A Model for Measuring Service Quality in Internet-Based Services

The Case Study of Internet Banking Services in the Kingdom of Saudi Arabia

A thesis submitted in the fulfilment of the requirements for the

degree of

Doctor of Philosophy

By

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Abstract

Internet banking services have faced a considerable expansion in terms of the number of users in the last few years. This makes Internet as a financial service delivery platform witness a number challenges. One of these is offering better-quality services to existing customers as the quality of service is a key factor in the success of any organisation. Previous research studies indicate that a strong theory to understand this form of service is lacking. A comprehensive review of previous and contemporary literature on service quality suggests the need for the development of a valid instrument for measuring service quality from the end-user perspective in the specific context of Internet banking services. This research study proposes a revised and modified SERVQUAL model which incorporates several variables that reflects the industry-specific attributes of Internet banking services. A survey based research is used to collect primary data on the basis of Internet banking services in the Kingdom of Saudi Arabia. A multiple regression analysis is employed to examine the influence of the adapted determinants on service quality. Focus-group interviews are also conducted as a follow-up to the questionnaire study. The findings of both fieldworks indicate that reliability, responsiveness, website design, and personalisation determine service quality in the Internet banking context. This study presents the main findings derived from the research model which can be used by a wide range of financial institutions, which make use of the Internet in their business dealings, to support each organisation's decision-making processes. Also, this model can be used as a blueprint for an organisation's strategic planning. In addition to the research model, the researcher employs Importance Performance Analysis (IPA) that reveals a large of number of implications for the quality of service, which were not obvious prior to undertaking the research. The knowledge of such implications will help managers and decision-makers when they are required to allocate resources to certain tasks or functions.

Keywords: Internet Banking, Saudi Arabia, Service Quality, SERVQUAL Model.

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In the Name of Allah Most Gracious Most Merciful

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Declaration

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CHAPTER 1

Introduction

1.1   Research Background

Marketing management research has evolved and progressed through a number of main philosophical stages. These include the production concept, the product concept, the selling concept, the marketing concept and, finally, the social concept (Kotler and Armstrong, 1996). The thought behind the classical marketing concept was the assumption that, often, consumers would prefer products and services with high quality standards. Therefore, it was anticipated that organisations would concentrate on producing high-class products and services. However, this concept suffered from certain shortcomings; for example, it was noticed that implementation of this concept led to a phenomenon called Marketing Myopia (Habib and Al-Shadokhi, 2006). This happened because organisations focused on designing superior products and services regardless of the continued changes in consumers' needs, wants, and requirements. However, the notion of modern marketing is built upon the fact that the best available approach to achieving organisational objectives is through firstly identifying consumer's wants and requirements and, secondly, by designing products and services on the basis of their needs (Stanton et al., 1991).

Nowadays, fulfilling customer requirements is considered a central business strategy (Khan, 2010; Carlson and O'Cass, 2011; Narteh, 2013). The current view of marketing is all about studying consumer behaviour, their needs, wants, and desires (Al-Sajjan, 2010). The model of customer behaviour emphasises the fact that the consumer's personal behaviour governs an individual's buying decision-making process (Kotler and Armstrong, 1996). The model suggests that three major stages take place during the buying decision-making process:

1. The influence of the marketing and other motivations on the consumer;

2. Process analysis using the buyer's brainpower; and

3. Buyer's responses and decisions.

Therefore it is essential when seeking to build a successful customer relationship to understand what is undisclosed behind customer behaviour. There are certain cultural, social, personal, and psychological factors and other external political and economic forces which play direct and indirect roles in the consumer's decision-making process. The buying decision behaviour is not handled randomly; it is governed by certain steps and procedures. Naseef (2009) summarised and listed a number of stages which take place before, during and after the buying process:

1. Consumers' feeling of a specific requirement which he/she needs to fulfil;

2. Collecting information about the features and the characteristics of the various available related products and services;

3. Comparing and contrasting between the available alternatives in terms of their quality and prices;

4. Establishing a personal code for the minimum standards; and

5. Deciding on an appropriate product or service to purchase on the basis of the expected acquired value.

Following these phases, and after the buying process is complete, post-purchase evaluation behaviour occurs. This stage is extremely important since it involves the determination of the level of customer satisfaction, loyalty, and retention. This determines the chances of customers remaining loyal to the organisation or switching to a new service provider (Buttle, 1996; Hallowell, 1996). As a general rule of thumb, Ghobadian et al. (1994) indicated that three cases might occur:

1. If customers perceive less than they expected, then customer dissatisfaction increases;

2. If customers perceive equal to what they expected, then customer satisfaction arises; and

3. If customers perceive more than they expected, then customer delight arises.

These outlines show how studying consumer behaviour is a significant measure in the direction of investigating customer requirements and, therefore, on the basis of their tastes, designing high-quality and desirable products and services. In order to do so, quality assessment tasks are the starting point, since this represents one of the major antecedents of consumer behaviour. Levitt (1985) highlighted the significance of emphasising this contemporary marketing thought. The reason for such an emphasis is that organisations which have implemented this idea have been shown to be more likely to be successful, sustainable, and competitive. Bennet (1988) found that companies which adopted the marketing concept were expected to be profitable and to enjoy business growth.

Practically speaking, when considering the manufacturing and service sectors, one of the most crucial aims of a company is to provide the best possible service and products to its customers. Most companies stress the fundamental importance of the departments responsible for establishing and maintaining service quality, assessing customer satisfaction and loyalty, and developing products. A consistent emphasis on the importance of these areas tends to improve overall customer satisfaction, loyalty, and retention − ultimately contributing to healthier, more profitable, and more successful organisations (Johnson and Gustafsson, 2000). The significance of the service quality concept has inspired researchers and scholars to address this issue and to investigate it further across different service sectors and cultural settings (Khan, 2010; Carlson and O'Cass, 2011). Thus, throughout the past two decades, service quality has become an established area in the marketing literature. There have been many pieces of research that have studied, examined, and investigated its nature in the traditional face-to-face service environment (Rust and Oliver, 1994; Hallowell, 1996; Sureshchandar et al., 2002). Currently, there are a number of key instruments available for measuring service quality performance, including the Technical-Functional Quality Model, the Service-Profit Chain Model, and the SERVQUAL model (Gronroos, 1984; Heskett et al., 1994; Parasuraman et al., 1985). Of these, the SERVQUAL model has been the major generic model used to measure and manage service quality across different service settings and in the context of various cultural backgrounds (Buttle, 1996).

However, apart from its wide use, a number of theoretical, operational, conceptual, and empirical criticisms of the measurement model have been pointed out (Engelland et al., 2000; Ladhari, 2008). First of all, the validity of the SERVQUAL model as a generic instrument for measuring service quality across different service sectors has been questioned. Also, there has been an argument that a simple revision of the SERVQUAL items is inadequate for measuring service quality across different service settings (Buttle, 1996). As a result, it has been suggested that developing industry-specific scales for measuring service quality would be more suitable than a single generic scale (Dabholkar et al., 1996; Ladhari, 2008). Recently, more attention has been paid by researchers and scholars to the development of alternative industry-specific research instruments for measuring service quality (Ladhari 2010). Consequently, a number of industry-specific instruments have been developed in recent years in different service settings and various countries and cultural backgrounds, which have contributed to the development of a solid research foundation (Ladhari, 2009; Narteh, 2013).

1.2   Definition of the Research Problem

Today's advancements in the world of technology, along with increasing operating and fixed costs, have made it essential for traditional banks to utilise self-service delivery options (Shamdasani et al., 2008; Narteh, 2013). Banks introduced Internet-based self-service technologies rapidly, since it offered a number of advantages and benefits including cost reduction, increased customer satisfaction and loyalty, as well as enabling banks to reach new customer segments (Lee and Lin, 2005; Parasuraman et al., 2005; Ibrahim et al., 2006). In turn, this resulted in a noticeable increase in the number of users of banking self-service technologies worldwide. However, as banks compete to offer self-service technologies, a number of difficulties and challenges arise. One of these is the provision of superior service through self-service technologies (Shamdasani et al., 2008). Customers continue to require high-quality service standards even when interacting with technological channels (Sanda and Arhin, 2011). The obvious implication of this fact is that, nowadays, Internet banking service providers must be especially vigilant in working to provide the best-quality service in order to retain as many customers as possible.

However, maintaining awareness of quality management is not an easy task. Usually, service quality measurement tasks are completely unreliable as they adopt similar assessment tools for the evaluation of different forms of service settings (Akbaba, 2006; Caro and Garcia, 2007; Ladhari, 2010). Obviously, this produces untrustworthy results which lead to significantly higher overall dissatisfaction and disloyalty levels, as well as greater financial failures for the banks concerned. Therefore, in order to improve their overall performance, managers and Internet banking service providers need to be aware of the key determinants used by consumers in evaluating service quality for services delivered over the Internet (Ibrahim et al., 2006; Sohn and Tadisina, 2008). The aim of the current research is to establish a solid theory which will help to clarify service quality performance within the new technological age. Several studies have developed specific scales for measuring service quality in Internet banking services (Herington and Weaven, 2009; Ho and Lin, 2010; Chong et al., 2010). However, in the context of Internet banking, the current state of the research is still lacking a consensus (Boshoff, 2007; Loonam and O'Loughlin, 2008; Chong et al., 2010). This is due to the nature of the Internet environment and the differences in its evaluation criteria in comparison to traditional face-to-face contact environments. Consequently, more understanding of the service evaluation process in terms of identifying the key determinants of service quality in the Internet banking context is required.

The review of the prior literature has revealed a need for work to be done in order to discover additional appropriate and suitable Internet banking industry-specific measures for evaluating and assessing service quality from the customer's perspective (Boshoff, 2007; Loonam and O'Loughlin, 2008; Chong et al., 2010). Researchers are advised to describe the empirical context in which the specific model was developed and the contexts in which it can be applied (Ladhari, 2010). This has led to the design and development of the current study.

1.3   Research Aim and Objectives

The following aim and objectives will be met in order to address the research problem.

1.3.1 Aim

The main aim of this marketing research study is to contribute in filling the existing research gaps by providing a deep understanding of the way customers evaluate services provided via Internet banking by developing and testing a comprehensive novel research model that helps analyse the major antecedents of service quality. Moreover, this model can be implemented as a frame of reference for measuring service quality from a customer perspective in the specific context of Internet banking services. The SERVQUAL model is used as a theoretical background, and the proposed model is based on a reformulation of the generic dimensions of the general SERVQUAL model into an industry-specific model.

1.3.2 Objectives

The objectives of this research study are outlined as follows:

1. To explore and identify the key determinants of service quality in the Internet banking context by reviewing comprehensively contemporary and prior literature.

2. To propose a conceptual model for service quality perceptions of Internet banking services by identifying its key antecedents.

3. To conduct empirical primary research to discover and validate the inter-relationships between the constructs of the proposed conceptual model in order to offer possible explanations and comparisons that would assist in building research assumptions from the obtained primary data.

4. To present a validated model to serve as an outline for both research and practice in order to provide guidelines to help improve the overall service quality performance of Internet banking services and to raise questions and point out directions for future research.

1.4   Research Approach

The key issue when choosing the correct research methodology for examining and exploring a particular research problem is the suitability of the selected method to accomplish and address the research objectives. Quantitative research, qualitative research, and mixed methods research are the main research methods used in most academic research. Each method has its advantages and limitations and each is mainly appropriate for a particular context. This study adopts the approach that is most suitable to achieving its research objectives. The main aim of the field study is to identify the views of end users and specifically their perceptions of the service quality performance of Internet banking services. The results will enable the identification of the main factors contributing to quality within that particular industry. Moreover, the results will help produce recommendations that could prove vital to increasing customer satisfaction and loyalty standards.

In order to accomplish the main aim of this study, both primary and secondary forms of research will be conducted. Both will be explained later in the research methodology chapter, where the researcher details the reasons for choosing each one as well as their inherent limitations. Primary research is defined as data collected specifically for the research project being carried out (Saunders et al., 2007). The two forms of primary research that will be undertaken in this study are questionnaires as a quantitative method and focus-group interviews as a qualitative method. There are many advantages involved in this sort of research. One of the most important of them is the level of reliability and creditability of the data. When collecting data through primary research, the researcher gets the chance to check them and make sure that they are relevant to the research case study. On the other hand, there are still significant disadvantages to this kind of research, including expenditures of effort, time, and money.

The overall research design of this study is presented in a six-step model as shown in Figure 1.1. These six steps are described as follows:

1. Identifying the scope of the research by reviewing the literature;
2. Proposing the conceptual plan;
3. Gathering the data by developing a questionnaire and a focus-group interview as marketing research tools;
4. Analysing the collected data;
5. Presenting the research findings; and
6. Providing implications and conclusions.
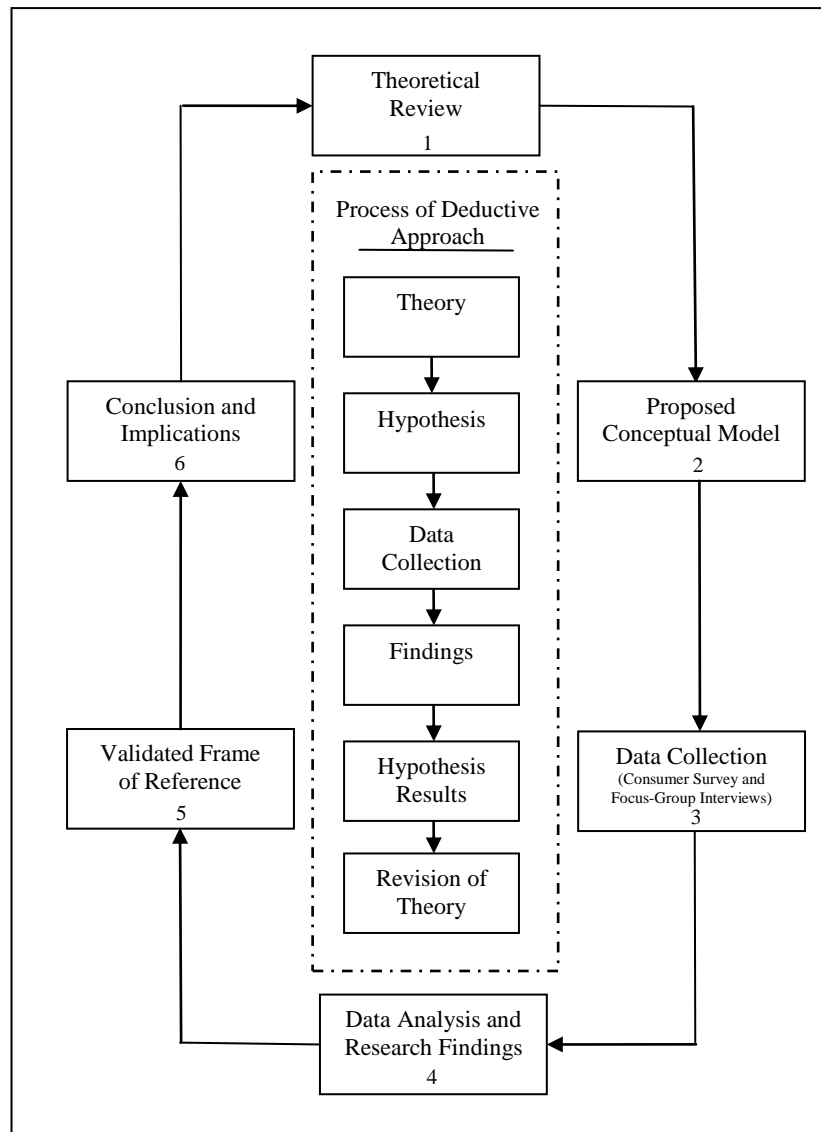
Figure 1.1: Research Approach

The research approach contains two domains: induction and deduction. In the induction approach, theory comes into reality as a result of a research process which involves illustrating general conclusions from specific observations (Bryman and Bell, 2007). The inductive approach process involves general observations which lead to the detection of patterns; this, in turn, leads to hypothesis formulation and culminates in the development of theories. On the other hand, the deductive approach is the correct approach to be followed when the research is seeking to deduce results from the proposed testable hypothesis model. The deductive process, which is in essence the opposite of the inductive approach, involves reviewing a particular theory, developing testable hypotheses, collecting and analysing data, presenting findings, confirming or rejecting the hypothesis, and revising the original theory. Against this background, the deductive approach was chosen as the research process most suitable in this study.

1.5   Research Context

The Internet is an international system which consists of electronic wireless and optical technological communications. This infrastructure was first introduced to the public in the 1990s in order to establish networks which offered a wide range of timely integrated telecommunication services and solutions for the global society. This included private, public, and non-profit charitable agencies and organisations (Turban et al., 2010). The design of these initiatives contributed to the extension and the consolidation of the use of Information Communication Technologies (ICTs) and, also, to the worldwide acceleration of the implementation of electronic service programmes (Laudon and Traver, 2012). As a result of this innovation, service sector organisations began to digitalise their services, giving local companies and new enterprises from all over the world the chance to enter newly international markets (Lee and Lin, 2005). Consequently, the electronic services concept, known as *e-service*, was introduced. De Ruyter et al. (2001) identified the domains of the e-service process as service providers, service receivers and service delivery channel. Additionally, some other studies identified some characteristics which distinguish e-services from traditional face-to-face service encounters (Santos, 2003; Fassnacht and Koese, 2006). These features may include ease of accessibility, sense of privacy, lack of direct contact, and involvement in the production of service quality. Electronic services play a significant role in the development of a range of applications. There are numerous practical examples of e-services in the developing and developed worlds. For instance, telephone-based information lines, banking by telephone, ATMs, and Internet banking (Hsieh, 2005).

Internet banking refers to a system allowing individual customers to perform banking services and activities anywhere and at any time via the Internet (Tih, 2004). Internet banking is not an alternative to traditional face-to-face banking services; instead, it is a vital and added service delivery channel (Jayawardhena, 2004). It is argued that Internet banking is among the most important forms of electronic banking since customers can make use of the service anywhere and at any time provided they have access to the Internet. Naseef (2009) listed a number of the most important financial services which were being delivered through websites. These include the following:

a) Information Websites

These websites provide the minimum level of banking services including background information about the history of the bank, its main programmes, and the available major financial products and services.

b) Interactive Websites

These websites enable some significant communications to take place between the service providers and the end-users, such as exchanging emails, posting comments and complaints, and updating personal information.

c) Exchange Websites

These websites are more comprehensive since they provide the opportunity for customers to manage their accounts personally. This includes, for example, dealing with the stock exchange, placing money orders, and paying utilities and other bills.

Bitner et al. (2002) stated that banks are introducing Internet banking services and other forms of self-service technologies at a rapid pace for a number of advantages and benefits, including:

1. To reduce costs;

2. To increase customer satisfaction and loyalty; and

3. To reach new customer segments.

On the other hand, Habib and Al-Shadokhi (2006) stated that Internet banking had benefits for individual users as well. These include the following:

1. Maximising the service choices for the customer from a wide selection of banking products and financial tools;

2. It does not require the customer to go to the actual physical retail bank which means him/her saves a lot of time and effort;

3. It provides accuracy of information since it allows customers to make comparisons between different services before decision-making;

4. The service process is not limited by time since customers can perform services 24 hours a day and seven days a week, including public holidays;

5. It gives the customer the opportunity to discover a variety of financial services to choose from;

6. It allows the customer to perform the service process easily and in privacy since it is not necessary for the customer to meet bank employees; this removes any external forces from any decision-making process;

7. It allows the industrial user to discover different financial services and perform the service process without waiting for appointments and meetings with the customer service department; and

8. Internet banking methods are faster since they can be carried out without the customer having to wait in queues and waiting areas.

1.6   Research Setting

The research approach and context have been introduced. To comprehensively illustrate the case study, it is recommended to provide a brief overview of the recent history of the research setting (Yin, 2003). This section will provide a profile of the Kingdom of Saudi Arabia. Finally, a justification for the research setting selection will be discussed.

a)   History

The Kingdom of Saudi Arabia (KSA), also known as Saudi Arabia, is an independent country which was established in 1934 by his late Majesty, King Abdul-Aziz Al-Saud. Al-Farsy (2001) stated that Saudi Arabia is considered to be a country which participates significantly across the globe. The most important reasons for this eminence are its geographical location and its religious establishment. However, the key rationale underlying its importance is Saudi Arabia's economic reputation, since it is considered to be the world's largest single oil producer.

b)   Area and Location

It is located in the Middle East, on the Arabian Peninsula, and is bordered to the northwest by Jordan, the north and northeast by Iraq, the east by Kuwait, Qatar, Bahrain, and the United Arab Emirates, the southeast by Oman, and the south by Yemen. To its northeast lies the Persian Gulf, and to its west the Red Sea. The Saudi government estimates the area of Saudi Arabia at 2,217,949 square kilometres, with an estimated population in 2009 of approximately 25.37 million people, including about 6.83 million resident foreigners. The territory of KSA is divided into 13 provinces consisting of a number of major cities and towns including Riyadh, Mecca, and Jeddah as its political, holy, and economic capitals respectively (MEP, 2012).

c)   Religious and Economic Significance

Saudi Arabia is generally considered to be one of the most important countries in the world, a fact derived from both its religious and economic significance. It is the birthplace of Islam and its prophet. Saudi Arabia is an active member in a number of international Islamic organisations. As a result, the country plays a major role in resolving most of the difficulties that arise and present challenges to Muslim countries across the Islamic world (MIA, 2012). Economically, Saudi Arabia plays an important role in the international community. There are many reasons for this importance, including geographical location and religious make-up, but the main reason is clearly the country's role as the single largest oil producer in the world (MEP, 2012).

d) Internet Banking Services

Banks in Saudi Arabia are keen to deliver the best quality service to all customers across KSA, which will ensure that the customers retain confidence in the bank's reputation. This means that the banks, in the end, are focused and competitive. Internet services were introduced to Saudi Arabia back in 1998; however, public access was not commonly obtainable until January 1999 (Al-Tawil, 2001). As a result, Internet connectivity was initiated in different governmental agencies and private sector organisations. Banks are no different; they have adopted different forms of electronic banking channels, including Internet banking, telephone banking, personal computer banking, and ATMs in order to deliver a wide range of financial services. With increased competition, banks were required to differentiate themselves. As a result, banks have implemented technology as a service delivery channel. Sohail and Shaikh (2008) stated that banks in Saudi Arabia are competing to offer different electronic financial services through different service delivery systems including Internet banking for a number of reasons:

1. Internet users grew from 200,000 in 2000 to 2.54 million by 2005, with a growth rate of 1,170 percent, which makes Saudi Arabia a fast developing Internet market.

2. The population of Saudi Arabia is estimated at around 25 million people including nationals and foreign residents and, with such a large population, banks are required to establish different alternative service delivery systems to meet the increased demand in financial services.

3. The Saudi population is mostly youthful and a computer-oriented generation which means they prefer to perform their financial transactions through electronic means.

The percentage of Internet banking users out of total bank customers is 20%. This figure indicates that Internet banking is one of the largest Internet retailing sectors in KSA. To the best of the researcher's knowledge none of the academic institutions in Saudi Arabia has participated in any studies to assess the level of service quality perceived by customers in Internet banking services. Even though academic research is the leading driver of development in western industrialised countries, unfortunately this is not the case in developing and underdeveloped countries (Guedon, 2001; Saunders et al., 2007). For instance, in 2007 Saudi Arabia spent only 0.05% (US$0.271 billion) of its GDP expenditure on research and development (The World Bank, 2012). In general, therefore, several relevant bodies have raised concerns about its poor academic research and publication programmes. Al-Zahrani (2011) discussed the challenges and barriers in facilitating and promoting research publications in Saudi Arabia.

In his major study, he identified three obstacles for the poor production of research:

1. **Small Financial Budgets:** This was due to the fact that the majority of the country's annual budget was spent on developmental plans related to the foundation of the infrastructure.

2. **Lack of Information Resources:** This was a "chicken and egg" situation whereby the poor production of research led to the non-availability of valuable and reliable information, with the reverse true too.

3. **Underdeveloped Facilities and Inexperienced Human Capabilities:** This was as a result of newly established academic institutions across the country, which were located in temporary campuses and with academic staff who were abroad undergoing their postgraduate education.

