the functional relationship of these constructs. The answer to this divergence of results is found in their respective operationalisations. Spiteri and Dion (2004) operationalise sacrifice as comprising money, time and effort while Whittaker *et al.* (2007) use a value for money approach.

Given that the operationalisation of sacrifice adopted in this study is similar to that by Spiteri and Dion (2004) the divergence of results between the two studies could be considered problematic. On the strength of debate presented in Section B1.3.1, this author proposes that the observed lack of convergence is due to the idiosyncratic behaviour of value. The research domain of Spiteri and Dion (2004) was veterinarians which is considered to be very different to e-banking. On the other hand, the findings are in line with those reported in the comparable study by Lee and Bellman (2008).

E1.2.4 Value → Behavioural Intention

Using the logic presented in Section E1.2.3 a positive relationship between benefits and word of mouth and lock-in is expected while the impact of benefits on switching is considered to be negative. Sacrifices are hypothesised to have a negative impact on word of mouth and lock-in (this is due to investment in dedicated capital and is consistent with debate related to transaction specific assets within transaction cost theory; see for example Ghosh & John 1999; Rokkan *et al.*, 2003; Vázquez *et al.*, 2007) and a positive impact on likelihood to switch. Results presented in Table E1.1 provide support for three of these functional relationships.

Of the two components of value only benefits is found to be a significant determinant of word of mouth. Due care and attention is required when comparing these findings to the corresponding ones reported in extant literature. A claim that this study provides results in line with those by Cretu and Dion (2007) ignores the fact that latter employs a single measure of intention that is a composite of word of mouth and future amount of business. Consequently, it is not possible to partition, or accurately allocate, the impact of value on

each of these two types of behaviour. Conversely, it is inaccurate to state the results of this study are contrary to those by Lapierre *et al.* (1999) because, (a) they commit the same specification error of intention as Cretu and Dion (2007), (b) treat sacrifices as an antecedent rather than a component of value, and (c) omit to test for the direct impact of sacrifices on intention.

Lack of correspondence exists between this study and those that examined whether the value to intention relationship should be a direct one or it should be fully mediated by satisfaction (Eggert & Ulaga, 2002; Lam *et al.*, 2004). Both these investigations conclude in favour of the mediating location of satisfaction. However, they treat value as an overall composite (i.e., uni-dimensional) construct thus confounding the effects of the *get* and *give* components.

E1.2.5 e-Service quality, Satisfaction, Risk and Behavioural Intention

The functional relationships between the above constructs are not focal to this investigation and consequently are debated only briefly for completeness purposes. The significant impact of satisfaction on the three forms of behavioural intention is consistent with results reported by Eggert and Ulaga (2002), Lam *et al.* (2004) and Bontis *et al.* (2007) and in line with Patterson and Spreng (1997), Lapierre *et al.* (1999), Kumar and Grisaffe (2004) and Cretu and Brodie (2007) who conceptualise behavioural intention as an overall measure of loyalty. The logical extension is that once satisfaction is generated through the delivery of customer value this will have positive impact on all the different forms of behavioural intention.

There is agreement in the general services literature (Anderson & Sullivan, 1993; Cronin *et al.*, 2000) and in the e-service literature (Caruana & Ewing, 2006; Hackman *et al.*, 2006; Yi & Gong, 2008) that quality significantly affect satisfaction. This relationship is confirmed by the results of this study. Although extant research is very limited, a recent study by Cheng *et al.* (2008) reports a significant negative relationship between e-tailer service quality and risk. The results reported here confirm the existence of this relationship within the b2b e-service domain. In terms of the impact of risk on satisfaction the negative significant relationship is in line with Sweeney *et al.* (1999) who suggest that performance (functional, financial etc.) is related to post purchase evaluation (i.e., satisfaction). Finally, of the three

hypothesised pathways between risk and forms of behavioural intention only the risk to switching is significant. Value related literature is silent on the matter (Garbadino & Strahilevitz, 2004 test the reverse relationship, i.e. effect of recommendation on perceptions of risk in online buying). Nevertheless, the lack of a significant relationship between risk and word of mouth is explained by the relatively low propensity to offer recommendations in the b2b domain while the non-significant relationship between risk and lock-in reflects the rather rational approach of buying adopted by business organisations (i.e., if the risk is high it is unlikely that purchase will take place). The rational and procedural approach to organisational buying behaviour is proposed to explain the positive relationship between risk and switching.