Over the last 30 years in Saudi Arabia, there have been increasingly rapid advances in the field of sustainable development. This has led to the restructuring and reforming of a number of strategic sectors (MEP, 2012). For example, in recent years the Saudi Arabian higher education authorities have become increasingly interested in creating and finalising regulations, rules, and laws for reforming the academic community and its administrative policies (Al-Zahrani, 2011). In 1985, the Saudi Council of Ministers issued a Royal Decree which established King Abdul-Aziz City for Science and Technology (KACST, 2012). This centre's main mission is to ensure the implementation and control of the research process in Saudi Arabia (ICS, 2012). In this regard, recent developments have heightened the need for more studies to be carried out in a large number of areas, including performance evaluation and assessment (MHE, 2012). These demands guided the development of this contemporary study.

Consequently, the proposed conceptual model of this study will be empirically tested and evaluated in the context of Internet banking services in Saudi Arabia. Choosing Internet banking services in a modern country like Saudi Arabia as a base for data collection seems suitable for the purpose of this study. A case study approach was chosen to examine the principal theory of this research. This process was necessary so as to ascertain the findings of this study and to be in no doubt of its end results. The findings of this study will be valuable and timely for the banks in Saudi Arabia and will present valuable guidelines regarding this significant issue. The field findings, which will take the form of a marketing research tool, will provide some recommendations that will help banks to improve their service quality. This will, as a result, improve their customer satisfaction, loyalty, and profitability.

1.7   Organisation of the Thesis

There are a variety of ways to organise academic research projects. Each has its advantages and drawbacks. The development of this study was organised by adapting the process proposed by Philips and Pugh (2000). Their approach suggested that four stages needed to be addressed in order to conclude an academic research assignment. These phases are: a) background theory; b) focal theory; c) data theory; and d) novel contribution. Previous studies based their research design on the same procedure (Al-Gharabat, 2010; Al-Salti, 2011). It was decided that due to its clarity of content and ease of adoptability, this methodological process was the best method for this investigation. Consequently, the earlier stated methodological sequence was used to set up a plan to achieve this study's overall aim. In order to do so, this thesis is structured and organised into the following six chapters:

a) **Background Theory**

- Chapter 1 (Introduction): A capsule chapter which presents an overall view of the study.

- Chapter 2 (Literature Review): This chapter comprehensively reviews the literature on service quality and emphasises the research gaps that this study aims to address in order to achieve its objectives.

b) **Focal Theory**

- Chapter 3 (Development of the Proposed Conceptual Model): This chapter proposes the conceptual model and the testable hypotheses.

c) **Data Theory**

- Chapter 4 (Research Methodology): This chapter explains the methodology of this research study, including the quantitative research method (questionnaires) and qualitative research method (focus-group interviews) it employs.

- Chapter 5 (Overall Results and Discussion): This chapter reports the main results and findings of the questionnaires and the focus-group interviews and presents the validated model of this study. It discusses the overall results and findings of this study and compares them to related studies from the literature.

d) **Statement of Originality and Value**

- Chapter 6 (Conclusions and Further Research): This chapter summarises the overall research. It underlines the general research findings of this study and emphasises its contribution, while also highlighting the study's limitations and outlining potential future directions. Lastly, it considers the accomplishment of the research objectives.

This study concludes with references and eight appendices. This study can therefore be viewed as a comprehensive chain which, as shown in Figure 2.1, consists of a number of research-related activities including establishing a controversy in the field of study, reviewing the literature concerning the topic, laying out the theoretical dimensions of the research, describing the research design, analysing the collected data, presenting the main findings, discussing the overall results and, finally, summarising the research and highlighting its significance and originality.
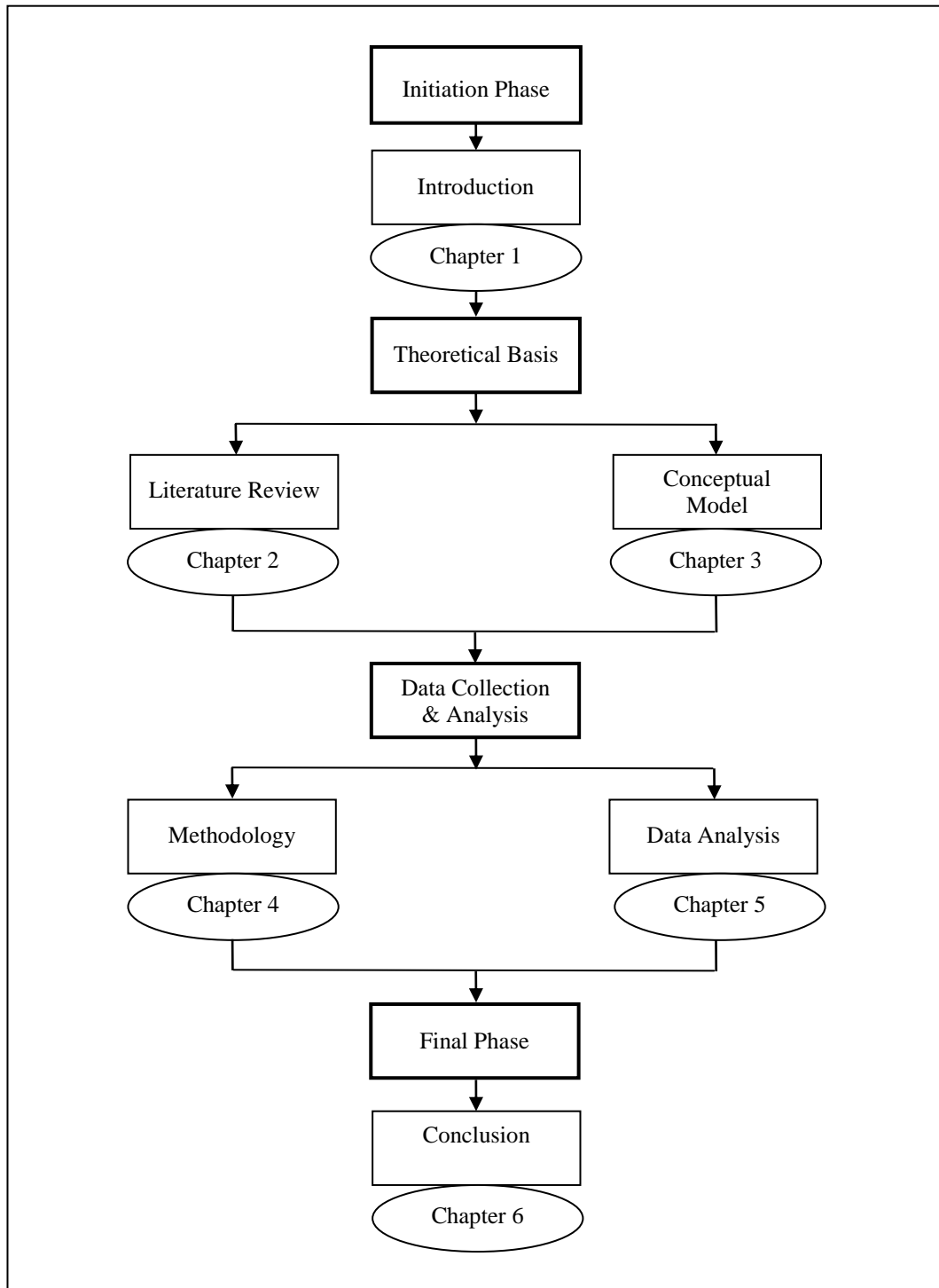
Figure 1.2: Research Development

CHAPTER 2

Literature Review

2.1   Introduction

Service quality can be accurately measured in the distance between what the customer received from a particular product or service and what his or her original expectations were. It is a relatively old concept; it was initiated in the mid-1980s, grew up in the 1990s, and progressed in the 21st century. However, measuring and managing service quality from the consumer's point of view is still a complex issue. This is due to the change in the nature of service delivery channels from the traditional face-to-face service environment to the new information technology arena. This shift in the service delivery platform requires researchers to investigate and explore the sources of the service quality concept in marketing literature in order to provide a clear picture of the concept in this new emerging era. This is going to be a great help to practitioners and decision makers as it will assist them in drawing up strategies that will help them to survive in the competitive business world of today.

The aim of this chapter is to present a broad, comprehensive and contemporary review of the literature on the service quality concept. It proceeds as follows:

1. The chapter will begin by defining key terms;

2. The importance of service quality will then be discussed;

3. This will be followed by a description of the three formal models of service quality and their schools of thought;

4. This will lead to a detailed review of the SERVQUAL model, including its evolution and development, scale assessment, dimensionality, contexts of adoption, and discussion of its criticisms and limitations;

5. The debate on industry-specific measures of service quality will then be explored; and

6. Finally, possible research gaps will be pointed out and then a summary of the chapter will conclude.

2.2 Definition of Service Quality

Philosophically speaking, marketing is a combination of art and science. Going back to the middle ages, the marketing concept emerged as a result of the commercial exchange activities within society. However, marketing – as an academic notion – evolved and developed in the early stages of the 20th century. The first serious discussions and analyses defining the marketing conception emerged during the 1940s (Habib and Al-Shadokhi, 2006). The American Marketing Association defined marketing as the process of planning and implementing concepts related to pricing, promotions, and distributions for the purpose of fulfilling the objectives of individuals and organisations through the exchange of goods and services. It is considered to be a managerial process since it involves the functions of planning, organising, leading, and controlling the organisation's marketing programmes. In their review of the marketing literature, Stanton et al. (1991) identified a number of the major characteristics of marketing practice as follows:

1. Marketing aims to meet the needs of individuals and groups by fulfilling their basic physiological, psychological and social needs;

2. Marketing helps organisations to achieve their target objectives by maximising profit for commercial enterprises; and

3. Marketing practices are not limited only to goods and services but rather include promotion of non-profit associations' aims of spreading religious and social awareness.

In 1948, James Culliton introduced the marketing mix concept, also known as the 4Ps. It is a business tool applied by marketing professionals (Banting and Ross, 2010). The main aim of the marketing mix is to exert some control over the demand for products and services. Kotler and Armstrong (1996) indicated that the marketing mix consists of a group of factors including the following:

1. **Product:** This includes the design of products and services, their characteristics, brand name, packaging, warranty, and after-sale services;

2. **Price:** This includes the amount of money required for buying the product or service and its associated sales and discounts, payment methods, and instalments;

3. **Place:** This includes all distribution channels including retailers, wholesalers, inventory, and logistics management; and

4. **Promotion (Marketing Communications):** This covers all the promotional activities (including personal selling, direct marketing, exhibitions, and corporate identity) run by the organisation to convince its customers to buy its products and services.

As discussed, marketing can be described as managerial and social activities whereby people exchange products and services for the purpose of satisfying their demands. Consequently, the main mission of most, if not all, service organisations and private-sector companies is to enhance people's personal lives and to add to their business success by presenting high-quality services which reveal their exact preferences. Perceived quality lies at the heart of the equation, which explains customers' overall assessment in evaluating the standard of the service delivery process and the service outcome. Since this research is dedicated to the direction of quality management, defining the term "service quality" is essential in creating and establishing a solid foundation for this study.

There are three areas regarding service that need to be explained: its definition, examples, and characteristics. Kotler and Armstrong (1996, p. 660) have contributed a great deal in this area, defining service as "any activity or benefit that one party can offer to another which is essentially intangible and does not result in the ownership of anything". For example, travelling on an aeroplane or a train, depositing or withdrawing money at a bank, or visiting a general practitioner or a dentist are all forms of buying a service. It is essential to recognise service characteristics for a full understanding of service quality. Four main service characteristics have been identified: intangibility, inseparability, variability, and perishability. They are briefly defined here:

1. **Intangibility**: This means that it is not possible for the customers to see, taste, feel, hear, or smell the actual service before they buy it;

2. **Inseparability**: This means that service providers produce the service and the customers consume it at the same time;

3. **Variability**: This means that the quality of services can differ greatly, based on the way they are produced, the place in which they are produced, the time they are produced, and the provider who produced them; and

4. **Perishability**: This means that it is not possible for a service to be kept for sale or use afterwards.

Ghobadian et al. (1994) argued that it is important to define the quality concept as it represents the first step in most quality improvement programmes. In fact, quality is a complicated concept that can be defined from different perspectives depending on the specific industry or purpose of study. Even though there are different definitions of quality, they can be categorised into a number of broad groups, principally the value-led approach and customer-led approach. The value-led approach defines the term "quality" as the cost to the producer and price to the customer (Crosby, 1980; Taguchi, 1986).

The customer-led approach defines quality as satisfying the customer's needs and wants. This definition is based on exploring and identifying customers' requirements and the meeting of these requirements by the organisation. This definition is for organisations offering high contact, skill/knowledge-based, or labour-intensive services, such as health-care, law, accountancy, hairdressing, education, consultancy, leisure, hotels, and information technology (Juran et al., 1974; Deming, 1986).

This study investigates and examines service quality from the customer's perspective within the Internet banking services context. Thus, this study defines the quality concept based on the customer-led approach. Generally, customers evaluate service offerings on the basis of their expectations and perceptions of the actual service. This makes it vital to define both the terms "expectations" and "perceptions" individually so as to clarify the overlap between those two closely related concepts. It has been mentioned in previous studies that service quality, as perceived by customers, is the result of a comparison of customers' feeling toward what service firms have to offer – "customer expectations" – with their perceptions of the actual outcome of firms offering the services – "customer perceptions" (Ghobadian et al., 1994; Buttle, 1996). Specifically, Parasuraman et al. (1988, p. 17) stated that expectations (E) are defined in the service quality literature as the "desires or wants of consumers, i.e. what they feel a service provider should offer rather than would offer". On the other hand, Parasuraman et al. (1985) defined perceptions (P) based on the services marketing literature as "consumers' beliefs concerning the service received".

In the marketing literature, service quality is usually defined based on consumers' assessment. For example, Parasuraman et al. (1985, p. 42) defined service quality as "a measure of how well the service level delivered matches customer expectations; delivering quality service means conforming to customer expectations on a consistent basis". The American Society for Quality Control comprehensively defines quality as "the totality of features and characteristics of a product or a service that bears on its ability to satisfy stated or implied needs" (Kotler and Armstrong, 1996, p. 583). These descriptions and others similar show that the process of managing quality has to be customer-centred and focused. Consequently, in line with the marketing literature, this study looks at service quality as the standard of excellence in regard to fulfilling customers' requirements, which contributes toward achieving customers' ultimate satisfaction. This, in turn, requires service firms to explore and identify customers' requirements and to try to meet them in order to provide a high standard of service quality.

2.3   Importance of Service Quality

Nowadays, in a severely competitive environment, the most central factor in a sustainable competitive advantage is to provide the best possible service quality, which will result in improved customer satisfaction, customer retention, and profitability (Khan, 2010; Carlson and O'Cass, 2011). The original service-profit chain model proposed that internal service quality within the organisation leads to improved employee satisfaction and retention. Consequently, employee retention results in improving employee productivity, which ultimately contributes to improvement in overall external service value, customer satisfaction, customer loyalty, organisational revenue growth, and profitability (Heskett et al., 1994; Hallowell, 1996). As a result, service organisations have recognised a number of potential benefits deriving from implementing service quality programmes, including increasing customer satisfaction, customer retention, customer loyalty and positive word-of-mouth, enhanced corporate image, profit gains, and improved financial performance.

The service performance links employed in this study –designed to accurately establish the relationship between service quality, customer satisfaction, customer loyalty, and profitability – were developed based on the American Customer Satisfaction Index (ACSI). This was first introduced in 1994 by the Stephen M. Ross Business School at the University of Michigan in the US, in partnership with the American Society for Quality (ASQ) and the Claes Fornell International Consulting Group (CFI). The ACSI is defined as "a strategic business tool for gaining competitive advantage and creating shareholder value through investments in quality and customer satisfaction". The ACSI essentially links equations together relating to customer expectations, perceived quality, and perceived value, and attempts to quantify the relationship between these variables and "customer satisfaction". The main aim of ACSI is to serve as an indicator of customer satisfaction and provide companies, industry trade associations, and government agencies with the ability to benchmark their own performance against "best practice" standards (ACSI, 2006).

The thinking behind ACSI relies on the way that the value of customer satisfaction derives from the ratio between customer perception and customer expectation ("Link A"). The value of customer satisfaction, in turn, has a measureable impact on the value of customer loyalty ("Link B"). Finally, the value of organisational profitability rises as customer loyalty and retention increase, and goes down as customer loyalty decrease ("Link C"). Generally speaking, the ACSI model encapsulates three different hypotheses (Figure 2.1), which can be outlined as follows:

1. Customer perception and customer expectation are clearly related to customer satisfaction;

2. Customer satisfaction is related to customer loyalty; and

3. Customer loyalty has a measureable relationship with financial gains.
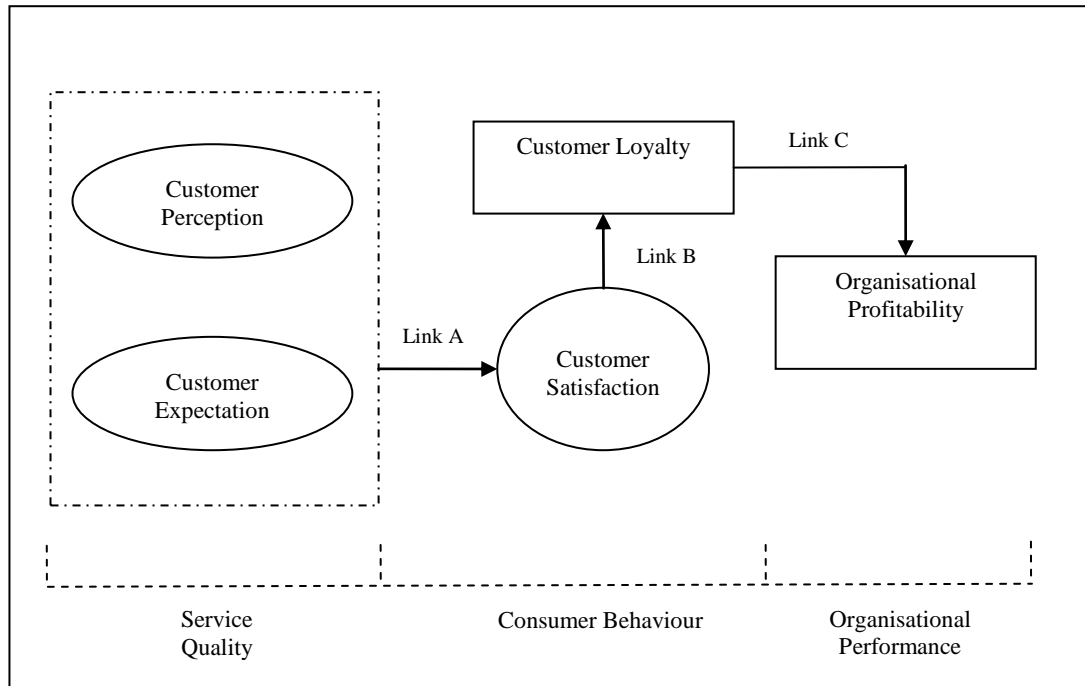
Figure 2.1: Service Performance Links
Source: Adapted from ACSI (2006)

1. Link A: Improved Customer Satisfaction

Evans and Berman (1997, p. A-34) defined the term "customer satisfaction" as "the degree to which there is a match between a customer's expectations of a good or service and the actual performance of that good or service, including customer service". Customer expectation, according to the ACSI, is a combination of the experience the customer has with a particular product or service and any other information that was absorbed by that customer via media advertising, the actions or language of the salesperson, and the word-of-mouth of other customers. Customer expectation has a significant impact on the evaluation of the product or service that the customer intends to purchase. A great number of studies have determined that the data gathered by companies that measure customer satisfaction using the ACSI model consistently suggest that quality had a great impact on customer satisfaction. ACSI, then, is clear about the marked effect that customer perception of quality and its many variables have on overall customer satisfaction and, eventually, on company success or failure.

2. Link B: Improved Customer Loyalty

Kotler and Keller (2006, p. G4) defined the term "customer loyalty" as "a commitment to re-buy or re-patronise a preferred product or service". Customer satisfaction has a demonstrable relationship with customer loyalty and retention, and behavioural intentions (Sureshchander et al., 2002; Swaid and Wigand, 2007; Shamdasani et al., 2008). Heskett et al., (1994), for example, have suggested that there is near agreement between many researchers that customer satisfaction is an important factor in determining customer loyalty levels. Yi (1990, p. 104) notes this fact as well "many studies found that customer satisfaction influences purchase intentions as well as post-purchase attitude". Lin and Wang (2005) conducted a comprehensive study of the relationship between service providers and customers in the service sector in Taiwan. They draw the conclusion that, within the study's sample, customer loyalty was clearly influenced in a positive way by perceived value, trust, habit, and customer satisfaction. Also, Lau (2000) showed that those customers who described themselves as "very satisfied" are more likely to repurchase the same product or service more often and in the same or greater quantity than customers who were only "satisfied".

3. Link C: Improved Organisational Profitability

Dyson (2004, p. 82) defines the term "profit" as "the difference between cash received and cash paid". Hallowell (1996) undertook empirical research that investigated and tested the inter-relationships among customer satisfaction, customer retention, and profitability, based on quantitative data collected from a retail bank. His overall findings and results support the service-profit chain theory, confirming strong relationships between customer satisfaction and customer retention, and between customer retention and profitability. Overall, his findings and other empirical research both in the service management and marketing literature suggest that service quality has a strong influence on profitability and organisational financial performance. Additionally, it has been emphasised that corporate image is influenced by consumers' perceptions of the service organisation (Lewis et al., 1994). The company image depends on a number of service quality determinants, including for example price, physical location, external communications, and the behaviour of the service organisation's employees. Excellent service quality plays an important role in developing and increasing the corporate image, reputation, and credibility (Madu and Madu, 2002; Yang and Jun, 2002; Cai and Jun, 2003). As a result, new customers can be attracted through positive word-of-mouth. This results in improved customer loyalty and a more successful and healthier organisation.

2.4   Schools of Thought in Service Quality Conceptualisation

There are a number of conceptual models that have been developed by various researchers and scholars worldwide to investigate the service quality concept (Tih, 2004). These models have been adopted by service organisations as a tool to assist in quality improvement programmes. In their literature review, Seth et al. (2005) presented a list of key service quality models including, for example, the Technical-Functional Quality Model (Gronroos, 1984), the Gap Model and SERVQUAL Model (Parasuraman et al., 1985, 1988), the Service-Profit Chain Model (Heskett et al., 1994), and the Satisfaction-Service Quality Model (Spreng and Mackoy, 1996). These conceptual models along with other models have contributed to the development of various schools of thought on service quality. Generally speaking, in the current service marketing literature there are three key schools of service quality modelling: the Nordic School, the Holistic School, and the North American (Gap Analysis) School. A brief background of the three formal models of service quality will be given in this section, to be followed by a detailed discussion of the SERVQUAL model.

a) The Nordic School

Gronroos (1984) contributed a great deal to the Nordic School. He carried out research within Scandinavian countries, in particular with Swedish firm executives, and developed a conceptual service quality model called the Technical-Functional Quality Model. He stated that managing service quality by matching expected service and perceived service is an important procedure for a firm in order to achieve ultimate customer satisfaction. He considers service quality to consist of three dimensions: technical quality, functional quality, and company corporate image.

1. Technical Quality

This dimension is concerned with what consumers in reality obtain as a result of their dealings with the service firm.

2. Functional Quality

This dimension is concerned with how consumers obtain the technical outcome, i.e. how the consumers receive a service.

3. Corporate Image

This dimension takes place as mediator in service quality perceptions and is influenced by technical quality, functional quality, and other external traditional marketing activities, such as advertising, field selling, public relations, and pricing.

b) The Holistic School

LeBlanc and Nguyen (1988) are the two key contributors to the Holistic School. They proposed a conceptual model for service quality perceptions and argued that consumers picture service quality holistically when asked to assess it. They proposed five service quality elements which they can be used by customers to evaluate service quality, namely corporate image, internal organisation, physical support of the service producing system, customer/staff interaction, and degree of customer satisfaction. They undertook a quantitative research study by distributing questionnaires to a sample of financial institute customers to validate their proposed model. As a result, they have presented a refined conceptual model and have identified seven dimensions that can be adopted by customers to assess their perceptions of service quality. These are personal contact, internal organisation, physical environment and instruments, corporate image, customer interaction, customer satisfaction, and customer-personal interaction.

c) The North American (Gap Analysis) School

Parasuraman, Zeithaml, and Berry (1985) are considered to be the key contributors to the North American School (Gap Analysis School) of thought concerning service quality. They have discovered a number of service quality factors including the following:

1. Reliability;
2. Responsiveness;
3. Tangibles;
4. Empathy; and
5. Assurance.

The combined five factors represent the most widely reported theoretical model of service quality – the SERVQUAL Scale. This instrument was the most frequent model utilised to represent service quality assessment from end-user attitudes and within the general public and private service sectors globally.

The North American (Gap Analysis) School's contribution will be reviewed in detailed in the next section, including its evolution, scale assessment, dimensionality, and criticisms. This is for two principal reasons:

1. Its significance; as it represents the most influential school of service quality modelling in the marketing literature; and
2. Its focus and emphasis are useful and suitable for studies related to consumer behaviour.

2.5   Formal Model of Service Quality: the SERVQUAL Scale

The SERVQUAL model is a business theory designed to capture service quality. It is an outstanding addition to the literature on marketing and this section will discuss its evolution and development and scale assessment.

a) Evolution and Development

In the marketing literature, Parasuraman, Zeithaml, and Berry (1985) developed and introduced the SERVQUAL Model to study the service quality concept. It was developed by the three mentioned researchers from the US; thus, it can be categorised under the American School of thought in service quality. Model development was based on exploratory qualitative research projects, including focus group interviews with consumers and in-depth interviews with firms' executives. It was developed on the basis of data collection from four service settings in the US: retail banking, credit cards, securities brokerage, and product repair and maintenance.

Their research findings showed that service quality as perceived by customers is a comparison between the customers' expectations and their perceptions of the performance of the actual service. They have discovered the factors that influence service quality by identifying a number of gaps in service organisations that are associated with the perceptions of service quality by executives and others that are associated with the service delivery process on the part of customers. These service quality gaps presented a roadmap for service organisations to provide a service to their customers with a high quality standard. Gaps 1–4 are linked to the service marketer's part of the service quality model, while Gap 5 is linked to the customer's part of the model (Figure 2.2). These gaps are outlined as follows:

- **Gap 1**: This represents the relationship between customer expectations and management perceptions of consumer expectations;

- **Gap 2**: This represents the relationship between management perceptions of consumer expectations and the firm's service quality specifications;

- **Gap 3**: This represents the relationship between service quality specifications and actual service delivery;

- **Gap 4**: This represents the relationship between actual service delivery and external communications to the consumers about the service; and

- **Gap 5**: This represents the relationship between service expectations and service perceptions by consumers.

It is clear that gaps 1–4 are related to the design, marketing, and delivery of the services within the service organisations, while Gap 5 is on the consumers' side. This means that service quality as it is perceived by consumers depends on the size of Gap 5, which is the difference between expected service and perceived service.
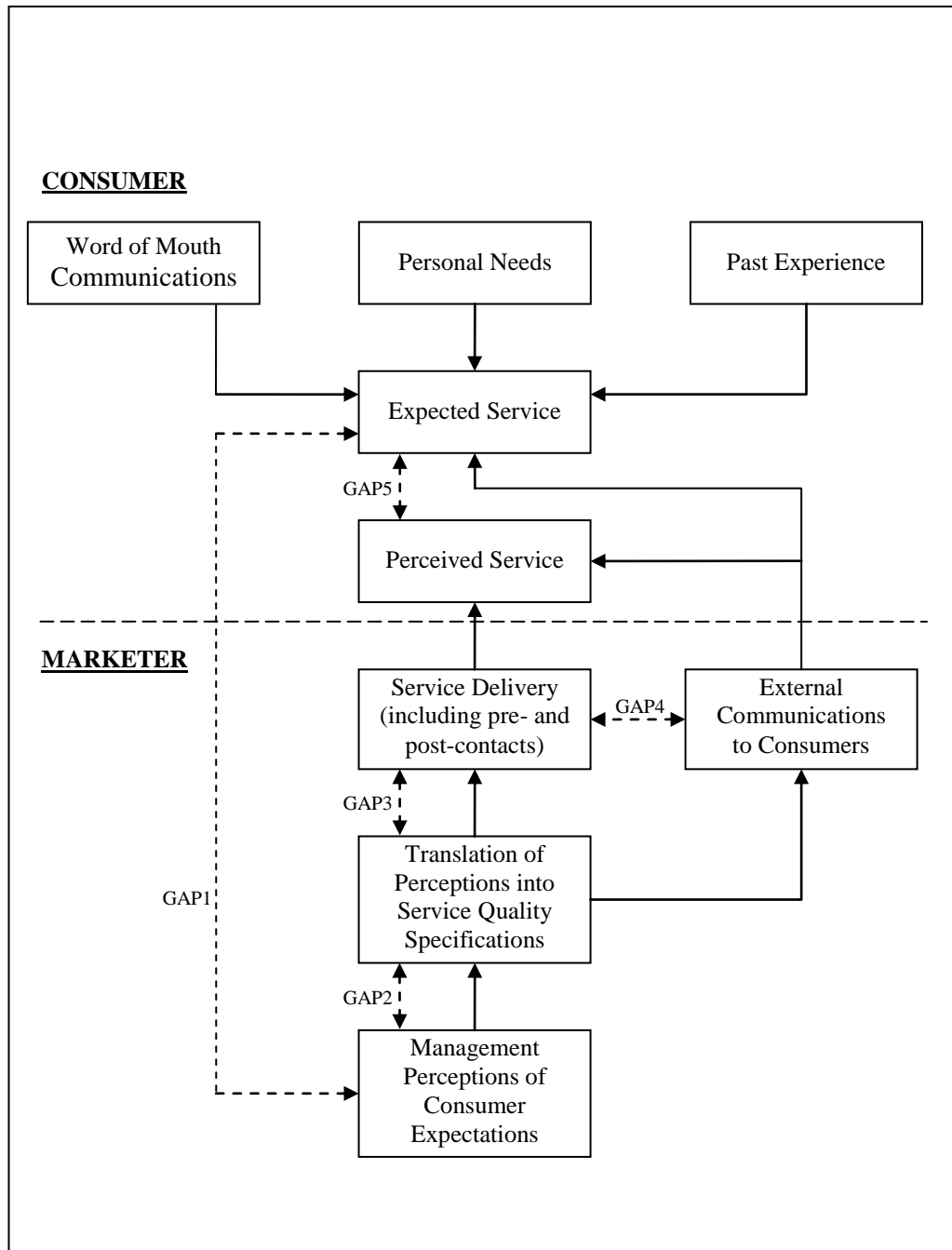
Figure 2.2: The Gap Conceptual Model of Service Quality
Source: Parasuraman et al. (1985, p.44)

Concerning Gap 5, the findings of Parasuraman et al. (1985) showed that the criteria used by customers in assessing and evaluating service quality can be categorised into ten dimensions:

1. **Reliability**: This represents the firm carrying out the service accurately and at the earliest moment.

2. **Responsiveness**: This represents the keenness of employees to carry out the service – it involves appropriateness of service.

3. **Competence**: This represents the skills and knowledge required by employees to carry out the service.

4. **Access**: This represents customers' ability to approach and contact the service simply and without any difficulty.

5. **Courtesy**: This represents the employees' behaviour in being polite, respectful and friendly.

6. **Communication**: This represents reporting to the customers in an understandable language.

7. **Credibility**: This represents the personal characteristics of the employees, including trustworthiness, believability, sincerity, and honesty.

8. **Security**: This represents risk-free physical and financial issues and privacy and confidentiality.

9. **Understanding/knowing the customer**: This represents knowing and understanding customers' needs, wants, and requirements.

10. **Tangibles**: This represents the physical facilities of the service, such as personnel appearance and tools applied to deliver the service.

Parasuraman et al. (1988) undertook further research, analysis, and testing of their original proposed service quality model beyond 1985. The model was validated and refined through several stages of data collection and analysis. The data used for validation and refinement was collected from customers across four different service settings: Appliance Repair and Maintenance (R&M), Retail Banking (B), Long-Distance Telephone Company (LDT), and Credit Card Company (CC). The findings of the statistical analysis produced a valid research instrument including 22 items grouped into five dimensions:

1. **Reliability**: This includes the ability to carry out the promised service accurately and timely.

    REL1: Providing services as promised.

    REL2: Dependability in handling customers' service problems.

    REL3: Performing services right the first time.

    REL4: Performing services at the promised time.

    REL5: Maintaining error-free records.

2. **Responsiveness**: This includes the keenness to help customers and offer a timely service.

   RES1: Keeping customers informed about when services will be performed.

   RES2: Prompt service to customers.

   RES3: Willingness to help customers.

   RES4: Readiness to respond to customers' requests.

3. **Tangibility**: This includes the aspects related to physical facilities, equipment and tools, and employees' appearance.

   T1: Modern equipment.

   T2: Visually appealing facilities.

   T3: Employees who have a neat, professional appearance.

   T4: Appearance of physical facilities.

4. **Empathy**: This includes the level of compassionate, special, and private concentration from the firm to its customers.

   E1: Giving customers individual attention.

   E2: Convenient business hours.

   E3: Having the customers' best interests at heart.

   E4: Employees who deal with customers in a caring fashion.

   E5: Employees who understand the needs of their customers

5. **Assurance**: This includes employees' knowledge and their ability to encourage trust.

   A1: Employees who instil confidence in customers.

   A2: Making customers feel safe in their transactions.

   A3: Employees who are consistently courteous.

   A4: Employees who get adequate support from their company to do their job well.

Zeithaml et al. (1988) undertook a further two stages of research studies. The first stage consisted of in-depth personal interviews consisting of open-ended questions with three or four executives in four different service organisations, including a Bank (B), a Brokerage House (BH), a Repair and Maintenance Firm (R&M), and a Credit Card Company (CC). The second stage includes a systematic group interview with senior managers on a comprehensive case study of a well-known American bank. The main aim was to explore and identify a set of comprehensive factors affecting the magnitude and direction of the four gaps on the marketer's side of the service quality model (Gaps 1–4). The extended comprehensive service quality model as shown in Figure 2.3 covers the following four gaps:

1. **Gap 1**:

   o   The extent of marketing research orientation;
   o   The extent and quality of upward communication; and
   o   Levels of management.

2. **Gap 2**:

   o   Management commitment to service quality;
   o   Setting of goals relating to service quality;
   o   Task standardisation; and
   o   Perception of feasibility of meeting customer expectations.

3. **Gap 3**:

   o   Extent of teamwork perceived by employees;
   o   Employee–job fit and technology–job fit;
   o   Extent of perceived control experienced by customer contact personnel;
   o   Extent to which behavioural control systems supplement output control systems;
   o   Extent of role conflict experienced by customer contact personnel; and
   o   Extent of role of ambiguity experienced by customer contact personnel.

4. **Gap 4**:

   o   Extent of horizontal communication; and
   o   Propensity to overpromise.

Reliability, responsiveness, and tangibles were the original dimensions of service quality identified in 1985 and, while they were refined in 1988, they remain unchanged. However, the empathy dimension is different. It is rather a multifaceted dimension. In 1985, three dimensions were generated – access, communication, and understanding and knowing the customer. Access involves the ability of the customer to obtain the service and for it to be provided in an easy way. Communication refers to the ability of the service provider to customise their language so that all customers can understand it. Understanding and knowing their customers reflects the service provider's ability to understand each customer's needs. As a result of the validation of the SERVQUAL model in 1988, these three attributes were grouped together in a single dimension known as "empathy". Assurance is known, also, as a combined service quality dimension. It has been proposed that the four service quality attributes were competence, courtesy, credibility, and security. Competence describes the actual skills requirements for employees to be able to carry out the service. Courtesy refers to the level of respect that employees have toward customers, with a special emphasis on front-line employees. Credibility stands for employees' trustworthiness for customers. Security means employees delivering the actual service free of any danger. In 1988, these four service attributes were refined and grouped together under the assurance dimension.
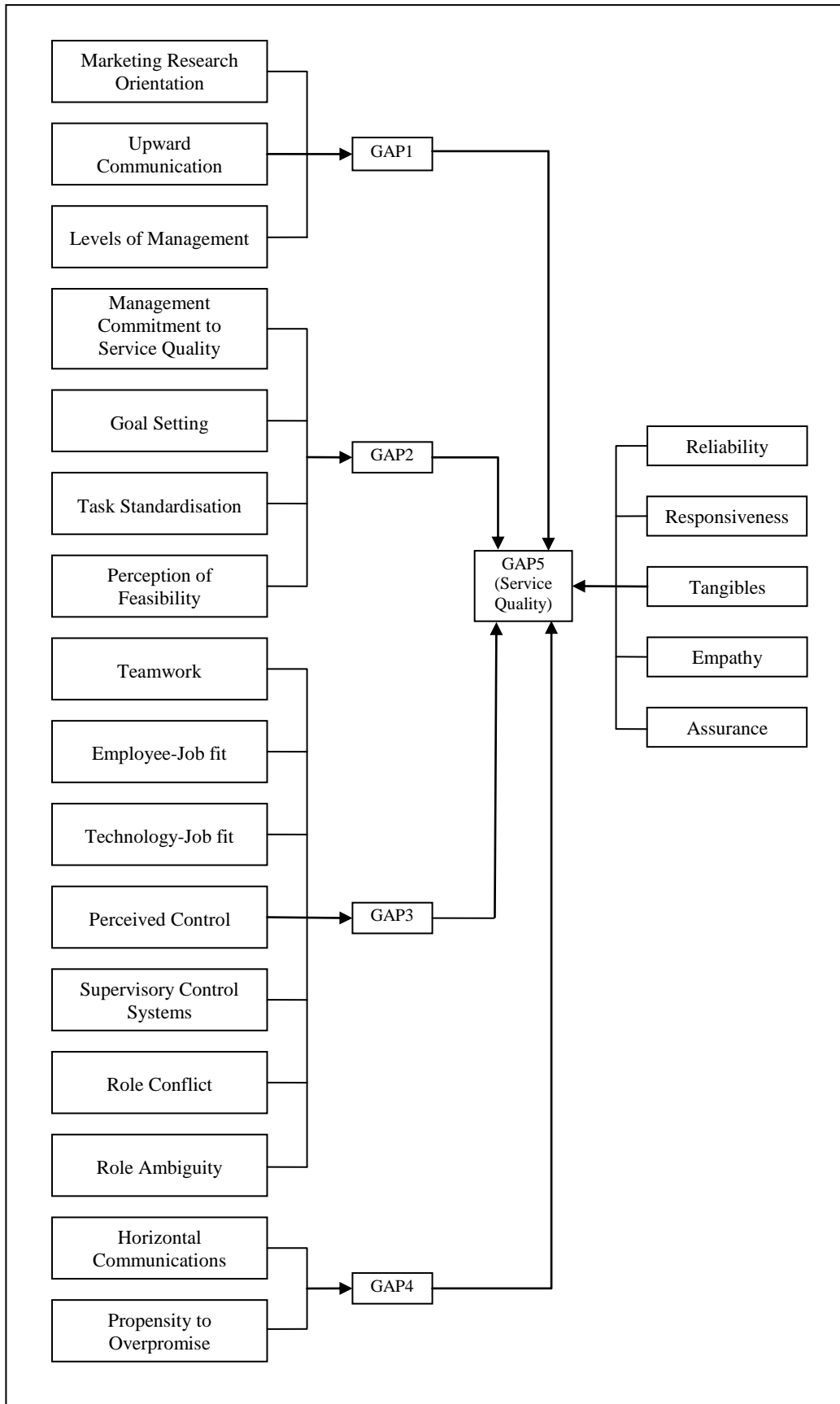
Figure 2.3: Extended Gap Model of Service Quality
Source: Zeithaml et al. (1988, p. 46)

b) Scale Assessment

The SERVQUAL model was designed to accurately establish the relationship between the service quality determinants of expected service and perceived service. Overall service quality was developed based on exploratory qualitative research projects, including focus-group interviews with consumers and in-depth interviews with firm executives. Service quality was developed on the basis of data collection from four service settings. Parasuraman et al. (1988) undertook further empirical research in order to validate and, where necessary, modify the original five-factor SERVQUAL instrument to fit the four service contexts. Their results on the scale's reliability, factor analysis and validity of the data analysis recognised five original service quality dimensions. Their results indicated that, in all four service settings, five factors – reliability; responsiveness; tangibles; empathy; and assurance – were confirmed. Their results strongly recommended a five-factor service quality model in banking (adjusted $R^2 = 0.28$); Credit Card Co. (adjusted $R^2 = 0.27$); Repair and Maintenance Co. (adjusted $R^2 = 0.52$); and L-D Telephone Co. (adjusted $R^2 = 0.37$). The authors proposed that the factor analysis would confirm the SERVQUAL dimensions and this proved to be the case.

2.6   Dimensionality of Service Quality

An empirical and theoretical analysis of previous and contemporary literature on service quality has been performed in order to discover the common and key dimensions of service quality in the traditional service environment. This analysis was carried out chiefly in regard to studies that implemented the SERVQUAL, considered to be the key model in the service quality research. The research studies analysed cover a diverse mixture of service industries including, for example, hospitals and the health-care sector, banking and the financial services sector, fast food chains, the telecommunications industry, retail chains, information systems, library services, hotels and leisure services, travel and tourism, car servicing, higher education, hospitality, business-to-business channel partners, accounting firms, architectural services, recreational services, airline catering, apparel retailing and local government (Carman, 1990; Johns, 1993; Parasuraman et al., 1994). Moreover, they were implemented in various cultural environments including, for example, the US, China, Australia, Cyprus, Hong Kong, Korea, South Africa, the Netherlands, the United Arab Emirates and the United Kingdom (Babakus and Boller, 1992; Pitt et al., 1995; Lam 2002). Examples of empirical research papers implementing the SERVQUAL model in their measurements of the service quality concept include those by Cornin and Taylor (1992), Augustyn and Ho (1998) and Wong (2002).

Researchers have put a lot of effort into discovering the key dimensions and attributes used by consumers in the process of evaluating service quality (Ibrahim et al., 2006; Sohn and Tadisina, 2008; Lau et al., 2011). Rosen and Karwan (1994) stated that building a group of attributes to be used to assess service quality is the first move in evaluating the quality of the actual service. Parasuraman et al. (1985) outlined ten dimensions of service quality: reliability, responsiveness, competence, access, courtesy, communication, credibility, security, understanding/knowing the customer, and tangibles. Subsequently, Parasuraman et al. (1988) refined the ten service quality dimensions and reduced them to the SERVQUAL's five generic dimensions of reliability, assurance, tangibles, empathy, and responsiveness. In the marketing literature, these refined five attributes are considered to be the common service quality dimensions. Most academic studies have since adopted these attributes and in most cases they have been the starting point for conceptualising and developing further service quality research. This is due to in large part to their founders' assumptions, since they represent a generic battery that can be used to evaluate service quality in any service industry. The following sub-sections provide brief explanations of these variables.

2.6.1 Reliability

Parasuraman et al. (1988, p. 23) defined the term "reliability" as "the ability to perform the promised service dependably and accurately". Reliability entails performing the service in a consistent and dependable way. It means that it is a fundamental requirement that the service providers perform the service correctly at the first time of being asked to do so. Also, reliability has a deeper meaning by indicating that service providers are required to honour and respect their promises. In particular, the three main elements of reliability are completing and carrying out the service at the assigned time, correctly requisitioning payment of services provided, and maintaining accurate records of invoices made and payments received. Barry et al. (1990) point out that in order for customers to be convinced that the required service would be delivered, service providers must keep their promises and offer their services in a dependable and accurate way. In providing a reliable service, the general themes include promise fulfilment, dependable service, quick service, security, and accuracy:

1. **Promise fulfilment:** This theme refers to the service providers delivering exactly the promised service (Al-Dlaigan and Buttle, 2002).

2. **Dependable service:** This means providing a level of service that the customer can rely on (Stafford, 1996).

3. **Quick service:** This theme clarifies the level of speed which the service providers have to maintain in delivering fast and efficient services (Mersha and Adlakha, 1992).

4. **Security:** This theme stands for a secure transaction, safety, confidentiality, and privacy (Dobholkar et al., 1996).

5. **Accuracy:** This theme explains how accurate the service providers have to be in performing the service (Bouman and van der Wiele, 1992).

2.6.2 Responsiveness

Parasuraman et al. (1988, p. 23) defined the term "responsiveness" as "willingness to help customers and provide prompt service". A number of studies suggest that five themes fall within the responsiveness dimension: confirmation, prompt service, help availability, and updated information.

1. **Confirmation:** This theme highlights the requirement and obligation for service providers to inform their customers about the timing of the delivery of the service (Avkiran, 1994).

2. **Prompt service:** This theme describes the speed of the service providers in responding to customers' requests. Also, it represents the extent to which the response is well organised and satisfies the customers' requests. Prompt service addresses the customers' waiting time in regard to receiving a response from the service provider (Philip and Stewart, 1999).

3. **Help availability:** This theme explains the level of help employees can offer to customers (Zeithaml, 2002).

4. **Flexibility:** This theme underlines the necessity for service providers to adjust the service process in order to allow customers to make changes or modify their orders (Johnston, 1995).

5. **Updated information:** This theme refers to the frequency which service providers offer the latest full information and how often it is updated (Lassar et al., 2000).

2.6.3 Tangibles

Parasuraman et al. (1988, p. 23) defined the term "tangibles" as "physical facilities, equipment, and appearance of personnel". Some other studies refer to this dimension using different wording. For example, Bitner (1992) suggested that the use of the term "service-space" reflected a number of physical tangibles such as employees' appearance and the office environment associated with any service organisation. Regardless of the different terminologies and words used, however, they all come together as a number of

determinants for the same dimension. Previous academic studies included the tangibility dimension in their empirical works of service quality measurement. They concluded that a number of themes fall within the tangible dimension in a variety of service industries, including physical atmosphere, physical location, physical environment, ease to use physical materials, and physical design.

1. **Physical atmosphere:** This theme refers to having a new or refurbished physical location including a reception area and available parking (Sower et al., 2001).

2. **Physical location:** This theme stands for having easy access to the location of the service provider (Philip and Stewart, 1999).

3. **Physical environment:** This theme means having comfortable and neat facilities including employees with a clean and a professional-looking appearance (Bahia and Nantel, 2000).

4. **Ease to use physical materials:** This theme refers to the organisation having modern and new equipment (Wong et al., 1999).

5. **Physical design:** This theme describes the presenting of a professional image during the process of delivering the actual service (Johnston, 1995).

2.6.4 Empathy

Parasuraman et al. (1988, p. 23) defined "empathy" as "caring and individualised attention the firm provides its customers". Different studies have identified a number of the themes which might be included as part of the empathy dimension. These might include personal attention, customers knowing the employees, individualised service, employees understanding customer needs, and employees providing good advice.

1. **Personal attention:** This theme refers to offering individual attention to each customer (Robeldo, 2001).

2. **Customers know the employees:** This theme stands for the relationship between customers and employees (Brady and Cronin, 2001).

3. **Individualised service:** This theme stands for offering individual attention to each customer (Bouman and van der Wiele, 1992).

4. **Employee understands customer needs:** This theme explains how employees understand and know each customer's specific requirements (Parasuraman et al., 1991).

5. **Employees provide good advice:** This theme means that the service providers explain very well and in an organised way to the customers some alternative service options that match their specific requirements (Bouman and van der Wiele, 1992).

2.6.5 Assurance

Parasuraman et al. (1988, p. 23) defined the term "assurance" as the "knowledge and courtesy of employees and their ability to inspire trust and confidence". A number of studies have examined the assurance dimension within different service settings and identified security as its main theme. This theme stands for the service organisation's assurance of physical and financial safety and security, along with upholding confidentiality in all their dealings with customers (Stafford, 1996).

2.7   A Generic Measure of Service Quality

In the marketing literature, there are a number of key instruments available for measuring service quality. Nevertheless, the SERVQUAL instrument has been the major technique used to measure service quality and has been extensively implemented and valued by academics and practitioners. Parasuraman et al. (1988) identified a number of potential applications for the SERVQUAL model, including:

1. It can be used on a regular basis to track customer perceptions of the service quality of a particular firm compared to its competitors;

2. It provides the opportunity for a firm to assess its service quality performance on the basis of each dimension individually as well as the overall dimensions;

3. It allows the firm to classify its customers into different segments based on their individual SERVQUAL scores; and

4. It allows multi-unit retail companies to assess the level of service quality offered by individual stores and to group them into different sectors with different quality images.

However, the main aim of the model is for it to be employed as a generic instrument for measuring service quality across different service sectors. Parasuraman et al. (1991b) proposed that their SERVQUAL instrument had been developed for use in various service settings and provides a basic skeleton that can be adapted to fit the specific attributes of a particular organisation. It is applicable across different empirical contexts and various countries and cultural backgrounds. Parasuraman et al. (1988, p. 6) thus assert that the:

SERVQUAL instrument is designed for use in a broad set of service businesses and provides a basic skeleton through its expectations/perceptions format encompassing statements for each of the five service quality dimensions. The skeleton, when necessary, can be adapted or supplemented to fit the characteristics or specific research needs of a particular organisation.