E1.3 CONTRIBUTIONS OF THE RESEARCH

The research presented here is regarded to have made original contributions to the scholarly study and literature of value of e-services in the b2b domain and to the management of e-banking in particular.

E1.3.1 Theoretical Contributions

This investigation represents the first documented study of the value of e-services in a b2b domain. Consequently, the findings represent a new insight into the subject matter and advance related theory in the following ways:

1. The conceptualisation of value as a formative higher order construct, comprising the *get* and *give* components, is analytically confirmed. These findings have two important implications, (a) they challenge Unidimensional conceptualisations of value, and (b) support the structures proposed by Ulaga and Eggert (2005 & 2006a and b) and Whittaker *et al.* (2007) and raise concerns regarding those presented by Lapierre (2000), Liu *et al.* (2005) and Fiol *et al.* (2009). By extension these findings question the stability of the functional relationships reported by studies that do not conform to value being a multidimensional FLV and substantiate already voiced

- concerns regarding the impact of construct misspecification in the development of marketing theory (Law and Wong, 1999; Jarvis *et al.* 2003; MacKenzie *et al.*, 2005).
2. However, the differential behaviour of the two components of value implies that research should examine the nomological structures of *get* and *give* separately rather than as a composite, overall, construct. Although further research is required in order to reach a defensible position these results are in line with views expressed by Edwards (2001) regarding the lack of clarity and confounding effects associate with the use of higher order structures. Nevertheless, the results challenge those presented by studies that model value as either a Unidimensional or an overall composite multi-dimensional construct. Instead, despite differing levels of aggregation, there is support for the disaggregate approaches adopted by Spiteri and Dion (2004) and Whittaker *et al.* (2007).
 3. Although the separation of the benefits and sacrifices components of value is suggested, the analytical evidence offers substantial support for the view that sacrifice should be treated as a component rather than a determinant of value. This implies that results reported by studies that model sacrifice as an antecedent of value (see information presented in Table B3.1) are suspect because of the impact that such treatment has on the remaining functional relationships in the nomological structure.
 4. Accepting differences in level of aggregation, although some results related to functional relationships are in line with extant literature (e.g., significant impact of both benefits and sacrifices on satisfaction; Whittaker *et al.* 2007) there are a number of divergences (for example, the non-significant impact of sacrifices on switching; Whittaker *et al.*, 2007). It is suggested that such differences are the result of specificities in the research domain. This is attributed to and confirms the idiosyncratic nature of value and points towards the need for value research to account for domain specific characteristics.
 5. Both components of value are significant determinants of satisfaction; however, there is considerable difference in their relative impact, with the *get* component being dominant. Despite exhaustive examination of the related literature, this author has been unable to find another study that comments on the relative impact of the two components of value on the formation of satisfaction.

6. The need for separation of loyalty into different forms of behaviour when examining the impact of value is demonstrated and is in line with results reported by Eggert and Ulaga (2002). Specifically, value as an effective mechanism for locking-in customers is demonstrated by the significant impact of both its *get* and *give* components. On the other hand neither of the value components are significant determinants of intention to switch, and only the *get* component generates positive word-of-mouth. Given that most studies in the b2b value domain treat loyalty as an overall construct (i.e., fail to separate loyalty into its different forms - see for example Lapierre *et al.*, 1999; Cretu & Brodie, 2007; Whittaker *et al.*, 2007; Barry & Terry, 2008) leads to questions regarding the stability of the reported results.
7. Finally, the importance of risk in the study of value in the b2b domain is confirmed. As already stated in Section C1.2 this is the first documented examination of the relationship between risk and value in the b2b domain, consequently it is not possible to contrast these results with directly comparable evidence. Nevertheless, the significant impact of risk on both components of value is in line with broadly comparable b2c literature that with the exception of Chen and Dubinsky (2003) supports the impact of risk on perceptions of value (see Cronin *et al.*, 1997; Sweeney *et al.*, 1999; Agarwal & Teas, 2001; Snoj *et al.*, 2004; Hackman *et al.*, 2006; Kleijnen *et al.*, 2007). The results presented here indicate comparability in the risk to value relationship between the b2c and b2b domains and elaborate on the unidimensional treatment of value adopted by the above b2c studies by establishing a significant impact of risk on both components of value.

E1.3.2 Managerial Contributions

In addition to theoretical contributions, the results can guide managerial actions and consequently make a number of important contributions to practice. Given the subject matter (i.e., e-service) the debate covers issues related to systems and communications with customers.