The advantages which organisations may achieve when adopting the model include enhancing customer satisfaction, loyalty, and retention and organisational performance.

Generally, excellent service quality plays an important role in developing and enhancing both consumer behaviour and organisational performance (Johnston, 2001). Customer satisfaction is a major consequence of service quality (Heskett et al., 1994). Customer retention and loyalty are both main consequences of customer satisfaction. Service quality is related positively to customer satisfaction. Additionally, customer satisfaction is reflected positively in customer retention and loyalty (Wangenhein, 2003). In short, service quality influences both customer retention and loyalty. The SERVQUAL model has been theoretically and empirically studied, examined, and discussed in several academic studies. In addition, it has been implemented to measure and assess service quality across different service, industrial, commercial, and non-profit settings (Buttle, 1996; Ladhari, 2008).

2.8   Criticisms and Limitations

Clearly then the SERVQUAL instrument has been extensively adopted by academic researchers and practitioners worldwide to measure service quality. The previously mentioned studies are examples of this. However, regardless of its extensive use, numerous theoretical, operational, conceptual, and empirical criticisms of the measurement instrument have been identified (Buttle, 1996; Van Dyke et al., 1997, 1999; Ladhari, 2008). These criticisms can be summarised into two main points:

a) Dimensionality and Contextual Stability

A number of studies have been carried out to test SERVQUAL within different service contexts and to investigate its modified versions in a variety of service settings, such as health-care, education, hospitality, utility, retail clothing, and retail banking services (Carman 1990; Brown et al, 1993; Gagliano and Hathcote, 1994). Additionally, a number of researchers undertook cross-cultural studies to investigate SERVQUAL's application in similar and different cultural contexts in developed countries such as the US and New Zealand and in less developed countries such as the United Arab Emirates (Ford et al., 1993; Jabnoun and Khalifa, 2005).

Researchers have criticised SERVQUAL in terms of its dimensionality and contextual stability both from the empirical and cultural context sides (Ford et la., 1993; Jabnoun and Khalifa, 2005). This refers to the applicability of a particular research instrument across different empirical contexts and various cultural backgrounds. Their findings have shown that SERVQUAL does not apply equally across cultures. However, the main concern is related to the number of dimensions and their applicability from one context to another.

Thus, SERVQUAL's applicability as a single instrument for measuring service quality across different service industries has been called into question (Ladhari, 2008). It has been stated that service quality may be complex in some industries and very simple and uni-dimensional in others (Babakus and Boller, 1992). As a result, the number of service quality dimensions may vary from one context to another. The empirical evidence does not support a five-dimensional concept of service quality as was proposed by the Gap Analysis School (Carman, 1990). It has further been argued that service providers may miss important customer requirements when assessing service quality based on the generic SERVQUAL items (Gagliano and Hathcote, 1994). It can be concluded clearly that a simple adaptation of the SERVQUAL factors is not sufficient to capture service quality across diverse settings. This leads to a need for the development of a measure of service quality for industry-specific settings.

Carman (1990) undertook a study investigating SERVQUAL within four different service settings in the US: a dental school patient clinic, business school placement centre, tyre store, and acute care hospital. He indicated that an additional 13 items need to be added to the SERVQUAL in order to capture service quality sufficiently across different service industries. He adjusted the original ten-factor SERVQUAL instrument to fit the four service contexts. The end result of the factor analysis recognised between five and seven original service quality dimensions. His results indicated that in all four service settings three factors – tangibles, reliability, and security – were confirmed. On the other hand, the responsiveness factor was weak in the dental school patient clinic case. Moreover, he argued that the combination of the two factors "understanding/knowing the customer" and "access" to a single factor "empathy" as SERVQUAL proposed was not applicable in his case. The author originally proposed that the factor analysis would confirm the SERVQUAL dimensions in all service settings. However, this was not the case. He concluded that the original SERVQUAL instrument is not as well fitted as was expected in the four different service sectors. He thus recommended that the wording of the SERVQUAL be customised to each service setting.

b) Expectation-Minus-Perception Score

In addition to the SERVQUAL model, there is another competing instrument for measuring service quality – the SERVPERF. It was developed by Cronin and Taylor (1992) and aims to measure only consumers' perception of service quality. In other words, it cuts the measurement scale of the SERVQUAL by half. Researchers have studied both instruments in detail and compared them to each other (Carman, 1990; Robeldo, 2001).

In terms of gap analysis, there are few who support the view that customers evaluate service quality on the basis of perception-minus-expectation scores (Babakus and Boller, 1992). Conceptually, there has been criticism about the use of two different instruments for measuring two different concepts (perceptions and expectation) to measure a third concept (perceived service quality) (Carman, 1990; Lam, 1997). On the contrary, it has been argued that a direct measurement of perceived service quality is more reliable. Moreover, it has been argued that a vaguely defined concept resulted from the uncertain expectations constructed from the different definitions and views of the concept. Additionally, and from an operational perspective, it has been stated that consumers evaluate service quality on the basis of standards other than expectations (Mehat et al., 2000). Therefore, it has been recommended that service quality is more precisely and correctly evaluated by measuring only perceptions of quality (Robeldo, 2001). In addition, it has been pointed out that previous research suggested using perception-only scores rather than gap scores for the overall assessment of service quality (Teas, 1994).

The following research studies may provide some support to the above arguments. Lee et al. (2000) undertook an investigation across three service industries: entertainment parks, aerobic schools and investment consulting firms. Their research findings supported the SERVPERF, asserting that perceptions-only is a better approach than the SERVQUAL gap scores. Motoya-Weiss et al. (2003) defined service quality as the general evaluation of the perceived performance of the service provider. This basic definition supports the above arguments by defining the service quality as a perception-only concept. Babakus and Boller (1992) investigated the operation of the SERVQUAL gap analysis. Their findings from a study conducted at an electric and gas utility company in the US indicated that the expectations half of the SERVQUAL model did not provide any added value information to that gained from the performance-only scores. The previous examples prove that the concept expectation is poorly defined and can be interpreted from different perspectives. Consequently, it is suggested that the gap analysis measure should not be used in consumer research.

2.9   Industry-Specific Measure of Service Quality

The SERVQUAL instrument was identified as the foremost quality assessment application for measuring service quality (Buttle, 1996). A variety of studies aimed to support the SERVQUAL structure both industrially and culturally (Johns, 1993; Lam, 2002). Despite its extensive use and submission, however, as we have seen the SERVQUAL structure has been subject to a number of criticisms (Van Dyke et al., 1997, 1999; Ladhari, 2008).

These disagreements included both theoretical and empirical aspects and can be summarised in the following two main points:

a) Dimensional Structure

Previous studies have implemented it to measure consumers' perceptions of service quality across a range of service settings (Parasuraman et al., 2005; Mokhtar et al., 2011). However, it has become apparent that the model can measure only the quality of service for services close to their original contexts (Carman, 1990; Jabnoun and Khalifa, 2005). Therefore, it is not appropriate to generalise the SERVQUAL model (Saleh and Rayan, 1991; Ladhari, 2008).

b) Gap Scores vs. Perception Scores

Conceptually, researchers had some concerns regarding SERVQUAL's practicality. For the general evaluation of service quality, they recommended the use of performance-only scores rather than perception-minus-expectations scores (Robeldo, 2001).

In view of the above mentioned and summarised criticisms, it appears that, regardless of the extensive acceptance and adoption of SERVQUAL, there has been severe hesitation concerning its future use as a tool for measuring service quality. Robinson (1999, p. 21) supports this argument by stating that:

Although it has probably been the best and most popular approach available during the 1990s, it is becoming apparent that it has some significant shortcomings. It can be argued that SERVQUAL is applicable to contexts close to its original setting.

In the marketing literature, there were different perspectives about the conceptualisations of service quality. For example, Engelland et al. (2000) listed five service quality elements: tangibles; reliability; responsiveness; assurance; and empathy. Al-Dlaigan and Buttle (2002) explored four factors: service system quality; behavioural service quality; machine service quality; and service transactional accuracy. Yoon and Suh (2004) mentioned six variables: assurance; responsiveness; reliability; empathy; process; and education. Consequently, the common theme was that critics agreed that service quality was a second-order construct composed of numerous first-order factors, such as was the case in SERVQUAL (Lassar et al., 2000; Brady and Cronin, 2001). Accordingly, researchers argued that there are doubts about the applicability of a single generic scale for measuring service quality across a range of service settings (Akbaba, 2006; Caro and Garcia, 2007). Moreover, there was general agreement among researchers that a simple adaptation of the SERVQUAL dimensions was unsatisfactory for measuring service quality across a variety of service settings (Carman, 1990; Brown et al., 1993).

For these reasons, it has therefore been suggested that developing industry-specific scales for measuring service quality could be more suitable than a single generic scale (Caro and Garcia, 2007; Ekiz and Bavik, 2008). This argument was supported by Dabholkar et al. (1996, p. 14):

It appears that a measure of service quality across industries is not feasible; therefore, future research on service quality should involve the development of industry-specific measures of service quality.

Consequently, a number of industry-specific measures were developed to measure service quality. These included the following industrial contexts:

1. Public Sector Organisations

This refers to the public sector organisations which are owned and operated by the government to provide public services. Examples include higher education and the justice system (Markovic, 2006; Munhurrun et al., 2010).

2. Private Sector Enterprises

This refers to the private sector enterprises which are owned and operated by individuals to provide private services. Examples may include restaurants, retail banks, career centres, and hotels (Engelland et al., 2000; Wilkins et al., 2007; Mokhtar et al., 2011).

In addition, the scales were developed in different countries and across various cultural backgrounds, including the following contexts:

1. Less Developed Countries (LDC)

This term refers to countries with immature developing economies. Examples include Middle Eastern and the Arabian Gulf Cooperative Council (GCC) countries (Ekiz and Bavik, 2008; Akbar and Parvez, 2009; Mokhtar et al., 2011).

2. More Developed Countries (MDC)

These are countries with mature developed economies. Prominent examples include North America and the European Union (EU) countries (Al-Dlaigan and Buttle, 2002; Wilkins et al., 2007).

Moreover, there are a number of other unpublished studies which have presented service quality industry-specific scales apart from the abovementioned examples of empirical and cultural contexts. Additionally, a number of well-known international marketing research and information systems firms have contributed in that direction, such as J.D. Power and Associates in the UK. Table 2.1 summarises a sample of selected industry-specific measures of service quality obtained from scientific databases.

Table 2.1: Review of Service Quality Scales
Source: Modified and Extended from Ladhari (2008, Pages 69-74)

Study	Service Industry	Country	Sample	Dimensions
Engelland et al. (2000)	Career Service Centres	USA	499 Students	• Tangibles • Reliability • Responsiveness • Assurance • Empathy
Al-Dlaigan and Buttle (2002)	Banking Services	UK	975 Customers	• Service system quality • Behavioural quality • Machine service quality • Service transactional accuracy
Yoon and Suh (2004)	Consulting Services	Korea	86 Customers	• Assurance • Responsiveness • Reliability • Empathy • Process • Education
Gounaris (2005)	Business-to-Business Services	Greece	515 Managers	• Potential quality • Hard process quality • Soft process quality • Output
Markovic (2006)	High Education Services	Croatia	444 Students	• Reliability • Students in scientific work • Empathy • Assurance • E-learning • Responsiveness • Tangibles
Wilkins et al. (2007)	Hospitality Services	Australia	664 Guests	• Physical product • Service experience • Quality food and beverage
Ekiz and Bavik (2008)	Car Rental Services	Turkey	213 Guests	• Comfort • Delivery • Handling over • Security • Ergonomics • Accessibility
Akbar and Parvez (2009)	Telecommunication Services	Bangladesh	304 End-Users	• Reliability • Responsiveness • Assurance • Empathy • Tangibility • Trust
Munhurrun et al. (2010)	Public Services	Mauritius	202 Citizens	• Tangibles • Reliability • Responsiveness • Assurance • Empathy
Mokhtar et al. (2011)	Mobile Industry	Malaysia	341 Students	• Tangibles • Reliability • Responsiveness • Assurance • Empathy

2.10 Identification of the Research Gaps

Internet services were introduced for public use back in the 1990s; as a result, business-to-customer electronic commercial communications began over the Internet (Al-Adwani and Palvia, 2002). Habib and Al-Shadokhi (2006) explored how Internet technology became a tool in the business world. Marketing and providing services online is now fundamental for different organisations' survival in a highly competitive environment, since the technological developments enabled them to market their services worldwide and reach large numbers of existing and potential customers. The most important influence of the World Wide Web was that it provided remarkable opportunities for its users to change from traditional market channels to Internet-based outlets. Nowadays, electronic commerce is considered to be a major development in the business world (Swaid and Wigand, 2007). Firms are investing large amounts of capital in electronic business strategies in order to shift from being old fashioned bricks and mortar businesses to modern click and pick service providers (Shamdasani et al., 2008). This new innovative technology allows them to become multinational in their business activities and to sustain a competitive advantage in the modern economy.

Assessment tools can help service providers to tackle customer service complaints (Robertson, 2012), which can lead to improvements in service quality and customer service (Cho and Menor, 2010). Ultimately, very good service standards can be used to encourage more customers to sign up to the service and encourage those who are already customers to use the service more frequently (Kim et al., 2009). The SERVQUAL method is one of the more practical ways used globally and across industries in evaluating consumers' observations about the quality of services (Ladhari, 2008). This approach was chosen and adopted frequently by a wide range of services and industrial settings across nations (Mokhtar et al., 2011). Recently, the majority of Internet marketing practitioners designed their customer quality management programmes according to the same procedure (Parasuraman et al., 2005). However, it was discovered and reported that a major source of uncertainty exists in this method (Ladhari, 2010). This is because – as explored above – the model suffers from certain weaknesses. The most important limitation lies in the fact that it is not appropriate to implement a generic model for tracking a consumer's perceptions about the quality of a variety of services offered in different contexts (Akbaba, 2006; Caro and Garcia, 2007). The reason is that each particular service industry has its own conditions. Therefore, the service quality evaluation standards from the consumer's perspective differ from one context to the other.

Consequently, customers usually evaluate the quality of services based on individual criteria (Ladhari, 2009). Many analysts now argue that the use of the SERVQUAL model to monitor service quality in context-wide circumstances has been unsuccessful (Arsali et al., 2005; Ladhari, 2010). When the model is put into practice, its results do not show a completely clear picture as far as increasing quality is concerned. In light of this limitation, it has been suggested that developing and implementing industry-specific scales for measuring service quality could be more suitable than a single generic scale (Caro and Garcia, 2007). At the same time, scholars recognised that, in the new global business, e-service quality is now a central issue in sustaining competitiveness. Therefore, recent research has tended to focus on the quality of e-services rather than traditional service quality (Carlson and O'Cass, 2011). For example, studies by Bitner et al. (2002), Chen (2005), Shamdassani et al. (2008), and Ladhari (2010) have all indicated a requirement for more understanding of the service evaluation process in terms of exploring and identifying the key determinants of service quality in the context of the Internet.

In complying with these directions for future research, numerous studies attempted to investigate Internet service quality (Gummerus, 2010; Carlson and O'Cass, 2011). Also, several attempts were made to develop models to explain individuals' perceptions of Internet services (Bauer et al., 2006; Francis, 2009). Generally, these models can be classified on the basis of their initial development into the following two main categories:

1. Modified Internet Service Quality Models

One major method of shaping Internet service quality models is through the adaptation of an existing traditional service quality model. These models can be based on purely theoretical, qualitative, or quantitative studies.

2. Newly Developed Internet Service Quality Models

Another method is through the development of newly developed models. These models can be based on either an exploratory qualitative study or a quantitative one.

The findings of these studies and similar others have enhanced our understanding of the service quality concept generally and its implications in the Internet context in particular. However, a number of important limitations regarding these studies need to be considered (Ladhari, 2010; Narteh, 2013). These limitations may include (but are not limited to) the following:

1. **Study sample:** Most of the studies used student sampling, a technique recommended by other researchers. However, other scholars criticised this method due to its inadequacy in generalising the results to other population sets.

2. **Target population:** It has been suggested that dimensions in evaluating service quality differ from one cultural group to another. Most studies used western respondents. Consequently, this restricts the applicability of the results in regard to other cultures.

3. **Service industry:** Most of the studies examined only low-risk search-engine websites and ignored high-risk commercial websites. Consumers' perceptions of quality differ between the two groups as each has its own specific features. The studies, therefore, were unable to identify these differentiating variables.

4. **Sample size:** Most of the studies used small sample sizes. However, with a small sample size, caution must be applied since the findings might not be generalisable to other groups.

Figure 2.4 presents an outline of the research gaps in the marketing and information systems literature.
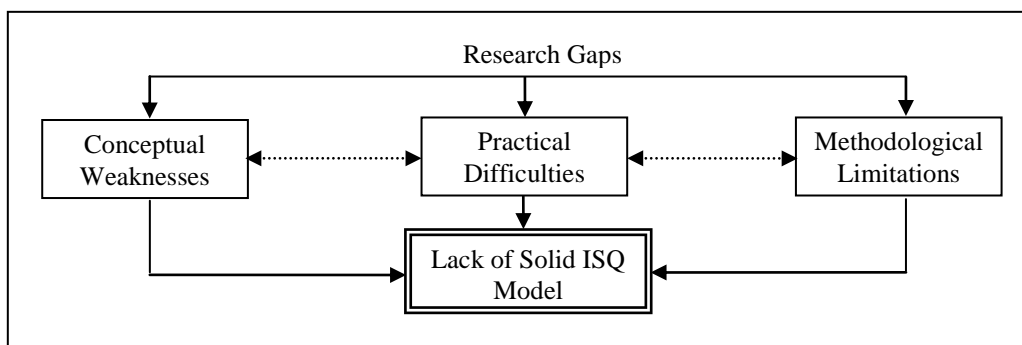
Figure 2.4: Research Gaps

To sum up, the literature regarding e-service quality was reviewed. Research gaps were identified in the theoretical, practical, and methodological aspects. The identification of the research gaps can be summarised as follows:

1. Conceptually, there has been little agreement about the ability to use the SERVQUAL model generally across industries. Further research might explore the adaptation of the SERVQUAL items to fit particular settings.

2. Practically, several generic models have produced estimates of service quality. However, there is still insufficient evidence about the applicability of a generic model in terms of tackling service quality bound in a context. It is recommended that further research be undertaken to develop industry-specific scales.

3. Empirically, several studies tested Internet service quality. However, these studies have certain constraints. Considerably more work will need to be done to introduce a study which may overcome these limitations.

Nowadays, managers of e-banking services are facing an incredible challenge (Narteh, 2013). With the advancing technology, Internet banking services have become more popular. While this may be a good thing for consumers, it has meant, also, that service providers had to make additional efforts to improve the quality of certain facilities (Shamdasani et al., 2008). As a result, the emphasis of current research has shifted toward establishing a solid theory which can help to clarify service quality performance within the new technological age of Internet banking services (Herington and Weaven, 2009; Ho and Lin, 2010). However, measuring and managing the quality of Internet banking services from consumers' point of view is still a developing and a challenging task and the current state of the research displays no consensus (Boshoff, 2007; Loonam and O'Loughlin, 2008; Chong et al., 2010). This is due to the nature of the Internet environment and the difference in its evaluation criteria from traditional face-to-face contact. This requires at the same time changes to both the theoretical and practical sides of business.

As a result, there is a need for a complete model to recognise these evaluation criteria (Loonam and O'Loughlin, 2008; Ho and Lin, 2010). From a marketing point of view, the lack of a satisfactory description of Internet banking service quality remains a main concern. What is now needed is a comprehensive study involving the development of an Internet banking service quality scale that addresses the identified research gaps. Against this background, this study aims to introduce and validate a holistic model to conceptualise Internet banking service quality. The model's objective is to predict end-user awareness of the quality of Internet-based banking services.

2.11 Chapter Summary

This chapter's main aim was to examine and give an account of the service quality concept. Theoretically, the quality of an object is the individual's perceptions toward it. In business growth, it is becoming increasingly difficult to ignore that role of service quality. One of the most important theoretical events of the 1980s was the development of the SERVQUAL model. The model seeks to address the consumer's evaluation of services. However, a major problem with this kind of application is its lack of generalisability to different industries. On the other hand, the past decade has seen a rapid development of service quality in many areas, including Internet banking services. However, the e-banking industry faces a number of challenges. The main one is the lack of a well-defined model for the purpose of assessing consumers' perceptions of Internet-based banking services. In order to fill the gap, this study will propose and validate empirically an information technology-specific version of the SERVQUAL model.

CHAPTER 3

Development of the Proposed Conceptual Model

3.1   Introduction

Chapter 1 (introduction) and Chapter 2 (literature review) present an overview of the research on the concept of Internet banking services. The research explores their role and activities, successful implementation and, in particular, their advantages and benefits for individual users. Additionally, both chapters provide a comprehensive and contemporary review of the concept of service quality. This includes its definition, importance and benefits, formal model, evolution and development, dimensionality, contexts of adoption, and criticisms and limitations. This was accomplished by analysing secondary data from reliable sources such as articles in academic journals and relevant textbooks. The following inferences can be drawn from the literature review:

1. There has been a great deal of research on service quality and, consequently, it is not a new concept.

2. A major contribution added to the service quality literature in 1985 was the SERVQUAL model, which was developed initially by three American scholars. This model aimed to address service quality across all service contexts.

3. Several worldwide studies comprehensively implemented the theoretical model, of which there have been a number of criticisms.

4. The main criticism was the ability of the model's generic dimensions to capture service quality in different service industries.

5. It has been recommended that in order to overcome the above limitation the SERVQUAL model's wording be adjusted to fit specific industries.

6. The increased number of Internet banking service end-users worldwide has required service providers to pay attention to the factors perceived by customers in evaluating the outcome of the service encounter.

The previous outlines, which summarise this study's theoretical bases, indicate that the research will focus on issues related to service quality. This chapter aims to develop in the context of Internet banking a research model for measuring service quality from the customer's perspective. This study uses the SERVQUAL model as a background for building the research hypothesis, which is achieved by rewording the original model's content to fit the context of Internet banking. The next section examines in detail the theoretical background to the model and the adaptation of each dimension of the SERVQUAL model from an offline to an online context.

3.2   Theoretical Backdrop Model

The SERVQUAL instrument implemented in this study as a theoretical backdrop model – designed to accurately establish the relationship between service quality determinants, expected service, perceived service, and the overall service quality – was developed based on exploratory qualitative research projects including focus group interviews with consumers and in-depth interviews with firms' executives. It was developed on the basis of data collection from four service settings in the US: retail banking, credit cards, securities brokerage, and product repair and maintenance. It was first introduced in 1985 by three US-based researchers in the service quality academic field, namely Professors Parasuraman, Zeithaml, and Berry. Their research showed that service quality as perceived by customers is best represented as a comparison of the customers' expectations with their perceptions of the performance of the actual service (Parasuraman et al., 1985).
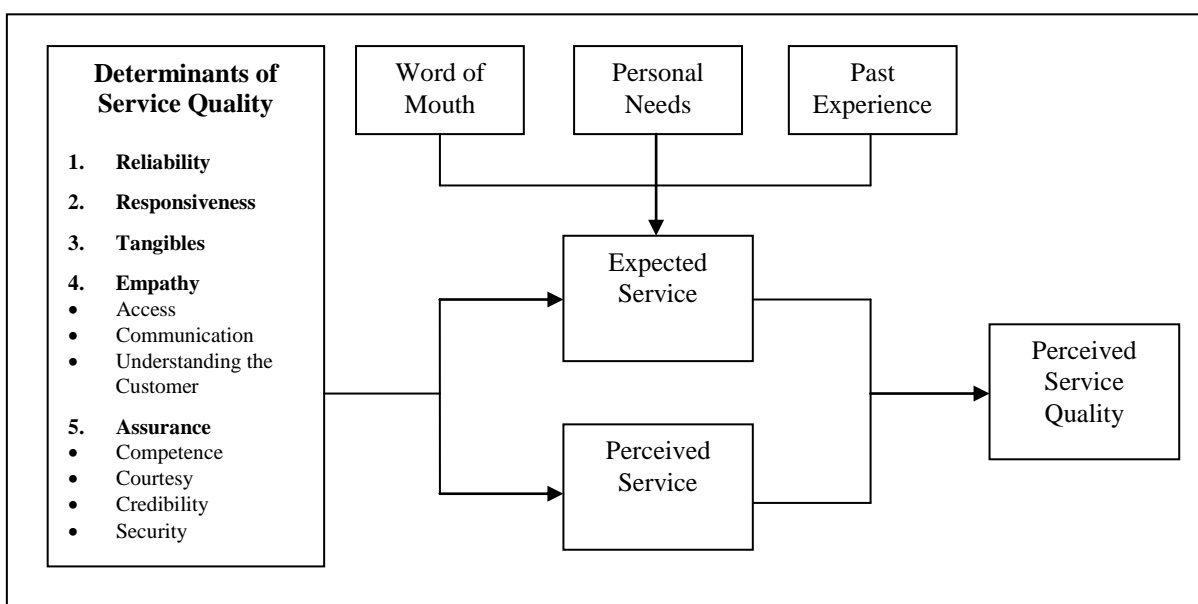
Figure 3.1: Determinants of Perceived Service Quality - the SERVQUAL Model
Source: Parasuraman et al. (1985) pp. 41-50

The model was first proposed by the authors as an instrument of ten items; they developed it to evaluate service quality by adopting a quantitative approach. Consequently, the model was refined and the ten original dimensions were reduced to five dimensions (reliability, responsiveness, tangibles, empathy, and assurance). The model is based on the gap analysis, which uses perception-minus-expectation scores to evaluate customers' perceptions of service quality. Several academic studies adapted the model for use in a variety of service industries and across a number of cultural contexts (Buttle, 1996; Ladhari, 2009). Some studies found that service quality could be measured by more than five dimensions (Carman, 1990), while other studies found that service quality could be measured by fewer than five dimensions (Gagliano and Hathcote, 1994). As a result, these studies agreed that the model could not be generalised because there was no common agreement across these studies in regard to the loading factor of the original five dimensions (Van Dyke et al., 1997). They identified the model's two major limitations as the following:

1. It is not correct to regard the nature of the model as generic. The model can be used only to measure service quality in industries close to its original settings.

2. The use of gap scores is not the right method because of the lack of support in the literature for using minus expectation scores in evaluating customers' perceptions of service quality.

Despite these caveats, however, SERVQUAL is still considered the key model in service quality research. It is a well-established marketing theory and most researchers in recent years have based their studies on it (Ladhari, 2010). This is understandable as, despite its shortcomings and limitations, SERVQUAL has a great deal of advantages and applications (Parasuraman et al., 1988). This study adopts it as the basis for its hypothesis development, with the model being reworded to suit the context of Internet banking. In regard to the abovementioned two criticisms, the newly adapted model addresses them through the following:

1. It is an industry-specific model which is aimed at assessing the quality concept in regard to banking services delivered over the Internet.

2. It evaluates service quality in a more precise and accurate way by measuring only perceptions of quality.

The newly modified model emphasises the outcome of the service encounter in Internet banking services by modifying the original generic dimensions using IT-relevant wording. The next section discusses this modification in detail.

3.3   Causality Concept

Causality, which is also known as *causation* or *cause-and-effect*, is defined as a fundamental principle which governs human beings' understanding of the idea that, in this life, nothing can occur without it being caused (Mackie, 1988). The history behind the evolution of the notion of causality goes back to the beginnings of western philosophy. The idea, however, developed through the middle ages and matured, eventually, in recent modern beliefs (Woodward, 2003). In simple terms, the thinking behind the causality concept is organised into two levels of illustration. The first level consists of a set of factors or external events known as causes. The second level consists of an observable phenomenon known as an effect. There is a direct link or connection between the causes and the effect, which is known as the causal nexus. The inter-relationship between the two layers explains that the second event is considered to be a consequence of the first one and the first one is an antecedent of the second one (Simpson and Weiner, 1989). However, although the causality concept is meant to explain the behaviour of events, it can go far beyond this notion and can be used to describe changes in objects, processes, material goods, realities and information. Causation is a dynamic process which does not distinguish between several fields. Rather, the causal system can be applicable in numerous ranges of areas, including the humanities and management (Pearl, 2000). As shown in Figure 3.2, these simple conceptions can be visually represented in a diagram.
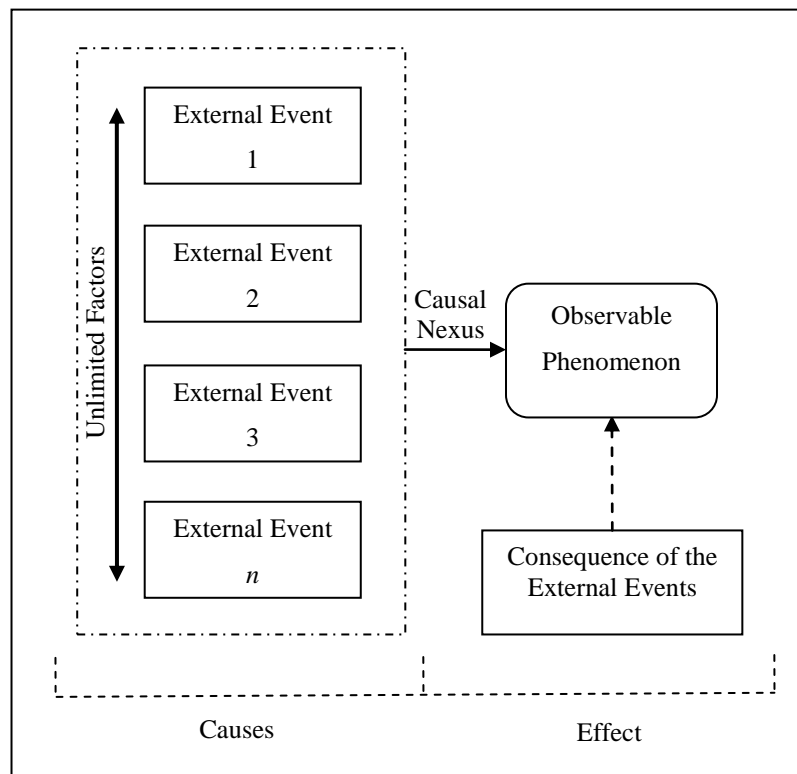
Figure 3.2: Causality Concept

Giving an example is a practical way to clarify the earlier discussed speculations. Kaoru Ishikawa, a professor in quality management at the University of Tokyo's Institute of Technology was a key innovator. In 1968, he developed the Ishikawa cause-and-effect diagram, known also as the fishbone diagram. The figure consists of a number of causes clustered into six groups: equipment, process, people, materials, environment, and management. These set of variables, which are divided into sub-groups, collaborate with each other to generate an overall effect. The rationale behind adopting the causality approach was that researchers would be able to discover certain causes which would be sure to create undesired effects; consequently, this would help decision-makers to amend definite tasks and functions in order to avoid unfavourable events (Menzies and Price, 1993). Subsequently, in service quality philosophy, the causation law became one of the most significant current discussions and standards (Akbar and Parvez, 2009; Mokhtar et al., 2011). Taking note of this debate, this study uses the causality conception as a grounding attitude for the culture of its model development.

3.4   SERVQUAL Dimensions and Internet Banking

This study's primary focus is to propose, develop, and test a measure of service quality in the context of Internet banking services which would overcome the stated conceptual, practical, and methodological pitfalls. This study tests the application of the adjusted SERVQUAL model in the context of the Internet banking industry. The newly developed model is based on a reformulation of the generic dimensions of the general SERVQUAL model into an industry-specific model. The following sub-sections describe the adaptation of each service quality dimension in turn and its new definition in the context of Internet banking services.

3.4.1 Reliability

Parasuraman et al. (2005, p. 218) define the term 'reliability' in relation to electronic services as "correct technical functioning of the site and the accuracy of service promises (having items in stock, delivering what is ordered, delivering when promised), billing, and product information". This definition reflects very similar aspects and meanings of the traditional reliability concept. Normally, this dimension is identified with five main themes: promise fulfilment, dependable service, quick service, security, and accuracy. Promise fulfilment is the ability of the Internet service provider to do something by the time it promised to do so (Cai and Jun, 2003). Dependable service is the ability of the Internet service provider to provide a dependable service (Yang et al., 2001). Quick service is the ability of the Internet service provider to perform the service correctly on the

first occasion (Zsidisin et al., 2000). Security refers to the safety of the service delivery system used in conducting online transactions (Joseph and Stone, 2003). Accuracy refers to the level of accuracy of the online transactions (Zithaml, 2002).

3.4.2 Responsiveness

Parasuraman et al. (2005, p. 219) defined the term 'responsiveness' in relation to electronic services as "quick response and ability to get help if there is a problem or question". As in the case of reliability, this definition is similar in meaning to the traditional use. The five themes of this dimension are: confirmation, prompt service, the availability of help, flexibility, and updated information. Confirmation refers to notifying the user through an immediate online confirmation message after completing each transaction (Janda et al., 2002). Prompt service is the ability of the online service provider to provide prompt service in response to customers' online requests (Dabholkar, 1996). The availability of help is the ability of the Internet service provider to provide help to its customers if they have any problems (Wolfinbarger and Gilly, 2003). Flexibility means that the Internet service provider allows customers to amend their orders after submitting their online transactions (Cox and Dale, 2002). Updated information refers to the level of latest information that service providers have on their websites (Al-Adwani and Palvia, 2002).

3.4.3 Website Design

The tangible dimension of the SERVQUAL model refers to the physical appearance of the service provider's facility, including its location, staff, atmosphere, and design of the physical materials. However, on the Internet, exchanging services between providers and customers is always carried out through a distance-based medium; there is therefore no face-to-face contact, which eliminates the traditional tangible themes. Instead, Zeithaml et al. (2000) state that while some elements such as staff appearance and physical facilities represent the SERVQUAL model's tangible dimension offline, website design and usability represent this dimension in the online store. Parasuraman et al. (2005) define website design as the appearance and the characteristics of the site, consisting of its content, design, and aesthetics. There are a number of common themes which fall within this dimension, including website organisation, website ease of navigation, website aesthetics, website ease of use and website content. Website organisation refers to how well the website is organised (Madu and Madu, 2002). Website ease of navigation refers to how consistent and standardised the navigation is on the website (Yoo and Donthu, 2001). Website aesthetics means the graphics and animation and whether or not they

detract from the website's user experience (Yang et al., 2003). Website ease of use is how easy and friendly the website is to use (Borderick and Vachiraporpuk, 2002). Website content refers to how efficiently the website's information is organised (Al-Adwani and Palvia, 2002).

3.4.4 Personalisation

The SERVQUAL model's empathy dimension assesses standards in regard to offering personal attention and having the customers' best interests at heart. In the context of a website, these aspects are not applicable due to the fact the there is no human interaction. However, websites can be designed to be personalised/customised by their users in order to provide them with personal attention. Parasuraman et al. (2005, p. 219) define the term 'personalisation' or 'customisation' as "how much and how easily the site can be tailored to individual customers' preferences, histories, and ways of shopping". The major themes falling within this dimension include greeting a customer by name, website familiarity, customised service, recognition of the website and website recommendation of services. Greeting a customer by name is the ability of the website always to acknowledge each customer by name (Joseph and Stone, 2003). Website familiarity refers to how familiar the website is for the customer (Janda et al., 2002). Customised service is the ability of the website to allow customers to perform their online transactions in a way that meets their needs (Yang and Jun, 2002). Website recognition is the ability of the website to recognise a customer's specific needs (Zhu et al., 2002). Website recommendation of service is the ability of the website to provide recommendations of services tailored to customer preferences (Zhu et al., 2002).

3.4.5 Security

The SERVQUAL model's assurance dimension refers to the level of trust and security which customers have in regard to their service providers. These aspects are similarly applicable in the context of the Internet, and are known either as website security or safety. Parasuraman et al. (2005, p. 219) define website security as the "degree to which the customer believes the site is safe from intrusion and personal information is protected". Security is an important element in the measurement of online service quality (Yang et al., 2004; Ho and Lee, 2007). For example, Yang and Jun (2002) undertook an investigation to compare purchasers and non-purchasers from the Internet. Their overall findings indicated that the security dimension was important to both Internet adopters and non-adopters. They proved that for Internet purchasers and non-purchasers security was significant statistically in terms of either perceived service quality or overall customer

satisfaction. In terms of the dimension positioning, some academics list the security theme under the assurance dimension (Sower et al., 2001; Tih, 2004), while others separate it as a standalone dimension (Garcia et al., 2005; Ho and Lee, 2007; Narteh, 2013). On the other hand, some other studies in the electronic service context have included the security theme under the reliability dimension (Dobholkar et al., 1996; Tih, 2004). Their reasoning for doing so is that most consumers regard security as a fact rather than as a concern. In terms of electronic banking services, security and safety are clearly an important aspect for all customers (Al-Hawari et al., 2005; Kumbhar, 2010). However, banks have obviously invested extensively in protecting their online systems by implementing informational security solutions, which protect the service delivery systems from possible external risks such as hacking (SAMA, 2012). Examples include fraud detection systems, secure log-on, automatic log-off, and some other extra checks when customers set up a new payment in Internet banking. It appears that these measures implemented by the banks ensured that customers felt protected with their e-banking usage (Narteh, 2013). Consequently, it is recommended that security be grouped under the reliability dimension or any other dimension carrying a similar meaning (Joseph and Stone, 2003; Tih, 2004).

In summary, the North American Gap School identified five generic service quality dimensions: reliability, responsiveness, tangibles, empathy, and assurance (Parasuraman et al., 1985; 1988). These dimensions were criticised due to their generic nature and their inability to estimate service quality across all sets of service. As a result, it has been suggested that these dimensions need to be transformed from a generic to an industry-specific character. Consistent with the literature, this study adapted the five generic dimensions to fit the context of Internet banking services. From the new technology perspective, each generic dimension was redefined along with their common themes. Consequently, for this study the five generic service quality dimensions were changed as follows:

1. The *reliability* dimension was given a new definition;
2. The *responsiveness* dimension was given a new definition;
3. The *tangible* dimension has become *website design*;
4. The *empathy* dimension has become *personalisation*; and
5. The *assurance* dimension has become *security*. However, the conceptual model of the study includes security as a theme under the reliability dimension.

The appropriate dimensions of this study are described in a simple representation as shown in Figure 3.3.
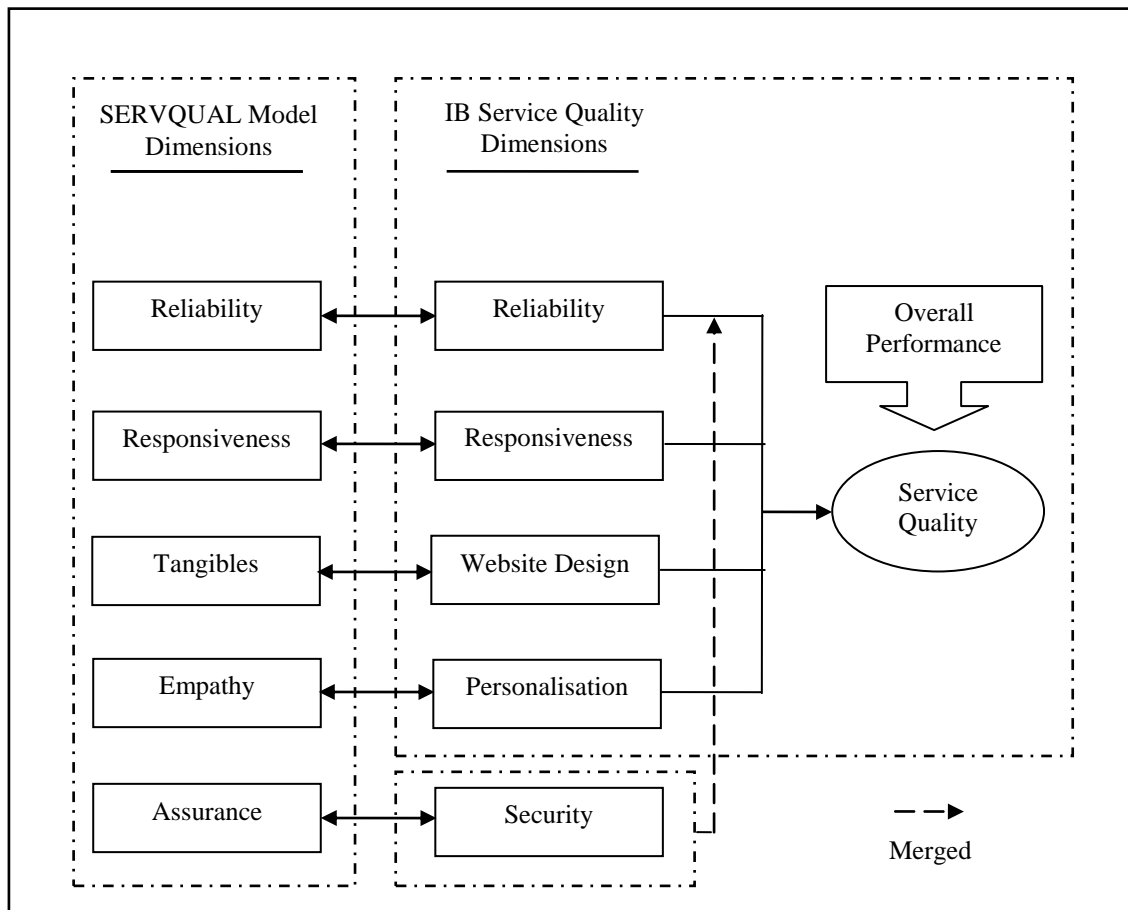
Figure 3.3: SERVQUAL Dimensions and Internet Banking

3.5   Hypothesis Formulation

The majority, if not all, of the service quality models have been developed on the basis of a cause–effect structure (Carlson and O'Cass, 2011; Wang, 2012) and the proposed conceptual model here is constructed on the same basis. In the context of Internet banking, the main antecedents of service quality and the level of customers' perceived service quality are used respectively to represent the cause–effect formation. Service quality antecedents are the key constructs which make up the criteria used by consumers to evaluate the level of quality. Perceived service quality is the consumer's actual overall assessment of the standard of quality. Having reviewed the prior service quality studies, the proposed research hypotheses of this research are based on the SERVQUAL theory. This theory suggests a relationship between certain factors and consumers' overall perception of an object. This research proposes that service quality in the Internet banking context consists of four main elements: reliability, responsiveness, website design, and personalisation. Subsequently, the four service quality dimensions represent the independent variables and perceived overall service quality is integrated as a dependent variable.

Consequently, four research hypotheses have been developed. In the context of Internet banking, these are expected to have a positive impact on overall service quality. This in turn influences overall customer satisfaction, customer loyalty, and organisational turnover. The next sections explain in detail the relationship between the testable hypotheses. The process of defining and revising the research hypotheses was based on a number of resources, including the following:

1. An extensive review of well-known textbooks in the marketing and service management fields;

2. Feedback and suggestions from the researcher's main supervisor and academic committee members; and

3. Comments received at international academic conferences attended by the researcher.

3.5.1 Hypothesis 1: Reliability in Relation to Service Quality

Reliability has been defined as "the ability of the service provider to perform a dependable service" (Tih, 2004, p. 84). This factor was formed from different components including, for example, security and confidentiality (Avkiran, 1994), fulfilment of promises (Dabholkar et al., 1996), accuracy in performing the service (Parasuraman et al., 1991), providing a dependable service (Stafford, 1996), and consistently offering a quick service (Mersha and Adlakha, 1992). Studies such as that conducted by Karatepe et al (2005) and Markovic (2006) showed that reliability was considered to be one of the major antecedents of service quality. Traditional service quality studies prove a positive relation between the reliability dimension and overall perceived service quality (Ramseook-Munhurrun, 2010; Mokhtar et al., 2011; Auka, 2012). The results of these studies and other similar ones suggested that an increased level of the reliability dimension had a positive impact on the perceived level of service quality. On the other hand, a reduction in the level of the reliability dimension had a negative impact on the perceived level of service quality. Moreover, in the context of services delivered over the Internet, early empirical research results supported this proposition (Lee and Lin, 2005; Ibrahim et al., 2006; Sohn and Tadisina, 2008).

Additionally, a number of researchers undertook preliminary work in order to determine the main angles which defined reliability within the context of the Internet (Lau et al., 2011; Sohn and Tadisina, 2008; Ibrahim et al., 2006). It was proved that a number of themes characterised reliable online services. For example, these included correct service, keeping service promises, accurate records, and keeping promises as advertised. However, these preliminary results need to be supported by further evidence. Consequently, this

study assumes that, in the domain of Internet-based services, reliability is related to positive service quality. Therefore, the following hypothesis is proposed:

Hypothesis (H1): From the end-user's perspective, reliability would have a significant positive influence on the overall level of perceived service quality for banking services delivered over the Internet.

3.5.2 Hypothesis 2: Responsiveness in Relation to Service Quality

Responsiveness has been defined as "the ability of the service provider to deliver the service in the shortest time" (Tih, 2004, p. 84). The responsiveness factor involves a number of elements including, for example, prompt service (Hurley and Estelami, 1998), quickly solved problems (Galloway and Blanchard, 1996), and convenient service (Bahia and Nantel, 2000). As shown in the traditional research studies, the responsiveness dimension has a positive effect on perceived service quality (Ramseook-Munhurrun, 2010; Mokhtar et al., 2011; Auka, 2012). Other similar studies suggested the following:

1. An increased level in the responsiveness dimension had a positive impact on the perceived level of service quality.
2. By the same token, a reduction in the level of the responsiveness dimension had a negative effect on the perceived level of service quality.

In addition, several early empirical research results supported this proposition in respect to services delivered over the Internet (Ibrahim et al., 2006; Ho and Lee, 2007; Nusair and Kandampully, 2008; Lau et al., 2011). The literature reported a strong relationship between responsiveness and Internet service quality. Previous studies (Dabholkar et al., 1996; Janda et al., 2002) noted the importance of the following service indicators in determining the level of perceived Internet service quality:

- Updating the website with the latest and the most up-to-date relevant information and informing the end-users regularly;
- When replying to consumers' requests, minimising the waiting time through a fast and speedy service;
- Offering, through an automated message, an immediate confirmation of the electronic operations performed by the end-users; and
- Informing the end-users exactly when services will be performed through the service delivery system.

However, there is a need for further evidence to corroborate these preliminary results. On the basis of the abovementioned results and in compliance with this research's

assumptions, this study assumed that, as regards Internet-based services, responsiveness underpinned positive service quality. Therefore, the following hypothesis is proposed:

Hypothesis (H2): From the end-user's perspective, responsiveness would have a significant positive influence on the overall level of perceived service quality for banking services delivered over the Internet.

3.5.3 Hypothesis 3: Website Design in Relation to Service Quality

Tangible has been defined as "the ability of the service provider to organise favourable appearance" (Tih, 2004, p. 436). Zhu et al. (2002) identified a number of tangible attributes including the following:

- Physical facilities and arrangement including seats; parking; and meeting areas; and
- Employee appearance and professionalism.

Traditional research studies carried out by a number of researchers have proved the positive effect of the tangible dimension on service quality (Ramseook-Munhurrun, 2010; Mokhtar et al., 2011; Auka, 2012). These empirical studies and other similar pieces of research reaffirmed that an improvement in the level of the tangible dimension impacted positively on the perceived level of service quality. Similarly, it was true to say that deterioration in the level of the tangible dimension impacted negatively on the perceived level of service quality.

Additionally, the newly emerged and redefined dimension of website design had the same influence. It has been defined as "the extent to which the website interface is well designed and visually appealing" (Swaid and Wigand, 2007, p. 420). In the context of Internet-based services, early results from empirical research studies supported this proposition (Abdelghaffar and Moustafa, 2012; Bukhari et al., 2012). In another study, Al-Maghrabi et al. (2010; 2011) investigated the influence of site quality on overall perceived Internet service quality. They found the following consequences:

1. Website quality could enhance consumer trust in it;
2. Website quality played a significant role in consumer perceptions of usefulness; and
3. Website quality made the service delivery system user-friendly, enjoyable, and pleasant to use.

As Al-Maghrabi et al. (2011, p. 419) concluded, "If consumers perceive a website as high quality, they trust it and will depend on that vendor". However these were preliminary results and there is a need for further evidence to corroborate them.

In regard to previous investigations, this study, in compliance with the assumptions of this research, proposes that website design is an essential component in customers receiving positive service quality from services delivered over the Internet. Therefore, the following hypothesis is proposed:

Hypothesis (H3): From the end-user's perspective, website design would have a significant positive influence on the overall level of perceived service quality for banking services delivered over the Internet.