1. The quality of the e-banking system is clearly the starting point in the provision of the related e-services. Fast response, well designed interface and clear instructions for access to and use of the e-service are essential prerequisites together with security safeguards. Furthermore, given the company or customer specificity of accounting and financial operations the provider (i.e., banks) must offer functional flexibility and/or adaptation facilities that allow customers to take full advantage of and seamlessly integrate the e-service with their systems.
2. The above aspects of the e-service must be clearly demonstrated during use and communications with clients should equally (see comparable regression coefficients linking the dimensions to the higher order construct in Section D2.2.1) emphasise the four main themes of e-service quality (i.e., efficiency, fulfilment, availability and privacy). Because of the non significant relationship between e-service quality and sacrifices the benefits derived from the e-service should be stressed. Although related messages should account for the whole life-cycle of the use of the e-service (i.e., from acquisition to redemption) the usage stage of each customer should be identified and the specific benefits related to that stage emphasised. For example, for a potential customer (i.e., one at the acquisition stage) issues of efficiency and improved performance should form the core of the message while for those already using the system added-value in the form of benefits additional to their previous system should be emphasised.
3. Given the nature and scope of e-services (especially pertinent in e-banking) it is inevitable that elements of risk represent significant issues that must be addressed at performance, financial and psychological levels. This research provides evidence that although all these levels are significant, priority should be placed on psychological, followed by financial and finally performance issues (see comparable regression coefficients linking the dimensions to the higher order construct in Section D2.2.3). The well established, accepted and verified ability of existing IT systems to perform e-services explains the relative importance of these levels.
4. Following from the above, communications with potential and existing customers should contain statements that alleviate perceptions of financial risk (e.g., potential for financial loss) and emphasise personal benefits related to the use of the e-service (e.g., professionalism). For potential and new users, case studies and advocacy by those companies that have been using the facilities are means of achieving the above. On

the other hand, for existing customers the supplier should offer advice regarding how the reduction of risk can be leveraged in order for customers to obtain greater benefits and reduce their sacrifices. For example, personal gains by staff through reduction in the number of clerical errors (i.e., psychological benefits) or evidence of how reduction in fraud has positively affected the company (i.e., reduction in sacrifices).

5. The significant impact of satisfaction on all three elements of loyalty (i.e., word of mouth, switching and lock-in) implies that providers of e-services must endeavour to maximise perceptions of customer satisfaction. Although both are significant, in comparative terms improvement in perceptions of benefits rather than reduction in perceptions of sacrifices through use of the e-service is expected to have a greater impact on satisfaction (see corresponding contributions to the R^2 of satisfaction). This can be achieved by demonstrating excellence in terms of functionality, real time availability and minimal disruption in operations and need for staff training as a result of adopting the e-service.
6. In terms of desired behavioural outcomes, this research indicates that neither benefits nor sacrifices have a significant impact on intention to switch. In turn, this implies that, efforts by the provider to encourage such behaviour through demonstration of the benefits received and low level of sacrifices made in the use of the e-service will have no impact and consequently should be avoided.
7. However, there is potential for the generation of positive word of mouth through the development of positive perceptions of benefits gained through the use of the e-service. Given the competitive nature of businesses, rather than relying on active recommendations, it is suggested that a more fruitful avenue would be for the provider to work together with satisfied customers to create exemplars or case studies that could be used to promote the e-service (this is linked to recommendations under point 4 above). These case studies could be published in sector specific publications, posted on the web pages of the provider, incorporated in promotional material sent to potential and existing customers and presented in practitioner conferences.
8. It is unavoidable that adoption of new technology involves investments in facilities and staff training dedicated to the use of the specific technology. This is confirmed by findings that indicate that both components of value have a significant impact on perceptions of lock-in. The opposing directionality of the corresponding relationships

components means that careful planning and synchronisation of related activities and communications are needed. Developing e-services on platforms easily accessible to customers and using familiar interfaces will reduce perceptions of sacrifice and in turn diminish negative perceptions of sacrifices. On the other hand, demonstration of how modifications and adaptations to the core offering are made in order to accommodate specific demands and requirements by customers (i.e., attempts to enhance their benefits) will act as signals of commitment by the supplier.

9. Implementation of the above specified actions will also act as mechanisms designed to affect the significant impact of e-service quality on satisfaction and risk and of risk on satisfaction and switching.