3.5.4 Hypothesis 4: Personalisation in Relation to Service Quality

Empathy has been defined as "the ability of the service provider to offer promising face-to-face service" (Tih, 2004, p. 435). It is mainly about understanding the customer and providing the customer with the best attention and care. There have been empirical research studies showing that the empathy dimension has a positive impact on overall perceived service quality (Ramseook-Munhurrun, 2010; Mokhtar et al., 2011; Auka, 2012). Similarly, it is true to say that deterioration in the level of the empathy dimension impacted negatively on the perceived level of service quality. Moreover, it was proven that, in the context of Internet-based services, the innovative re-structured dimension of personalisation had similar consequences (Nusair and Kandampully, 2008; Lau et al., 2011).

In the context of e-services, personalisation or customisation has been defined as "individualised attention, personal thank you notes from online stores, and the availability of a message area for customer questions or comments" (Lee and Lin, 2005, p. 165). Swaid and Wigand's (2007) detailed examination of e-service quality measurement in e-commerce showed that there was a significant positive correlation between personalisation and service quality. Thus, the following two outcomes are achieved:

1. Personalisation in an online store positively influences overall service quality; and
2. Personalisation in an online store positively influences customer satisfaction.

In another major study, Ibrahim et al. (2006, p. 486) found that, for the purpose of enhancing its quality, the following characteristics ought to be applied to e-banking services:

*   E-banking ought to be personalised and acknowledge each customer individually by name;
*   E-banking service providers need to provide brochures to educate customers on how to use such services; and

- E-banking ought to recommend services according to customer preferences.

However, the results of existing studies were preliminary results and there is therefore a need for further evidence to corroborate them. Consequently, in order to do so, this study proposes to establish that, in respect to services delivered over the Internet, personalisation has a direct positive impact on the level of perceived service quality. Therefore, the following hypothesis is proposed:

Hypothesis (H4): From the end-user's perspective, personalisation would have a significant positive influence on the overall level of perceived service quality for banking services delivered over the Internet.

In summary, sub-sections 3.5.1, 3.5.2, 3.5.3, and 3.5.4 of this chapter proposed four research hypotheses. These specific hypotheses were formulated based on suggestions from previous related literature. The four research hypotheses examine and evaluate whether the independent variables (i.e. reliability, responsiveness, website design, and personalisation) significantly explain the dependent variable (i.e. overall perceived service quality). These hypotheses can be summarised as follows:

- **H1**: Reliability is positively related to users' perceptions of Internet banking service quality.
- **H2**: Responsiveness is positively related to users' perceptions of Internet banking service quality.
- **H3**: Website design is positively related to users' perceptions of Internet banking service quality.
- **H4**: Personalisation is positively related to users' perceptions of Internet banking service quality.

Practically, the research hypotheses put forward four main propositions, which can be summarised as follows:

- The more reliable Internet services presented by the bank, the more quality attained by the consumer.
- The more responses Internet services presented by the bank, the more quality attained by the consumer.
- The more the websites are well designed and developed by the bank, the more quality attained by the consumer.
- The more personalised Internet services presented by the bank, the more quality attained by the consumer.

3.6   Research Model

Chapters 2 and 3 of this study discussed, examined, and analysed extensive up-to-date literature on service quality (Parasuraman et al., 1985; Dabholkar et al., 1996; Ladhari, 2008; Gummerus, 2010; Wang, 2012). On the basis of the overall results, derived from these and other similar studies, a conceptual instrument is proposed. This instrument represents a service quality assessment model for banking services delivered over the Internet. In this model, service quality is described as the level of excellence and superiority in service standards which meets customer needs in regard to the interaction between the end-user and the service provider's communication systems connected through the use of an Internet facility. In terms of the development of the research model, the theoretical dimensions are identified and classified on the basis of re-defining the conceptualisation of the original SERVQUAL model (Parasuraman et al., 1985; 1988). Logically, the model is founded on the basis of the practicality assumption (Collis and Hussey, 2009). This notion stems from the idea that the preference, which motivates the acceptance of a particular object, is based on an individual personal assessment directed towards that object. From a structural standpoint, the overall presentation of the developed model is designed according to the causality concept (Simpson and Weiner, 1989). This perception suggests that the occurrence of a particular phenomenon results from a number of causing factors.

The conceptual model aptly illustrated the inter-relationships between Internet service quality and its antecedents. To do so, a map consisting of two layers was drawn. The first layer was named "Internet banking service quality dimensions"; it consisted of four sets of variables, which were reliability, responsiveness, website design, and personalisation. These factors represented the four independent variables. On the other hand, the second layer was named "objective". It consisted of one variable which was overall perceived service quality. This factor represented the dependent variable. For each individual independent factor, a straightforward arrow linked it to the dependent variable. This connection represented a direct positive linear relationship between the two sets of factors. From a statistical viewpoint, these inter-relationships suggested that if an independent variable increased, the dependent variable would also increase. Alternatively, if an independent variable decreased, the dependent variable would also decrease (Al-Sayaad et al., 2006). The previously considered facts describe the characteristics of this study's model, as shown in diagrammatical form in Figure 3.4. The model is in its preliminary stage and requires experimental examination in order to validate its design.
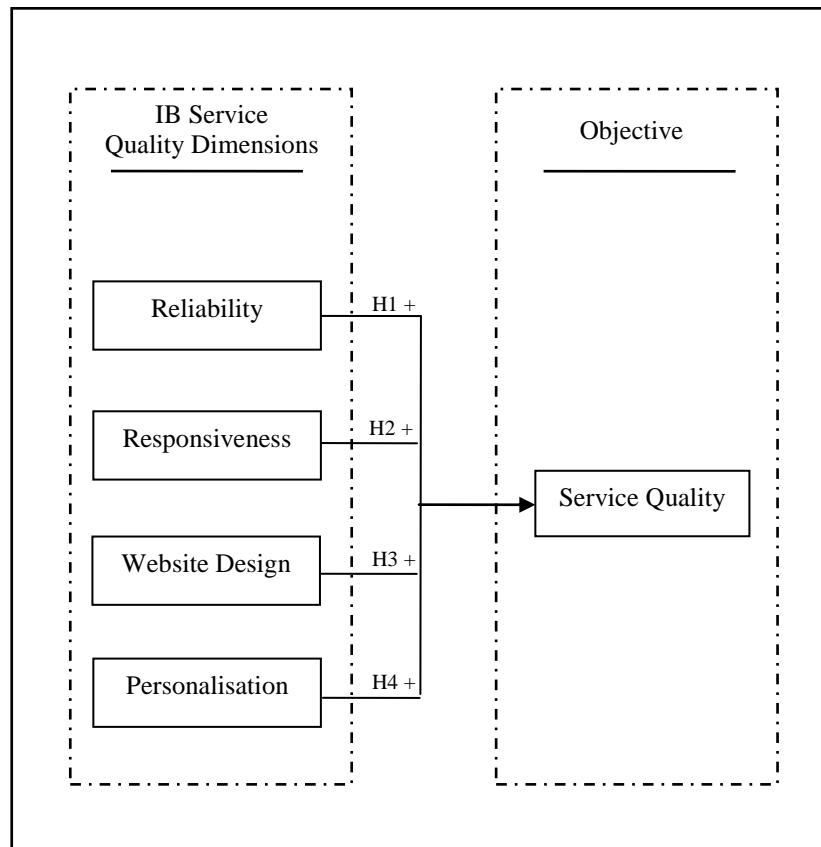
Figure 3.4: Research Model

3.7 Chapter Summary

This chapter presented the research hypothesis and the conceptual model of this study. The model was based on research assumptions derived from the service quality literature review. Specifically, it developed on the basis of modifying the original SERVQUAL model, changing it from a generic instrument to an industry-specific tool. This was done by converting each aspect of the original model from an offline to an online context. Firstly, reliability was adapted to reliable Internet banking services. Secondly, responsiveness was changed to fit responsive Internet banking services. Thirdly, the tangible aspect was altered to refer instead to the design of the bank website. Fourthly, empathy was switched to personalised Internet banking services. Finally, assurance was converted to secure and safe Internet banking services. Although the security theme is listed usually under the assurance dimension, this study lists it under the reliability dimension. The basic plan of this study's model serves to illustrate that, within the context of Internet banking, service quality is the dependent variable and can be represented by four independent variables: reliability, responsiveness, website design, and personalisation. The model requires validation and empirical investigation, and next chapter discusses the research methodology adopted for the purpose of data collection.

CHAPTER 4

Research Methodology

4.1   Introduction

Research is defined as the process of systematically gathering, recording, and analysing information in regard to specific issues in order either to reach a reliable solution to a particular problem or to contribute to the advancement of knowledge in a particular field. This basic and simple definition reflects two important points which are the purpose of the research and the practical procedures that need to be followed to realise that purpose. The purpose of research is basically to find an explanation to a particular research problem. The practical procedures that must be carried out in order to achieve the research purpose include data collection, analysis, and interpretation. The idea behind undertaking a research process is not always to solve problems; it can be done to obtain information which can help in expanding current knowledge of a particular subject or topic. The process of deciding on which research method should be followed is a difficult and challenging task. This is due to the sheer number of factors which have to be considered during the selection process. These factors include the nature and objectives of the research, the timescale for completing the research project, the cost and funding available for the research project to be undertaken and, finally, the advantages and limitations of each one of the methods.

The aim of this chapter is to investigate the research methodology and to select the appropriate research design. The chapter has been organised in the following way:

1. It describes the general research philosophy used in this research, followed by a description of the available research methodologies;

2. A brief background of the research process stages is then provided;

3. Data collection instruments are discussed and the sampling technique will be highlighted, followed by the data collection procedure; and

4. Predetermined data analysis tools are outlined followed by a summary of the chapter.

4.2   Research Philosophy

The range of subjects under discussion in the information systems and business administration areas are multi-disciplinary and, therefore, are associated with different scientific fields such as the behavioural, social, and natural sciences (Al-Shafi, 2009). It has been argued that management science was involved with a wide range of theoretical perceptions (Orlikowski and Baroudi, 1991; Irani et al., 1999; Straub et al., 2005). Consequently, researchers have had the flexibility to decide on a suitable research methodological approach from a selection of philosophical strategies. This explains why the selection of a proper philosophical approach is a difficult assignment (Galliers, 1994). Generally, in the recent research literature, there are three main research philosophies to choose from: critical, interpretive, and positivist. Each approach is unique and particularly appropriate for a specific context.

a) Critical Research Philosophy

The critical research philosophy is founded on the basis of the belief that reality is created initially and reformed by people throughout history (Myers and Avision, 2002). This philosophical phenomenon emphasises the totality concept, wherein items cannot be dealt with as secluded parts (Orlikowski and Baroudi, 1991). Although a number of new studies have adopted the critical research approach (Myers, 2009; Myers and Klein, 2011), it is considered the least implemented school of thought in information system research.

b) Interpretive Research Philosophy

The interpretive research philosophy focuses on the individual person's logic or on the implications which he or she creates for incidents. Hart (1998) listed a number of research methods including action research, grounded theory and ethnographic studies which come under the interpretive foundation. Due to its nature of focusing on the complexity of humans making sense, it is essential to implement a qualitative data collection method when following the interpretive epistemology (Straub et al., 2005).

c) Positivist Research Philosophy

The positivist research philosophy is an epistemological position which supports the application of different natural science methods to the study of social reality (Bryman and Bell, 2007). In social studies, positivism is the attempt to discover factors which can cause a specific phenomenon. There are a number of associated data collection methods, which include experiments and sample surveys as well as qualitative methods such as focus-group interviews (Saunders et al., 2007).

Following the establishment of the research aim, the objectives and the attributes to be examined, as discussed and summarised previously in chapters 1, 2, and 3 of this study, a decision is required on which research philosophy to follow. This decision is significant since it shapes the design of this study's research process and assists in the selection of an appropriate research method, data collection instrument, sample size, and target population. The adoption of an appropriate research paradigm is governed by a number of factors (Cohen and Manion, 1994). These include the following:

1. The structure of the research hypotheses;
2. The compatibility of their nature with the research paradigm of social science;
3. The evidence and the recommendations from the related literature; and
4. The associated supporting implements to the research project, including the timescale and available financial budget.

In light of these factors, a positivist research philosophy was applied to this research. The idea behind this selection was that this research is characterised as a mainly quantitative study intended to clarify the behaviour of the dependent variable by examining the hypothetical inter-relationships linking it to a set of independent factors. The researcher believed that the positivist epistemology was an appropriate philosophy in view of the fact that it embraces a number of supporting data collection techniques (including surveys and questionnaires in addition to qualitative tools such as focus-group interviews) that can supplement and extend the research project.

4.3   Research Method

Research method is defined as "the techniques and procedures used to obtain and analyse research data, including for example questionnaires, observation, interviews, and statistical and non-statistical techniques" (Saunders et al., 2007, p. 602). The quantitative, qualitative, and mixed research methods are the three most widely used research methods. The following section describes briefly each method and justifies the choice of the technique selected for this study.

4.3.1 Quantitative Research Method

Quantitative research can include a number of activities such as, for example, studying cause-and-effect relationships or testing hypotheses and theories which help one to inquire into a recognised problem (Creswell, 2003). Usually these activities are established in circumstances within which the dependent variable is evaluated through the effects of selected independent variables. Normally, quantitative methods use mathematical and

statistical analytical tools and techniques in order to identify facts or confirm relationships. The sample for such a process has to represent the whole population since it is selected randomly in order to reduce error and avoid bias. The results generated from such a method can be generalised to represent the whole population from which the sample was drawn. These processes explain the deductive nature of the quantitative method as it contributes to scientific knowledge by testing theories and confirming relationships between different variables.

4.3.2 Qualitative Research Method

Qualitative research is the process of studying things in their natural settings in order to interpret a particular phenomenon on the basis of feedback from certain people (Newman and Benz, 1998). The qualitative method involves the researcher usually building knowledge and theory based on understanding people and social and cultural contexts within their environments. According to Smith (1998), qualitative research has a number of characteristics including that it involves smaller samples, is developed in order to discover the attitude of individuals rather than to measure their behaviour, and is designed on the basis of individuals' rich responses and creativities. Dobbin and Gatowski (1999) stated that qualitative data can be collected from different sources such as observation, individual interviews, documents, and focus-group interviews. In general, in social science studies a study based upon a qualitative research focuses on the sense of the human being or on the meaning which he or she makes of events in order to gain a clearer picture of a particular problem from multiple perspectives.

4.3.3 Justifications for Adopting the Mixed Research Method

The mixed research method (also known as methodological triangulation) refers to the implementation of both quantitative and qualitative data collection tools and analysis procedures during the research process (Saunders et al., 2007). Adopting a methodological triangulation strategy has a number of advantages and benefits for this particular research. Firstly, it can help with the improvement of the data's reliability and validity. Obtaining comparable results and findings when implementing mixed methodological models to evaluate and assess the same experience can indicate high reliability and validity scores in the collected data. Additionally, applying multiple methods helps to provide a clearer picture of the area being explored. This is important since both methods work in parallel by collecting data relating to the same phenomenon. As a result, more information can be obtained regarding the research subject and each method can help in addressing the gaps

or weaknesses of the other method. However, the most important aspect, in regard to the benefits of relying on a mixed research method, is this approach's ability to establish a main data collection instrument and a supporting one. Grossnickle and Raskin (2000) indicated that qualitative research can increase the value of subsequent research and vice versa. This helps us to compare the two sets of findings and ensures that they have related outcomes.

To sum up, there are three main methodological approaches – the quantitative, qualitative and mixed research methods. Each method had its advantages and each is suitable for particular situations. Consequently, this study's data collection methodology is best fitted with the mixed research method. The reason for this is that this study's data is numerical in nature and the study seeks to test hypotheses and explain the behaviour of the dependent variable. The mixed research approach is appropriate because it involves sample surveys as one of its quantitative data collection methods. These aim to draw proofs and confirmations from testable hypotheses and to verify a specific phenomenon from a selected sample in a defined population. However, in view of the fact that the topic of this study entails the exploration of relatively new concepts and investigates the end-users' perceptions, a thorough and more comprehensive investigation is required; the answer is the application of an in-depth mixed research method.

Patton (1990) stated that quantitative and qualitative methodological triangulation is crucial in increasing reliability and reinforcing the research design. In order to do so, a number of practical actions need to be undertaken. These steps were described by Patton as follows:

1. Establishing the importance of the topic and the aim and objectives;
2. Referring to the current state of knowledge;
3. Describing different research methods;
4. Specifying quantitative and qualitative research methods and giving reasons why these two particular methods were adopted;
5. Reporting results from both quantitative and qualitative studies;
6. Highlighting significant, interesting, or surprising empirical results in a table and/or a diagram;
7. Commenting on and comparing findings from quantitative and qualitative studies; and
8. Explanations of the results with reference to previous research, noting the implications and making suggestions for future work.

4.4   Research Process

Choosing and outlining the appropriate research process and the form best suited to meet this research's objectives were the first steps taken toward collecting the primary data for the purpose of validating the conceptual propositions. This research was conducted to measure and test consumers' perceptions of the service quality of Internet banking services. The study has been carried out in a main consumer segment in order to effectively evaluate the level of quality of service. The results are intended to produce recommendations that could prove vital to increasing service quality. It is essential to describe the research methodology and the process followed in this study and to describe, also, the structure of the thesis in achieving the main aim of this research. Saunders et al. (2007) define the term 'research' as a systematic process aiming to improve knowledge in a certain field. The research process is known as a general plan through which the researcher can answer the research question. This process can be achieved by specifying a particular and suitable method for both data collection and analysis. There are certain steps which need to be followed before deciding on the appropriate data collection method. A well-designed research project contains a number of key components (Churchill, 1991; Tih, 2004), which may include the following:

1. Deciding on an appropriate research philosophy;
2. Choosing a suitable research method;
3. Identifying an appropriate instrument for data collection;
4. Utilising a proper sampling technique; and
5. Deciding on specific predetermined analysis tools.

The majority of previous studies characterised the research process as a necessary multi-stage procedure with the purpose of completing the research project (Hedrick et al., 1993; Ghauri and Gronhaug, 2005). The number of research stages differs from one project to another; however, there is an agreement about certain stages which need to be included (Saunders et al., 2007). These stages are the research focus, the literature review, the planning of the research design, collecting and analysing the data, and, finally, writing up the research conclusions. Usually, this process is straightforward and needs to be followed in sequence in order to complete the project. However, this is not always the case since the researcher may need to revisit and modify each stage more than once. Consequently, on each occasion any stage is adjusted, the associated issues and ideas in the other stages must also be refined accordingly. Additionally, ethical issues need to be considered throughout the process.

The research process of this study was designed and carried out according to the proposed research process model (Saunders et al., 2007). This model outlines the process by breaking down the procedure and, therefore, revealing hidden features which might not have been obvious from the main model explained in the research approach section of the introduction. This study's research process is illustrated in the research protocol diagram shown in Figure 4.1. The following sub-sections highlight these steps.
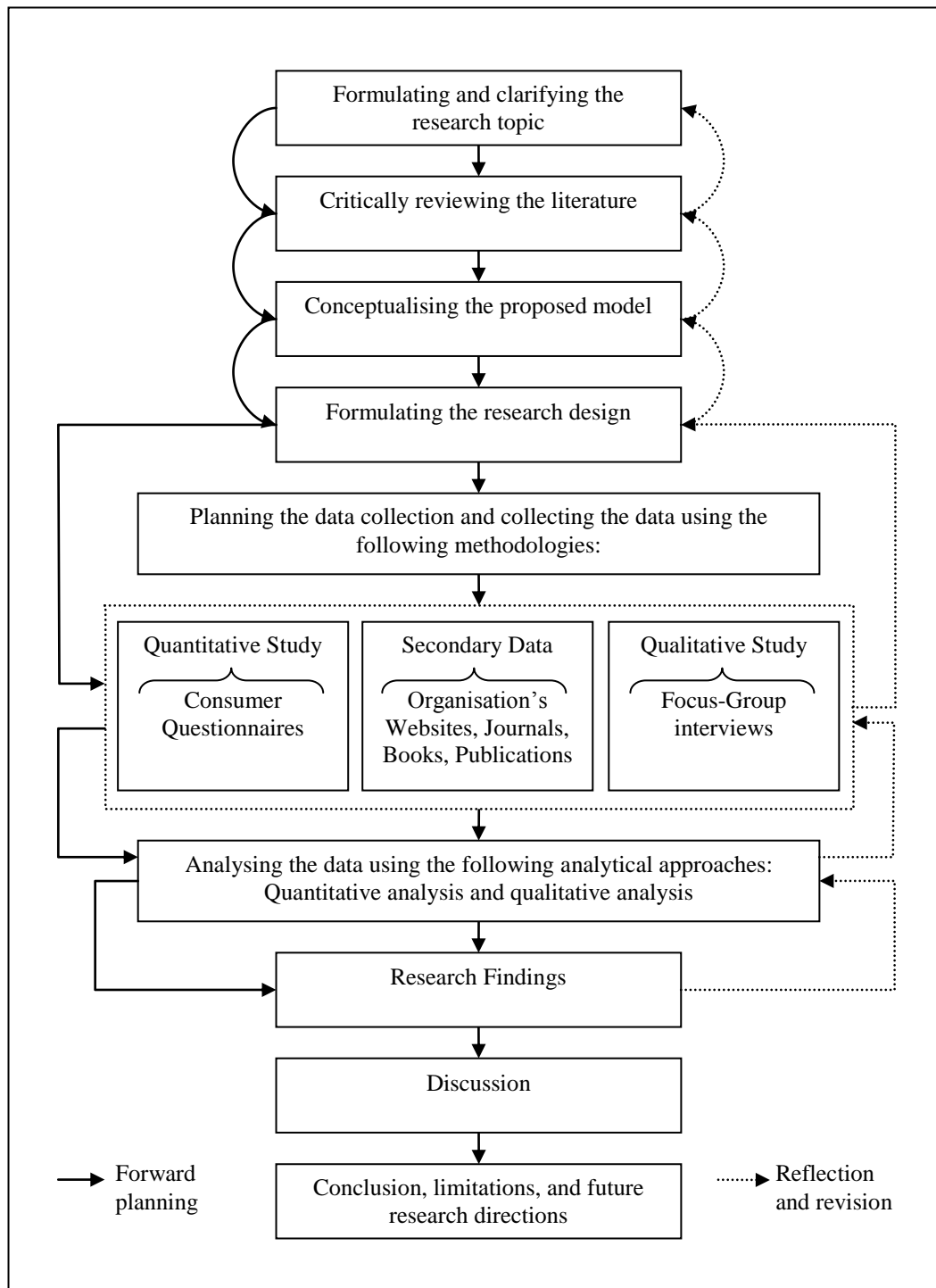
Figure 4.1: Research Process
Source: Adapted from (Saunders et al., 2007, p.12)

1. **Formulating and clarifying the research area and identifying the scope of the research by critically reviewing previous literature**

This part includes a brief introduction to the importance of service quality and its impact on customer satisfaction and customer loyalty, as well as the impact of both of these on an organisation's overall performance. This part defines all the business and marketing concepts used throughout this thesis. It also provides a brief historical overview of the SERVQUAL model and defines the link between its different components, including customer perception, customer expectation, and overall quality of service.

2. **Conceptualising the research plan and proposing the theoretical model**

This part explains this research's conceptual model, which was based on the SERVQUAL theory suggesting a relationship between consumers' perception of an object and their overall assessment of it. This part of the research project proposes that, in the context of banking services delivered over the Internet, service quality consists of four main elements: reliability, responsiveness, website design, and personalisation. The model is derived from the results of the careful review of the prior and current literature on service quality (i.e. chapters 2 and 3 of this study).

3. **Formulating the research design**

This part describes the research design and methodology. This includes planning of the market research and the collection of data using the following tools:

- Primary data:
  · Quantitative method: consumer questionnaires
  · Qualitative method: focus-group interviews

- Secondary data:
  · Academic journals
  · Books and publications
  · Organisational websites

4. **Data analysis and findings**

This part presents this thesis' findings and analysis and, in particular, the results of the quantitative primary research (questionnaire) and the findings of the qualitative primary research (focus-group interviews). This part analyses the data collected from both the quantitative and qualitative primary research and presents the final measurement of service quality.

5. **Research discussion**

This part discusses the results outlined in the section about the research findings and data analysis. It also identifies the main factors that tended to lead to superiority and the main

factors contributing to inferiority. It discusses the variables which led to a low level of service quality in the information technology-based banking business. In order to generate a meaningful overall assessment and a clear picture of the case study's current performance level, it puts this study's results into practice by means of a theoretical action plan. In addition, it provides some recommendations conducive to increasing the case study's service quality levels in order to improve its overall performance.