E1.4 SUGGESTIONS FOR FURTHER RESEARCH

Despite the merits of this research and the contributions that it makes to knowledge and practice, this study contains certain limitations (see Section A1.6) that, considered together with insights from the conclusions, offer opportunities for further research. The departure point is that organisational mindsets are potentially a valuable field for similar empirical inquiry and consequently understanding of the core set of assumptions should allow insight into an industry's perception of its environment, internal interpersonal relationships, intra-industry structures and processes. Such understanding will provide academics, researchers and practitioners with a basis from which to interpret and anticipate characteristics of cross-business interactions. The following suggestions, listed in no particular order, represent opportunities for further research.

1. Other dimensions could be added to the social process between customer and service provider, apart from behaviours and attitudes, for example ethics, religion, strategic orientation, executive values, environmental and industry characteristics. Formation of business exchange and relationships is a dynamic and processional phenomenon where many factors play important roles and it is very difficult to separate and represent the key critical constructs when building a theoretical/conceptual model at the necessary level of parsimony. Adding more performance measures to the model, as well as more stages would develop this research further and provide additional insights.

2. Given the ‘dynamic’ and temporal nature of customer value the adoption of a longitudinal rather than, as in this study, cross sectional methodology will enable the stability of the results reported here to be tested over time.
3. Accepting the need for disaggregation of the *get* and *give* components leads to the need for the development of models that provide greater than in the present study explanatory powers. This is especially the case with the *give* component.
4. Although it is fully acknowledged that value is perceived by customers, examination of the manner in which e-banking services are developed will provide an expanded perspective of the subject matter.
5. The study was undertaken in the UK banking services industrial sector. Consequently, the proposed framework needs to be tested in other countries and industries for the generalisability of the research findings to be considered fully tested.
6. The moderating impact of variables such as attitudes towards technology, emporographic characteristic and strategic considerations should be added to the proposed model.
7. The impact of different types of risk needs to be examined further by linking specific aspects of risk to particular elements of value. This will necessitate exact mapping and precise correspondence of types of risk and dimensions of benefits and sacrifices; something that is missing from the conceptualisations employed in this study.
8. Finally, given the potential of common method bias inherent in studies that simultaneously measure antecedents and outcomes of a phenomenon, future research should contain not only self-reporting/perceived measures but also factual behavioural information.

APPENDIX 1 – COVER LETTER

Dear NAME

ADDRESS

DATE

Dear NAME,

As an executive of a small to medium size enterprise (SME) you are aware of the importance of Internet business activities and specifically e-banking. Unfortunately at present, there is little information about the role and contributions of e-banking services provided by UK banks to the SME sector.

You are one of a select number of individuals who are invited to contribute to this research that attempts to examine the views and experiences of executives with e-banking services. For this study e-banking refers to electronic handling of all types of banking business, primarily over the Internet. Completing the questionnaire is very important if the results of this study are to accurately represent the views of managers in the UK SME sector.

Complete confidentiality is assured; your name will never be placed on the questionnaire itself. For your convenience a FREEPOST envelope is enclosed. Once you have completed the questionnaire please return separately the attached card so that you are entered in a draw for *three iPods* and your name is removed from our mailing list.

Thank you very much in advance for your help. If you have any questions please do not hesitate to contact me on 020 7893 9093, ffaroughian@yahoo.com or Professor Stavros Kalafatis on 020 8547 7121, email Kalafatis@kingston.ac.uk.

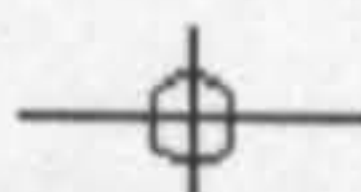
Yours sincerely,

Frank Faroughian

Business to Business Marketing Research group

APPENDIX 2 – POST CARD

51010 KU Quest Reply 8/11/06 09:26 Page 1



Kington | Business School

Dear NAME

ADDRESS

e-Banking Survey

Please enter me in the prize draw

Name

Company name

Address



Telephone

Email

Dear NAME,

Approximately

Banking was mailed to you

If you have already completed this survey, please do not complete this survey. If not, please do so here. We would like to hear your views and experiences on our current views.

This reply-paid card may be returned directly by post. Alternatively you may prefer to preserve your confidentiality by using an envelope, in which case please use the Freepost address overleaf.

Kington University London

If by some chance you did not receive this survey, please contact me on 020 7893 3222, or email me on 020 8347 7131, email frank.faroughian@kington.ac.uk

Yours sincerely,

Frank Faroughian

Business in Business Marketing Research Dept

APPENDIX 3 – REMINDER LETTER

Dear NAME
ADDRESS

DATE

Dear NAME,

Approximately a week ago a questionnaire seeking your views and experiences with e-Banking was mailed to you.