6. Conclusions and limitations of this research and directions for future research

This part explains some of the limitations which the researcher faced while conducting the research. It further explores possible directions for future research.

An important step in the research process is assessing the timescale, i.e. the available time to complete the research. In this regard, the research question was an important factor in determining the most suitable timescale. Cross-sectional and longitudinal are the two techniques for determining the timescale. Cross-sectional data refers to a particular phenomenon during a specific period of time, while longitudinal refers to data collection over more than one point in time. This study adopted the cross-sectional technique, which is the most widely used in survey-based research.

4.5   The Questionnaire as a Data Collection Instrument

There are a number of data collection methods outlined in the literature. These methods include, for example, surveys, interviews, observational methods and document reviews. Each method has its advantages and limitations and each one is appropriate for achieving a particular aim. There are of course a number of factors which need to be considered when choosing the most suitable method for a research study. These factors include, for example, the cost of the project, the timeframe within which it has to be completed, the type of population and sampling, and the content of the questions and format. Additionally, there are some other personal factors which need to be considered, such as, for example, the researcher's level of training on research methodology (Aaker et al., 2001).

This study uses a questionnaire as its main source of data collection. Questionnaires are distributed to a sample of the service organisations' customers in order to measure their level of perceptions of service quality in Internet banking services. Questionnaires are employed as a source of data collection for a number of reasons. First of all, a large number of questions can be incorporated. In addition, questionnaires can be used to cover a large number of respondents. Also, using the questionnaire the researcher can measure

the degree of service quality according to each dimension that might have an impact on service quality. This study's proposed conceptual model consists of a number of constructs which represent the behaviour and attitudes of individual users during the process of evaluating Internet banking services. These dimensions signify that there are a number of environmental, social, and economic issues surrounding such behaviours. This study measures end-users' attitudes toward Internet banking services in instances where a number of psychological distractions can influence their behaviour; therefore, it is necessary for this study to follow an approach which provides the researcher with the ability to understand consumers' thought processes and thoughts from a psychological perspective.

Since this study uses a questionnaire as the main tool for collecting primary data, it is useful to offer a brief overview of how the literature has viewed this data collection method. Saunders et al. (2007, p. 608) defined a questionnaire as "data collection technique in which each person is asked to respond to the same set of questions in a predetermined order". Gill and Johnson (2002) point out that a questionnaire can be a useful tool in explanatory research since it assists the researcher in examining the cause-and-effect relationships between variables. Robson (2002) states that questionnaires can be either in a self-completed or an assisted-completed form, while Cohen and Manion (1994) explain how self-completed questionnaires are intended to be completed by individual respondents without the researcher's help. Best and Kahn (2003) indicate that this kind of questionnaire could be classified into a number of sub-types on the basis of their method of delivery, which includes Internet-mediated, postal, telephone-based, or delivery and collection. Blaxter et al. (1996) state that self-completed questionnaires are considered the most commonly used data collection technique in social science research. Accordingly, since this study is explanatory in nature and can be classified within the social science field, the researcher employs a questionnaire to be self-completed by individual participants for data collection purposes.

4.5.1 Justifications for Using Questionnaire as a Data Collection Tool

This research employs a questionnaire as its primary and main data collection instrument for a number of reasons (Mouly, 1978; Cohen et al., 2000), including the following:

1. A questionnaire provides respondents with a flexible period of time to complete it without any stress or pressure and, consequently, provides more credible and realistic answers.

2. A questionnaire provides respondents with a sense of privacy which both persuades them and provides them with confidence in answering any sensitive questions of a private nature.

3. A questionnaire allows the researcher to collect data in less time and, in many cases, it is regarded as a cost-saving method.

4. A questionnaire enables the researcher to reach a larger sample of respondents and, through a quicker analysis of feedback and responses, to better complete the study within the allotted timeframe for the study.

The current study employs a self-administered survey method due to the large number of number of benefits which this type of survey has over other types (Grossnickle and Raskin, 2000). These include the following:

1. It is easy to answer the questions by ticking the appropriate response box since no writing is required.

2. Due to the researcher's presence during the completion of the questionnaire, it is possible for respondents to ask questions about anything they do not understand.

3. There is always a chance of a high response rate (sometimes nearly 100 percent) due to the questionnaires being collected immediately after the respondents have completed them.

4. It provides a full private and confidential environment in which the respondents can express their feelings in answering the questions.

On the other hand, there are some general disadvantages and limitations in using a questionnaire as a data collection method which need to be identified and addressed. These weaknesses can be summarised in the following two main points (Robson, 2002; Best and Kahn, 2003):

1. The lack of communication between the researcher and the respondents can cause some problems in completing the questionnaire, especially if the respondent(s) misunderstand(s) a question or if some statements are not sufficiently clear.

2. A low response rate can be another problem since some respondents may be disinclined to help, especially if the topic of the questionnaire is not one of their interests.

Notwithstanding the above, it is obvious that the advantages and benefits of the questionnaire method prevail over its disadvantages and limitations. With particular reference to the above two points, the research overcame them by using a self-

administered survey method. This method, as has been discussed earlier, rises above those pitfalls by establishing direct communication between the researcher and the respondents and increasing the response rate. Additionally, these mentioned major difficulties and any other minor associated ones can be dealt with during the process of designing the questionnaire, which is outlined in the next sections of this chapter. This process is considered to be a very important stage since it involves important steps toward validating the questionnaire, including consulting experts, a pilot study, and translation of the questionnaire. These actions and measures serve as a filtering procedure toward designing an ideal data collection tool which serves its purpose, enjoys a high level of validity and credibility, and avoids any constraints or shortcomings.

4.5.2 Study Questionnaire

Questionnaire development is not straightforward and requires researchers to follow certain guidelines and procedures. Evans (1984) listed two main procedures that need to be followed when designing and developing any questionnaire:

1. To describe and identify the purpose of the questionnaire; and
2. To highlight the information required to be collected through the questionnaire.

The purpose of the questionnaire in this study is to seek the opinion of service end-users in a given scenario, providing depth that helps to establish the fundamentals of the study. From the questionnaire of this study, the researcher intends to measure the degree and level of service quality as perceived by the bank's customers according to each model dimension.

Sudman and Bradburn (1982) state that researchers should investigate previous measurement statements that have been used by other researchers in studies on the same or a similar topic. As a result, the researcher was keen to cover large number previous studies on the same topic of this study and used them to collect a number of useful measurement statements and questionnaire questions (Cai and Jun, 2003; Janda et al., 2002; and Al-Adwani and Palvia, 2002). There are a number of principles that can be used to test the content of these studies and to identify the suitability of using their measurement statements in the current study (Bell, 1999). These principles include the following:

1. Are you asking questions that require the respondent to memorise something for a long time? Are they going to be able to answer it?
2. Are you asking questions that respondents do not have background knowledge about?
3. Are there any unpleasant questions?

The content of the questionnaire of this study was based on previous, similar, and preciously valid scales which were concerned with the determinants of service quality (Yang et al., 2001; Al-Adwani and Palvia, 2002; Joseph and Stone, 2003). The content of the questionnaire was tested on the basis of the above-mentioned standards. An important issue taken into consideration during the designing of the questionnaire was the importance of phrasing the questions in a simple, straightforward manner which would make them easily understood by everyone. Accordingly, the researcher reworded the measurement statements in order to properly address the current status of the information technology industry.

Churchill and Peter (1984) state that even though increasing the number of measurement items plays an important role in increasing the reliability of the scale, this can often decrease the validity of the constructs, which will result in them being under-identified. Measuring each single dimension by four or five measurement statements is recommended by the research literature (e.g. Gerbing and Anderson, 1988). A total number of 20 items was used to measure service quality in the Internet context. These items were grouped into four dimensions. Oppenheim (2000) recommends the use of closed questions as they do not require any writing to complete them, which makes them faster and easier to complete. In addition, there simplicity is also an advantage during the analysis process. The questionnaire of this study contains 23 questions. Most are closed-ended multiple-choice questions as they are an appropriate type of questions, based on the suggestions from the literature. Generally, the questions were categorised into two main types:

1. Yes/No question. This type of question determines the level of Internet banking usage.
2. Fill in question. This aims to collect contact details from the participants in order to enable the awarding of a prize of SR 500 to the winner.
3. Close-ended multiple-choice questions. These are the questions which determine the level of service quality perceived by the bank's customers for the four independent variables and the one single dependent variable.

All dimensions have been integrated into a single questionnaire sheet covering six main parts. A copy of the cover letter and the final questionnaire can be found in Appendix B.

The dependent variable – i.e. overall service quality – also has to be measured. The reason behind this measurement is to help in statistically examining the influence of the service quality dimensions on the overall perceived service quality concept. To do so, the literature suggests using multiple items to evaluate service quality (Parasuraman et al.,

1985; Cronin and Taylor, 1992). Moreover, a seven- or a 10-point scale is recommended for the assessment. Some of the common measurement statements that have been used previously to measure perceived service quality include the following:

1. Overall, the service provider provides a high level of service quality.
2. The overall experience with the provider's services is excellent.
3. Taking everything into consideration, the service provider is a capable and proficient supplier.

In compliance with the literature and in order to be consistent with the other parts of the study, three measurement statements were used to measure the overall service quality using a five-point Likert scale. These measurement statements were adapted from previous studies to suit the nature of this study (Swaid and Wigand, 2007; Shamdasani et al., 2008). Highlighted in bold are the changes made to those statements:

1. Overall, **Internet banking** provides a high level of service quality.
2. The overall experience with the **Internet banking** services is excellent.
3. Taking everything into consideration, the **bank** is a capable and proficient **Internet banking** service provider.

The survey's asks participants to complete some personal information, including their full names and student identification number. In order to thank the participants for their participation, the researcher entered all the questionnaire's participants into a lucky draw. The draw took place at the office of the Chairman of the Department of Business Administration to ensure fairness and equality. The lucky winner was awarded a gift of SR 500. This question, which had been used as an incentive to encourage students to participate, was optional since it contained confidential information.

Saunders et al. (2007, p. 601) define the Likert-style rating scale as a "scale that allows the respondent to indicate how strongly she or he agrees or disagrees with a statement". Extracting data from a combination of a questionnaire's questions, in the form of ticked box options, is made possible by the Likert scale. Cox (1986) states that the Likert scale could be of five, seven, nine, and, sometimes, 11 points and the process of choosing the appropriate scale is a matter of some debate. This study uses a five-point Likert scale with neutral as a centre point. This scale allows the evaluation of the subject's feelings toward particular topics through a process of choosing from the following five options (Strongly disagree: 5; Disagree: 4; Neutral: 3; Agree: 2; and Strongly agree: 1). Table 4.1 (parts 1 and 2) shows the descriptions of the measurement statements.

Table 4.1: Measurement Statements - Part No. 1
Note: The Table Continues on Next Page

Dimensions	No. Themes	Offline-Theme	Code	Online-Theme	Code	Online Theme Description
Reliability Offline-Context ↓ **Reliability** Online-Context	5	Promise Fulfilment	REL1	Promise Fulfilment	REL1	When the bank promises to do something by a certain time, it does so (Cai and Jun, 2003)
		Dependable Service	REL2	Dependable Service	REL2	Internet banking provides dependable service (Yang et al., 2001)
		Quick Service	REL3	Quick Service	REL3	The bank performs the service correctly the first time (Zsidisin et al., 2000)
		Security	REL4	Security	REL4	Internet banking is safe to use (Joseph and Stone, 2003)
		Accuracy	REL5	Accuracy	REL5	Internet banking transactions are always accurate (Zeithaml, 2002)
Responsiveness Offline-Context ↓ **Responsiveness** Online-Context	5	Confirmation	RES1	Confirmation	RES1	An immediate confirmation message is given after completing the Internet banking transaction (Janda et al., 2002)
		Prompt Service	RES2	Prompt Service	RES2	The bank always gives prompt service to requests via online (Dabholkar, 1996)
		Help Availability	RES3	Help Availability	RES3	Internet banking provides helps to its customers if they have any problems (Wolfinbarger and Gilly, 2003)
		Flexibility	RES4	Flexibility	RES4	It is easy for customers to make changes on their orders after submitting their financial transactions (Cox and Dale, 2002)
		Updated Information	RES5	Updated Information	RES5	The bank's website has updated information (Al-Adwani and Palvia, 2002)

Table 4.1: Measurement Statements - Part No. 2

Dimensions	No. Themes	Offline-Theme	Code	Online-Theme	Code	Online Theme Description
Tangibles Offline-Context ↓ **Website Design** Online-Context	5	Physical Atmosphere	TAN1	Website Organisation	WD1	The bank's website is well organised (Madu and Madu, 2002)
		Physical Location	TAN2	Website Easy Navigation	WD2	Navigation is consistent and standardised (Yoo and Donthu, 2001)
		Physical Environment	TAN3	Website Aesthetics	WD3	Graphics and animation do not detract from use (Yang et al., 2003)
		Ease to Use Physical Materials	TAN4	Website Ease of Use	WD4	The bank's website is user friendly (Broderick and Vachirapornpuk, 2002)
		Physical Design	TAN5	Website Content	WD5	The bank's website organises information efficiently (Al-Adwani and Palvia, 2002)
Empathy Offline-Context ↓ **Personalisation** Online-Context	5	Personal Attention	EMP1	Greet Customer by Name	PER1	Internet banking always acknowledge customer by name (Joseph and Stone, 2003)
		Customer Know the Employee	EMP2	Website Familiarity	PER2	The bank's website is always familiar to the customer (Janda et al., 2002)
		Individualised Service	EMP3	Customised Service	PER3	The bank's website enables customers to perform transactions in a way that meets their needs (Yang and Jun, 2002)
		Employee Understand Customer Needs	EMP4	Website Recognition	PER4	The bank's website recognises customers specific needs (Zhu et al., 2002)
		Employee Provide Good Advice	EMP5	Website Recommendation of Services	PER5	The bank's website provides the recommendation of financial services by customer preferences (Zhu et al., 2002)

In survey studies, one of the most common and relatively easy ways to collect data from respondents is through a five-point Likert scale (Sekaran, 2000). Hartely and Mclean (2006) state that using such a scale can have a significant impact on increasing the response rate to a study, by up to 90 percent. Neuman (1983) similarly states that using a five-point scale over other scales produced similar results in terms of means and correlation coefficients. The author recommends that future studies, with a particular emphasis on attitudinal studies, use a five-point scale over any other scale.

4.5.3 Questionnaire Validity

Bagozzi (1994) states that a measurement scale can be described as valid when it is able to provide a measurement fit for its developed purpose. Saunders et al. (2007) define a questionnaire's internal validity as its ability to measure what was planned to be measured. This definition reflects the fact that a well-developed and valid questionnaire has to stand for and signify the actuality of what it is intended to measure. This study applied three main validation procedures in order to ensure that this study's questionnaire went through the purification stages and was ready to be distributed. These procedures were:

- Consulting experts;
- Translation of the questionnaire; and
- Carrying out a pilot study.

These procedures took place a good time before the questionnaire was distributed to ensure that the intended data collection instrument was effective and valid. Some of these procedures were conducted in the UK and some in Saudi Arabia. This depended on the type of procedure and the associated required steps to be taken in order to complete the procedure. Some amendments were made to the questionnaire on the basis of the feedback received from participants. The following sub-sections describe and discuss each of these procedures.

a) Consulting Experts

Selecting statements of appropriate measurement for the purpose of building questionnaires is a difficult and complicated job. This is due to the fact that the validity and clarity of the chosen questions will have a great impact on the respondents' understanding of the topic. Therefore, it was an essential procedure to seek experts' views on the appropriate research methodology before finalising the questionnaire. At the beginning, the researcher explored a number of different questionnaires from previous similar studies (Janda et al., 2002; Al-Adwani and Palvia, 2002).

These studies and other similar ones provided an excellent starting point in developing the questionnaire. Additionally, the researcher was able to understand the general rules, steps, and guidelines required when constructing the questionnaire by consulting useful and highly recommended textbooks in methodology research, such as *Research Methods for Business Students* (Saunders et al., 2007) and *Business Research Methods* (Brayman and Bell, 2007). Furthermore, the researcher's main academic supervisor was of enormous assistance during the process of designing the questionnaire since he has more than 20 years of academic experience and has vast skills and knowledge in supervising postgraduate students. Moreover, three native English doctoral students at Brunel University reviewed the English draft of the original questionnaire. As a result, it was amended and adjusted on the basis of their comments.

b) Pilot Study

Saunders et al. (2007, p. 606) define a pilot test as a "small-scale study to test a questionnaire, to minimise the likelihood of respondents having problems in answering the questions and of data recording problems as well as to allow some assessment of the questions' validity and the reliability of the data that will be collected". It was an important and significant step, before becoming involved in the data collection fieldwork, to ensure that the questionnaire was obviously well structured and that its words were clearly understood (Nisbet and Entwistle, 1970). Clarity is essential due to the fact that, in most circumstances, respondents complete questionnaires individually and without the researcher being present. In addition, poorly structured questionnaires can result in misleading or incomplete data which does not serve the purpose of the research. Moreover, piloting the questionnaire helps to determine the required time for completing it and, also, helps the researcher in mapping out a timetable. Thus, the researcher was aware of the importance of piloting the questionnaire in helping to produce a clear and easily understood version.

A pilot study was carried out after completing the first draft of the questionnaire. This process took place during May 2010, one month before the data collection fieldwork commenced. This test was conducted with the help of undergraduate and postgraduate students from Saudi Arabia who were studying at Brunel University. The reason for choosing this target segment was that they represented the same cultural and demographical characteristics of the intended target population. A total of 200 questionnaires were distributed and 84 usable questionnaires were returned with an overall response rate of 42 percent.

Following the completion of the pilot study, a few changes were made in response to the participants' suggestions. A copy of the cover lettering and the final questionnaire can be found in Appendix B.

c) Translation of Questionnaire

As discussed in chapter one, the research context of this study is Internet banking services in an Arabic native language developing country – KSA. Therefore, it was important to translate the questionnaire from English into Arabic so that the participants could understand and complete it. Iyengar (1993) specified that in order for a questionnaire to be valid, it is vital that all the questions are translated into another language in a professional way which maintains their meaning. Brislin and Triandis (1980) suggest that the translation process needs to follow four basic steps:

1. To translate the original version into the intended language;
2. To check the grammatical structure of the translated version;
3. To translate that version back into its original language; and
4. To check the two documents.

This study has followed the same procedure. The translation procedures have been completed mostly by the researcher. Progressing through the postgraduate courses provided the researcher with a number of technical writing and communication skills. These skills were crucial since they represent an added value to the credibility and validity of the research project. In order to translate the questionnaire, the following actions were taken:

1. The researcher translated the questionnaire into Arabic;
2. An Assistant Professor at the Department of Arabic Language, Faculty of Arts and Humanities, at King Abdul Aziz University checked this version for errors;
3. The Arabic version was translated into English again;
4. The translated English version was then checked by an Assistant Professor at the Department of English Language, Faculty of Arts and Humanities, at King Abdul Aziz University; and
5. The researcher checked the two documents with the help of a bilingual (Arabic and English) expert working in a private language translation services agency in Jeddah, Saudi Arabia.

Finally, some amendments were made on the basis of the expert's feedback. This process was necessary to ensure the questionnaire's validity. A copy of the translated cover letter and the questionnaire form Appendix C.

4.6   Sampling Technique

Saunders et al. (2007, p. 610) define a sample as a "subgroup or part of a larger population" and the sampling frame as "the complete list of all the cases in the population, from which a probability sample is drawn". Trochim (2001) defines sampling more accurately as the procedure of choosing units such as people or organisations from a population in order to draw a comprehensive conclusion about an entire population on the basis of the units selected from that population. The idea behind sampling, which was introduced in the twentieth century, was to generalise the outcome of a specific sample to the entire population. This technique is necessary due to the impracticality of including an entire population in a study. Cooper and Schindler (2003) identify a number of reasons for adopting a sample technique, stating that it is a cost-effective method, gives more accurate results, and increases speed in collecting data.

4.6.1 Sampling Method

Sampling techniques can be categorised into two main groups: probability and non-probability sampling. In probability sampling, the selection of the sampling elements is done randomly and, in most cases, this sort of technique ensures that the sample is representative (Hair et al., 2003). On the other hand, non-probability sampling refers to selecting the elements of the sample by using subjective methods such as personal experience. This technique incorporates a number of sampling methods, including convince sampling, judgement sampling, and quota sampling. This study adopted a non-probability judgement sampling technique. Hair et al. (2003) define judgement sampling as a process which involves selecting members of a sample with knowledge about a particular problem, the ability to provide the necessary information, and are ready and available to be involved in the study. The purpose of this research is to gain a better understanding of the current level of service quality within the context of the Internet banking services in Saudi Arabia; the principle followed in choosing the sampling technique therefore included selecting a sample of people well experienced in using Internet banking services.

4.6.2 Study Sample and Sample Size

At this stage of the research, one of the crucial aspects is assessing the appropriate sample size. This is extremely important in empirical studies which aim to build assumptions about a population from a sample. This sub-section of the study discusses the sample characteristics and outlines the required minimum and actual sample sizes.

a) Sample Characteristics

For the purpose of this study, student sampling was selected by using judgement sampling. In most cases, student sampling was criticised because it represented mostly young people. However, in this study, this sample characteristic is considered a strength. Youths and young students are more educated, are considered to be a computer-oriented segment and, compared to other demographical segments, represent a large number of online customers. Students are younger, more educated and up to date, consume large amounts of electrical goods, and use Internet services and technological devices more frequently (Jayawardhena and Foley, 2000). Additionally, in Saudi Arabia, the youth segment represents more than 60 percent of the total population (CDSI, 2010), meaning the selected sample well represents the overall population. Moreover, a number of Internet-related studies have used student sampling (Al-Adwani and Palvia, 2002; Lee and Lin, 2005; Al-Sajjan, 2010). Additionally, the preceding qualitative study covered non-student sampling. These characteristics and examples made student sampling the ideal sampling method for this quantitative study.

b) Sample Size Determination

Sample size identification is the action of deciding the number of examined units to incorporate in a statistical sample. In terms of the sample size, Robson (2002) states that a large sample size is required in order to reduce the likely error in generalising the results. In measuring the minimum sample size, Saunders et al. (2007) give the following formula as a first step:

Minimum Sample Size:

$$n = p\% * q\% * [z/e\%]^2$$

Where

n	=	Minimum sample size required
p%	=	Proportion belonging to the specified category
q%	=	Proportion not belonging to the specified category
z	=	Value corresponding to the level of confidence required
e%	=	Margin of error required

Estimation and substitution of the proportions and the level of confidence and associated z values are as follows:

(p = 50; q = 50; z = 1.96; e = 5) (see Saunders et al., 2007, p. 585).

In order to calculate the minimum sample size, these figures were incorporated into the following formula:

$n = 50 * 50 * [1.96/5]^2$

$n = 384$

Therefore, the minimum sample size was 384.

Choudrie and Dwivedi (2006) state that the sample size can be determined by the analysis techniques. This study's statsitical analysis required a number of advanced techniques including measurement of relaibility and validity, descriptive statistics, principle component analysis, and multiple regression analysis. The previous formula recommended that, in order to achieve an acceptable level for statistical analysis, the sample size had to be more than 384. The following formula was used to measure the actual sample size:

Actual Sample Size:

$$n^a = [n * 100] / re\%$$

Where

n^a =   Actual sample size required

n =   Minimum sample size

$re\%$ =   Pilot study response rate expressed as percentage

The minimum sample size was computed and a total of 384 participants were required for the lowest number needed. Section 4.5.3 of this chapter details the response rate of the initial pilot study, which was 42%. These two figures were incorporated into the following formula:

$n^a = [384 * 100] / 42$

$n^a = 914$

By substituting a pilot response rate as a determinant on the actual sample size formula and the minimum sample size, a total sample size of 914 was required to achieve 384 participants. Therefore, 914 students studying at King Abdul-Aziz University in Saudi Arabia were recruited for this empirical investigation.