If you have already completed and returned the questionnaire to us please accept our sincere thanks. If not, please do so today. Because our study has been addressed to only a small, but representative, sample of executives within the UK SME sector it is extremely important that your views and experiences are included in our study if the results are to accurately reflect current views.

If by some chance you did not receive the questionnaire or it has got misplaced, please contact me on 020 7893 9093, email ffaroughian@yahoo.com or Professor Stavros Kalafatis on 020 8547 7121, email kalafatis@kingston.ac.uk.

Yours sincerely,

Frank Faroughian
Business to Business Marketing Research Group

APPENDIX 4 – QUESTIONNAIRE

Kingston | Business School

e-Banking Survey

This questionnaire examines your views about and experience with e-Banking services provided by your bank. For this study e-Banking refers to electronic handling of all types of banking business, primarily over the Internet.

Kingston University London

Section A – Information about your company and use of e-Banking services

Size of your company (please tick):

Up to 49 employees

50 to 99 employees

100 to 149 employees

150 to 199 employees

200 to 249 employees

250 or more employees

Primary business activity _____ (please specify)

Length of time you have been using e-Banking _____ (in years)

Section B – Quality of our bank's e-Banking services

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
When we use our e-Banking services we have found that the website has a fast response.	1	2	3	4	5
When we want to use our e-Banking services it is clear how to login to our account page.	1	2	3	4	5
Once we have passed our e-Banking security checks, the website take us directly to our account.	1	2	3	4	5
Our bank's e-Banking pages are well laid out.	1	2	3	4	5
Our e-Banking services keep us informed as to when a specific service will be performed.	1	2	3	4	5
Our e-Banking services are prompt.	1	2	3	4	5
We have found our e-Banking services to be an easy and convenient way of managing our accounts.	1	2	3	4	5
The speed with which our e-Banking carries out our transactions has been very helpful to our business.	1	2	3	4	5
Our bank's e-Banking site is always available.	1	2	3	4	5
We have always found it possible to login to our bank's e-Banking facilities.	1	2	3	4	5
Our bank's e-Banking services have never generated an error that needed us to contact our bank directly.	1	2	3	4	5
Our bank's e-Banking services enable us to easily download financial information to our accounting system	1	2	3	4	5
When we decided to use our bank's e-Banking services, making sure that the service was secure was extremely important to us.	1	2	3	4	5
Our bank has gone a long way to demonstrate the e-Banking security of our accounts and transactions made from these accounts.	1	2	3	4	5
Our bank's e-Banking services require a number of important security checks before allowing the user access to our accounts.	1	2	3	4	5
Our bank's use of extensive security encryption is something that makes us feel very secure when using their e-Banking services.	1	2	3	4	5

Section C – Benefits from using our bank's the e-Banking services

Use of the e-Banking services provided by our bank has:

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
Enabled us to carry out our business more effectively than before.	1	2	3	4	5
Improved our company's overall performance.	1	2	3	4	5
Made carrying out financial transactions much easier than before.	1	2	3	4	5
Made a positive contribution to our company's revenue.	1	2	3	4	5
Enabled our company to provide more extensive services.	1	2	3	4	5
Reduced the number of errors made during financial transactions.	1	2	3	4	5
Offered our company a greater degree of privacy in our financial transactions.	1	2	3	4	5
Made a positive change to the quality of financial transactions carried out by our company.	1	2	3	4	5
Provided our company with extensive reporting facilities.	1	2	3	4	5
Enabled us to have a clear audit trail of our financial transactions.	1	2	3	4	5
Simplified our reconciliation process.	1	2	3	4	5
Made tracking of transactions much easier than before.	1	2	3	4	5
Resulted in improved relationships with our business partners.	1	2	3	4	5
Enabled us to carry out a number of financial transactions that were not possible before.	1	2	3	4	5
Provided us with a number of customisation options that have made using it much easier.	1	2	3	4	5
Enabled us to implement procedures that have improved our company's cash flow.	1	2	3	4	5

Section D – Costs incurred in using our bank's e-Banking services

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
In order to use our bank's e-Banking services we have made a substantial monetary investment.	1	2	3	4	5
Our bank imposes considerable charges in order for us to use their e-Banking facilities.	1	2	3	4	5
We have invested extensively in our IT facilities in order to use the e-Banking services offered by our bank.	1	2	3	4	5
Use of our bank's e-Banking facilities was only possible after considerable investments in suitably competent personnel.	1	2	3	4	5
Implementation of our bank's e-Banking services has resulted in a long learning curve.	1	2	3	4	5
Because our bank's e-Banking has a very methodical interface process, using it takes a long time.	1	2	3	4	5
Carrying out transactions using our bank's e-business services takes longer than before because of the various interfaces.	1	2	3	4	5
Because of security procedures login to our e-Banking services takes a long time.	1	2	3	4	5
Use of our bank's e-Banking services meant that we now communicate far less frequently with our bank's business manager.	1	2	3	4	5
Lack of personal interaction with our bank's staff because of e-Banking services makes us feel just like another account.	1	2	3	4	5
When we use e-Banking we get the feeling our bank perceive us as just another active business account.	1	2	3	4	5
Our e-Banking services have reduced our normal interaction with our bank's business account manager.	1	2	3	4	5

Section E – Risk related with use of our bank's e-Banking services

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
We expend a lot of effort in using the e-Banking services provided by our bank.	1	2	3	4	5
Because of the lack of paper trail of our e-Banking, we spend a lot of effort to ensure security of information and confirm transactions.	1	2	3	4	5
Keeping up-to-date with developments in the e-Banking services provided by our bank involves considerable effort on our part.	1	2	3	4	5
In order to effectively use our bank's e-Banking services extensive training of our staff is required.	1	2	3	4	5
There is a chance that there will be something wrong (will not work properly) with the e-Banking services offered by our bank.	1	2	3	4	5
There are risks in the way that our bank's e-Banking services operate.	1	2	3	4	5
We are confident that our bank's e-Banking performs as described.	1	2	3	4	5
We are very certain that our bank's e-Banking services work satisfactorily.	1	2	3	4	5
The risk of financial loss when using our bank's e-Banking services is high.	1	2	3	4	5
We are concerned that our transactions may be compromised when we use our bank's e-Banking services.	1	2	3	4	5
The risk of financial fraud is something we are very worried about when using our bank's e-Banking services.	1	2	3	4	5
In terms of long term costs using our bank's e-Banking services is risky.	1	2	3	4	5
For our company, using the e-Banking facilities offered by our bank is a symbol of success.	1	2	3	4	5
We consider that using the e-Banking facilities offered by our bank is a status symbol.	1	2	3	4	5
Use of the e-Banking facilities provided by our bank makes our staff feel good.	1	2	3	4	5
We look professional to our suppliers who are aware of our use of e-Banking services.	1	2	3	4	5

Section F – Satisfaction with using our bank's e-Banking services

Think back to the time when your company started using your bank's e-Banking services. Using the scale below please indicate how close your bank's e-Banking services met your initial expectations.

	Very much better than expected	Better than expected	As expected	Poorer than expected	Very much poorer than expected
Real time accessibility to our e-Banking accounts has been...	1	2	3	4	5
The level of functionality provided has proved to be...	1	2	3	4	5
The overall level of service quality has been...	1	2	3	4	5
The length of time it took us to become competent in using the e-Banking services has been...	1	2	3	4	5
Our overall experience with the e-Banking service provided has been...	1	2	3	4	5

Section G – Intentions

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
If people ask me, I would strongly recommend our bank's e-Banking services.	1	2	3	4	5
Our bank can use us as a reference customer for their e-Banking services.	1	2	3	4	5
We would be glad to serve as a reference e-Banking customer to our bank.	1	2	3	4	5
I have said positive things about our bank's e-Banking services to other professional colleagues.	1	2	3	4	5
If it were easy our company would switch to another provider of e-Banking services.	1	2	3	4	5
We are continuously looking for alternative providers of e-Banking services to replace our current bank.	1	2	3	4	5
Recently we have spent some effort to search for an alternative bank with better e-Banking services.	1	2	3	4	5
For us to consider switching to another provider of e-Banking services, the quality of our current e-Banking services would have to seriously decline.	1	2	3	4	5
Due to integration of our e-Banking services with our own internal billing and ordering systems, it is unlikely that we shall switch to another e-Banking provider.	1	2	3	4	5

Please feel free to add any comments about your experiences with e-Banking and its future role in business activities

Thank you very much for taking part in this research.

Please use the enclosed FREEPOST envelope to return your completed questionnaire to:
 Frank Faroughian, c/o Professor Stavros P Kalafatis, Kingston Business School,
 FREEPOST KT2430, Kingston Hill, Kingston-upon-Thames, Surrey KT2 7BR.

Also do not forget to complete the attached card if you would like to be included in the draw for the iPods.

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