4.7   Focus-Group Interviews as a Follow-up Study

A focus-group interview is defined as a session containing group discussion which is organised and planned carefully (Kinnear and Taylor, 1996). It is considered to be a major instrument in collecting qualitative data. The main aim of this data collection method is to

access, in a formal and friendly atmosphere, participants' perceptions and attitudes toward a particular phenomenon (Churchill, 1991). As with any other data collection instrument, a focus group can be used either to develop research hypotheses or to validate them. However, some researchers recommend making use of them as smaller follow-up studies to assist in confirming the results from the preliminary quantitative study (Grossinckle and Raskin, 2000). As mentioned previously, this study's main source of data was a questionnaire which assisted in confirming the study's propositions. However, since this study was concerned with a fairly innovative notion, it was essential to make use of a number of focus-group sessions which helped to reinforce the findings generated by the main quantitative survey. Generally, in terms of their form, focus groups can be classified into either a mini group or a full group (Greenbaum, 1998). These two types of group differ in terms of their size, since a mini focus group consists usually of four to six participants while a full focus group accommodates between seven and 12 participants. This study adopted the mini focus group scheme due to the fact that it contained fewer members which ensured that it enjoyed greater flexibility in offering more time for participants to be involved in the discussion.

a) Structure and Layout

This study's focus group was a newly developed tool which was built based on pre-existing literature (Threlfall, 1999; Hines, 2000). The focus group transcript consisted of four main stages: welcome stage, general rule stage, discussion stage, and conclusion stage (Appendix F). The discussion stage covered four formal questions which were designed to supplement the original quantitative measurement statements. These questions were related to the key dimensions which the participants used in evaluating the level of service quality in Internet banking services. In addition, participants were asked about the specific items of each dimension which played a significant role in their decision-making process on the level of service quality in Internet banking services. Moreover, participants were asked to indicate if they had had any problems using Internet banking services. Finally, participants were asked to specify what Internet banking service providers should do to provide better quality services.

b) Participants

Due to this study being related to the original quantitative one, non-student sampling was selected so that it was complementary with the target sample of the quantitative study. This study used academicians as a target population representing well qualified academic staff members (professors, associate professors, assistant professors, lecturers, and

teaching assistants) at King Abdul Aziz University in Jeddah, Saudi Arabia. The sample size consisted of five participants per session since this was a mini group (Greenbaum, 1998). At the end of the session, the moderator thanked the participants for their patience and valuable contribution and asked them to kindly complete an optional personal contact form in order to send to them gifts of thanks for their involvement in the research. This technique was useful since it acted as an incentive for people to be involved.

4.8   Demographic Characteristics

Demographic characteristics refer to the investigation of a community in regard to gender, age group, ethnic background, level of income, and career (Kotler and Armstrong, 1996). Some studies, especially when investigating the impact of social aspects, included in their surveys demographical questions about such matters as sex, age, race, and level of education (Choudrie and Dwivedi, 2006). However, in some cases it is not recommended to include demographical questions in the survey. For example, Al-Azhari (1993) and Abe (2011) advise that, if unnecessary, background information should not be incorporated for the following three main reasons:

1. **Sample Size**

Demographic segmentation refers to the sub-division of a large population into smaller parts on the basis of certain attributes. This procedure may be useful in some research cases, such as investigations of the socio-economic features of an entire population. However, if this is not the case, it is not recommended to do so since it results in creating small sample sizes. This makes it difficult to draw any conclusions by dividing the respondents into subgroups including small sample segments.

2. **Questionnaire Design**

One of the major targets of any researcher is to acquire as many respondents as possible and, therefore, to obtain a high response rate. This can be accomplished when designing a straightforward, concise survey. However, if unnecessary statements are included, the survey becomes too long which increases the failure rate in completing it.

3. **Recognisable Identities**

Survey respondents are always keen to be anonymous. Undoubtedly, asking needless demographic questions makes it easy for the respondent to be identified. This is particularly true when investigating a small well-known population such as in the case of student surveys. This has a negative impact on the quality of the responses and encourages biases to come into the research. Accordingly, due to the fact that this study was not concerned with either social or economic issues, no demographic questions were included.

4.9   Research Ethics and Anonymity

Research ethics is defined as "the appropriateness of the researcher's behaviour in relation to the rights of those who become the subject of a research project, or who are affected by it" (Saunders et al., 2007, p. 610). Research ethics is considered an important element of the research process with a special emphasis related to human matters. Christians (2000) states that the researcher is required to protect human rights during the research process. Furthermore, there are certain regulations which need to be addressed in order to meet the ethical guidelines. This study is no different and was designed in the light of those regulations recommended by academic officials. These guidelines included the following:

1.   Statement of Ethical Approval

Before data collection, the researcher had to outline his data collection instrument and sign an ethical approval form and mail them to his supervisor. The form had to be signed by the supervisor and sent to the Research Ethics Committee at Brunel Business School, Brunel University. On 28 May 2010, the Research Ethics Committee issued a statement of ethical approval indicating that the University agreed to act as sponsor and to provide appropriate indemnity in relation to this study. A copy of this letter can be seen in Appendix D.

2.   Self-Introduction

Additionally, in order to ensure full recognition of the questionnaire, a covering letter was attached to each questionnaire indicating the researcher's name, the name of his university and department, the title of the research, and its purpose. Also, the researcher made this information available to the participants during the welcome stage of the focus-group interviews.

3.   Data Confidentiality

Participants in both the quantitative and qualitative studies were assured that all the data was confidential and would be dealt with in privacy for academic purposes only and would not be supplied to any third party. With the exception of the incentive questions, the participants were not required to write either their names or contact details. However, these questions were optional.

4.   Organisational Privacy

This research's case study is Internet banking services in Saudi Arabia. It investigates the banking service sector generally and does not segment its institutions. Therefore, there was no need to ask the name of any service provider and, therefore, the examined organisations' identities were kept secure.

4.10 Data Collection Procedure

The previous logical research stages provided a smooth transition to the next important practical steps of data collection.

a) Survey Administration

The fieldwork took place between 1 June and 31 July 2010 at the Faculty of Economics and Administration, King Abdul Aziz University, Saudi Arabia. Choosing this location for the distribution of the questionnaire was critical for a number of reasons, including the following:

1. The Faculty of Economics and Administration was established in 1967 and there are currently more than 5,000 students enrolled on undergraduate and postgraduate programmes, which makes it one of the oldest and largest public higher institutions in the country.

2. The researcher works as a Teaching Assistant in the Faculty of Economics and Administration, which facilitated data gathering since personal relationships count in a developing eastern cultural context like Saudi Arabia.

3. After Riyadh, Jeddah is the second largest city in KSA with a population of 3.2 million and its national residents represent all KSA's 13 administrative provinces. This makes it a multi-cultural community and a suitable place for distributing a questionnaire.

4. Jeddah is a fast-growing urban development and its local citizens represent mainly the upper-middle class segment, which makes them highly educated and frequent Internet users.

The researcher had to obtain an authorisation letter from the University's top management to assist in collecting data from the academic departments; this was obtained from the University Vice-President for Graduate Studies and Scientific Research. The researcher was allocated an adviser to guide him during the data collection process and to smooth the progress of the fieldwork. The adviser, who is an Associate Professor in the Department of Economics, has extensive experience in research methodology and quantitative methods which enabled him to successfully guide the researcher and provide him with valuable assistance. Additionally, the researcher was assigned six academic staff members representing the Faculty's six academic departments in the faculty – Business Administration, Public Administration, Economics, Accounting, Business Law, and Political Science. These academic staff members acted on the researcher's behalf in the

distribution of the questionnaire. Accordingly, a meeting was arranged between the researcher and the assigned staff members and took place from noon to 1 pm on 21 August 2010 in the main seminar room on the second floor of the faculty building. During this meeting, the researcher gave a 20-minute presentation, introduced himself and explained the research focus of his study and the questionnaire structure and layout. The remaining 40 minutes were used in answering the faculty members' questions regarding the questionnaire contents and the distribution process. At the end, the members at the meeting exchanged contact details.

Approximately 150 paper-based surveys were given to each faculty member. These surveys were distributed and completed by male and female sections of undergraduate and postgraduate students from all six academic departments. The female surveys were sent through the University's internal mail services to the ladies section and were supervised by the same faculty members by means of the distance-learning satellite system. Also, female academic and administrative staff members were in direct control of the process. During the time of distributing the questionnaire, the researcher was in contact with the assigned faculty members in order to answer any question or clarify any misunderstood points. After the surveys were completed, all were placed in A4-size envelopes and returned to the researcher by mailing them to his postal address in Jeddah. At the end of the data collection period, the researcher requested a letter of proof of his participation in the data collection process. The researcher's adviser at King Abdul-Aziz University wrote accordingly to the researcher. This letter confirmed the researcher's participation in this project and acknowledged his overall performance and handling of the data gathering process. A copy of this letter can be found in Appendix E.

b) Conducting Focus-Group Interviews

The field work took place between 1 and 31 August 2010 in the Faculty of Economics and Administration's Seminar Room (2nd floor) at King Abdul Aziz University. It was therefore completed immediately after the main quantitative study. Three focus group sessions were conducted with the help of five academic staff members in each session, bringing the total number of participants to 15 academicians. Burrows and Kendall (1997) suggest that, for a simple research question to be addressed, three to four focus groups are needed. As recommended, three focus group sessions were conducted and each session lasted for about one to two hours (Rabiee, 2004). All the sessions were audio taped for the purpose of listening to them later for analysis and interpretation; to comply with the necessary ethical requirements, all participants were informed about this. Additionally, the

moderator made use of writing notes which were helpful in clarifying some points. In order to manage the discussion properly, it was essential that the moderator was well experienced in the research topic. In this case, the researcher himself acted as the moderator and he was skilled enough both academically and in communication skills.

The following headlines covers the main points observed from the data collection procedure during the focus-group interviews and highlight the overall theme of the process. The major observations include the following:

1. Three formal focus-group interviews were conducted based on general descriptions of the relevant literature and in order to avoid redundancy.

2. The three focus-group discussions were arranged by the researcher and were conducted with 15 academic staff members at King Abdul-Aziz University, through face-to-face interaction.

3. The three focus-group sessions were carried out according to the following timelines:

    a) **Focus Group No. 1:**
    - **Date:** Sunday 1 August 2010
    - **Time:** 12:00 pm to 1:25 pm
    - **Location:** Seminar Room, 2nd Floor, Faculty of Economics and Administration, King Abdul-Aziz University, Jeddah, Saudi Arabia
    - **Participants:** 5 Academic Staff Members

    b) **Focus Group No. 2:**
    - **Date:** Sunday 15 August 2010
    - **Time:** 11:00 am to 12:05 pm
    - **Location:** Seminar Room, 2nd Floor, Faculty of Economics and Administration, King Abdul-Aziz University, Jeddah, Saudi Arabia
    - **Participants:** 5 Academic Staff Members

    c) **Focus Group No. 3:**
    - **Date:** Tuesday 31 August 2010
    - **Time:** 1:00 pm to 2:30 pm
    - **Location:** Seminar Room, 2nd Floor, Faculty of Economics and Administration, King Abdul-Aziz University, Jeddah, Saudi Arabia
    - **Participants:** 5 Academic Staff Members

4. The process of conducting the three sessions was on time, in place, and went professionally and smoothly with full participation, which is reflected in the trustworthiness and credibility of the obtained results.

5. The majority, if not all, of those interviewed discussed openly their experiences with their private commercial banks and showed sincere interest in sharing their knowledge.

4.11 Predetermined Data Analysis Tools

Data analysis refers to tools aimed at breaking down data and simplifying them in order to explain the relationships between them (Saunders et al., 2007). Churchill (1991) states that the last step in developing a well-organised research plan is to determine the appropriate analytical procedures. Malhotra (1999) states that when selecting suitable analytical tools a number of factors need to be considered, including the research problem, the research aim and objectives, the characteristics of the data and, finally, the properties of the analytical techniques. For the purpose of this study, regression analysis was the main statistical analytical technique which was used and framework analysis was the main qualitative analytical tool.

4.11.1 Multiple Regressions

Regression analysis is one of the main statistical analysis techniques used for testing the research hypotheses. Regression analysis is carried out as an explanatory approach to test the dependency or causality of the variables. Mayers (1999) states that regression analysis is the most suitable analytical procedure if the information required is related to the dependency of one metric dependent variable (Figure 4.2). In addition, regression analysis could be chosen as an ideal method in the following cases (Bagozzi, 1982; Maclean and Gray, 1998):

1. For historical comparative purposes

Regression analysis is the oldest technique and thus most of the early written topics and research studies used it. Therefore, it is recommended that, in order to compare recent results with similar previous ones, the same previous statistical methods should be followed to produce similar statistical indicators.

2. For smaller sample sizes

Regression analysis requires usually smaller sample sizes than other techniques. Therefore, this technique can be useful when the size of the sample is limited.

3. For high reliability scales

Regression analysis is practical in highly reliable studies and is unconcerned with errors in measurement.

This study is concerned with the old topic of service quality, which evolved in the early 1980s. Additionally, although this study's sample size is representative, it is nevertheless suitable for such a basic technique. Moreover, the high reliability of this study's constructs is discussed in detail in the results and discussion chapter. Consequently, regression analysis seemed to be the most appropriate statistical analysis technique for this study.
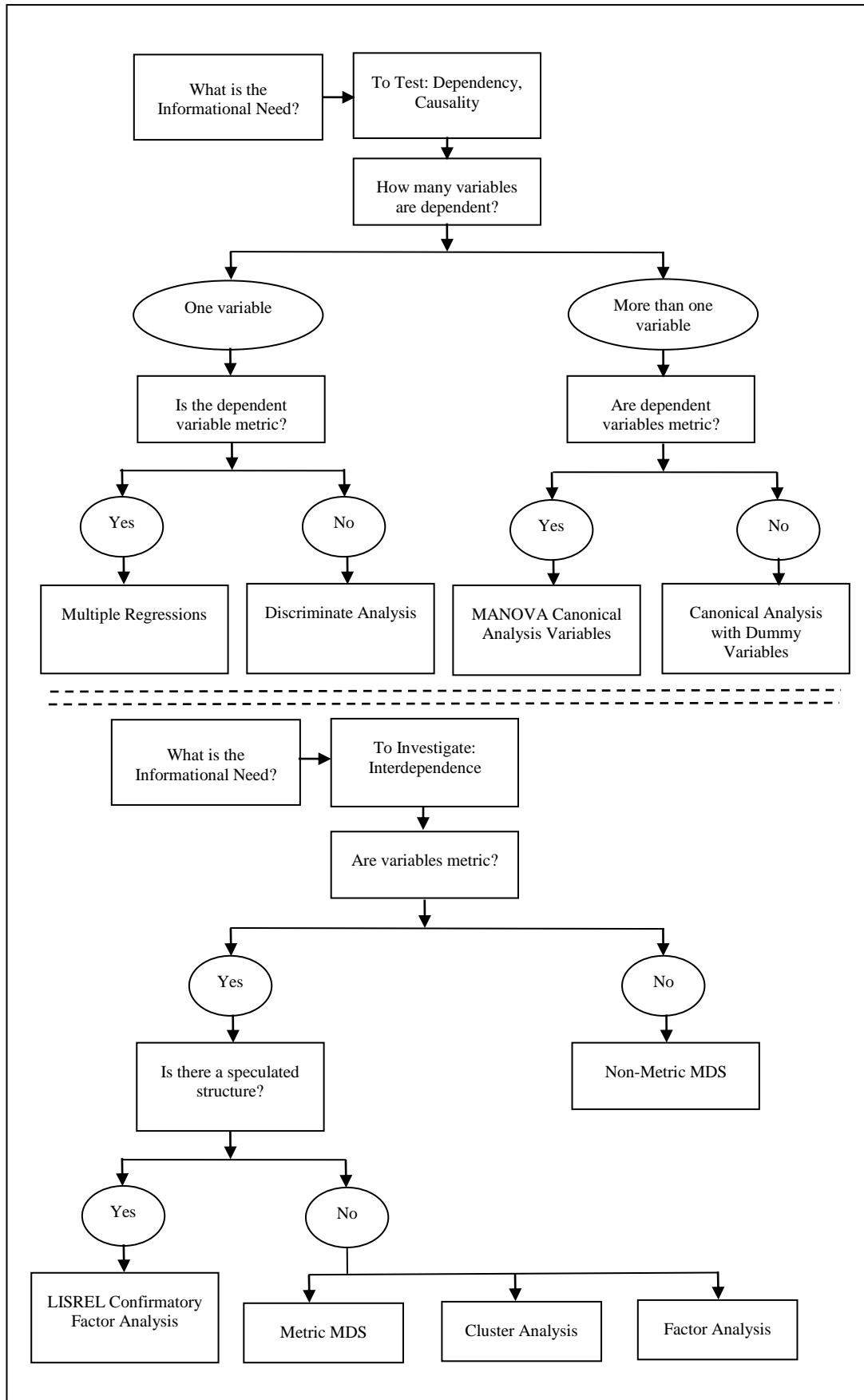
Figure 4.2: Plans of Data Analysis Techniques
Source: (Myers, 1999; Al Mutawa, 2006, p. 21)

4.11.2 Framework Analysis

Different forms of qualitative research and focus-group interviews produce huge quantities of data. For example, a one-hour interview might be analysed in five to six hours and might generate 30 to 40 pages of transcripts (Rabiee, 2004). Such a result is likely to be complicated to beginners in addition to qualified researchers. Therefore, the fundamental aim in analysing qualitative data is to reduce the data (Robson, 1993). Practically, and to date, various methods have been developed and introduced for analysing qualitative data. However, in most recent studies, "framework analysis" is the most adopted technique for analysing individual and focus-group interviews (Ritchie and Spencer, 1994). The reason for implementing this strategy is that it is an easy-to-use technique which allows novice researchers to deal efficiently with a large amount of data. In order to implement the strategy, five phases need to be followed (Rabiee, 2004). These phases are described as follows:

1. Familiarisation

The first thing the researcher had to do was to organise, listen, and read all the materials which contained the data from the interviews, including audio tapes, written transcripts, and observation notes.

2. Identifying a thematic framework

The researcher wrote ideas and short phrases arising from the texts or from the tape recorder on the margins of the transcripts and, on the basis of the research questions, grouped them under certain classifications.

3. Indexing

After the categorisation process, the researcher started by emphasising and underlining important texts and quotes from the original texts which would be used toward answering and clarifying the related research questions.

4. Charting

In this part of the analysis, all the required quotes were transferred into the newly organised table of contents. Transcriptions were arranged under their related dimensions and line numbers from the original text and the participants' codes were cited.

5. Mapping and Interpretation

After conducting the first four steps of data analysis, there emerged one major group interview transcript table. This table was designed to address the identified service quality determinants. The researcher read and critically evaluated the table, which led to the development of a comprehensive report summarising the overall findings.

Nowadays, there are a number of specialised computer programs available for analysing qualitative data. However, it is recommended that these be analysed using Microsoft Word or manually since this part of the study was considered to be a secondary data collection method (Richards, 1998).

4.12 Secondary Data Used in this Research

Saunders et al. (2007, p. 246) define secondary research as "data used for a research project that were originally collected for some other purpose". Secondary data includes both quantitative and qualitative data which are used in both descriptive and explanatory research. Researchers (Bryman, 1989; Robson, 2002) have classified secondary data into three subgroups: documentary data, survey-based research, and multiple source secondary data. This study uses multiple source secondary data as it can be based on documentary data, survey-based research or a combination of both. This may include government publications, books, journals, industry statistics and reports, and organisations' websites. Some of the advantages of secondary data include it having fewer resource requirements and it being easy to find and able to provide comparative and contextual data. However, this type of research has some disadvantages, including that the data may be collected for a purpose which does not match the researcher's requirements, the quality of the data is not always controlled and the presentation of the data may be affected by the purpose of the original research. Secondary data can be obtained from different sources, including academic journals, books and publications, and organisational websites.

a) Academic Journals

Academic journals were very important and useful tools in obtaining secondary data. In fact, the researcher considered them to be the most important sources of secondary data. This study's progression was based on the knowledge obtained from scholarly articles and academic studies published in high-quality academic journals which specialised in various fields of business administration. The researcher made extensive use of these valuable resources and was able to obtain them electronically through Brunel University Library's electronic gateway.

b) Books and Publications

The researcher considered books and publications to be other useful tools for collecting secondary data. They provided a great deal of useful information related to a particular topic. In most cases, they were easily obtainable since they were available in public and academic institutions' libraries. In this study, the researcher was able to obtain them from

various different sources such as Brunel University London Library, the Cultural Bureau's library at the Saudi Arabian Royal Embassy in London. Also, various types of reports and unpublished Master's Dissertations and Doctoral Theses were other practical helpful implements.

c) Organisational Websites

On the Internet, organisational websites were another useful tool for collecting data. Websites provided the researcher with many references on service quality and allowed him to identify and refine the most appropriate material for the current study in relation to the financial services. The main advantage of using reliable websites is the ability to obtain up-to-date information since the websites are updated regularly. Other advantages were cost and time since they were very easy to obtain, available 24 hours a day seven days a week, and are accessible from anywhere in the world. These websites addressed a number of local organisations and a range of international institutions.

Those sources provided extensive information concerning the main topic of this study. However, some of the information was simply neither relevant nor accurate. Therefore, the researcher was careful in relying on information from credible and reliable sources.

4.12 Chapter Summary

This chapter's main aim is to present the research design of this study. The chapter describes the general research philosophy used in this research. This study's protocol is based on a six-stage research process consisting of reviewing literature, developing research propositions, designing a suitable research methodology, analysing the data, and discussing the results. Also, the chapter discusses and examines the various research methods used in the literature and sees a mixed research triangulation method as the most suitable approach for this study. The questionnaire, which this study uses as its primary data collection tool, was validated through the three phases of consulting appropriate experts, piloting, and translation. Student sampling was selected for the purpose of collecting quantitative data. This was due to the fact that this segment represents mostly young people who are well experienced and frequent Internet users. Surveys were distributed to full-time undergraduate and postgraduate students of both genders. Then, the researcher arranged a follow-up mini focus-group qualitative study. The intention behind undertaking such a study is to provide supporting and conformity verifications to the main quantitative research. Both studies will be analysed by implementing appropriate analysis tools. The next chapter reports on the overall results and discusses this study.

CHAPTER 5

Overall Results and Discussion

5.1   Introduction

Essentially, raw data provides no meaning to people. However, the picture becomes clearer when the data is processed and analysed. The process of analysis provides a great deal of help since it transforms the meaningless raw data into meaningful and valuable information. Data analysis is therefore defined as the capability to dissemble data into its constitutive elements, which helps to distinguish the relationships between them. This general definition explains the process of quantitative (numerical) and qualitative (non-numerical) data analysis. Since it is mixed methods in nature, this study examines and follows both quantitative and qualitative data analysis approaches.

1. Quantitative data analysis: This involves the process of coding, classifying and categorising elements of quantitative research data for the purpose of analysing them. This can be executed by implementing a number of advanced computer-based analysis software packages such as the Statistical Package for Social Sciences (SPSS) program.

2. Qualitative data analysis: This procedure can be carried out through main qualitative analysis techniques such as framework analysis. This technique describes the data through several stages, such as recognising, arranging, and understanding the data.

The aim of this chapter is to present the main findings of this research's quantitative and qualitative studies and to discuss the results. The chapter involves the following steps:

1. The chapter begins with the process describing the statistical analysis road map followed by validation of the research instrument.

2. Four main statistical analysis procedures are then computed: preliminary analysis, correlation analysis, principal component analysis (PCA) and regression analysis.

3. The performance and implementation of the research model will then be discussed.

4. Finally, summary of the chapter will conclude.

5.2   Statistical Analysis Road Map

The objective of this chapter is to analyse the quantitative and qualitative data, present the overall results and discuss them. In order to examine the numerical data, a number of essential statistical tests were carried out with the help of the sophisticated SPSS version 15.0 programme. The SPSS program was used to analyse the data and for carrying out the previously mentioned tests, which consisted of calculating the reliability test, producing descriptive statistics, the correlation test, the PCA, and the multiple regression analysis. The reason SPSS was used is it is user-friendly software and is available in most computer and dry labs. Also, it can be learnt easily since there are frequently short courses available.

Figure 5.1 explains the road map which was followed in order to complete the data analysis procedure. This road map can be described as follows:

1. To establish codes for the returned survey data.

Following the quantitative data collection, the data was coded at different levels of numerical measurement.

2. To enter the survey data into an SPSS format.

Then the data was entered into the computer system in the format of a data matrix where each column characterised an item and each row characterised a case.

3. To work out reliability and validity of the main survey, the following two tests were done:

    - Measurement of reliability; and
    - Measurement of validity.

4. To compute basic descriptive statistics.

This initial analysis discovered data using tables to show the following specific values:

    - Descriptive statistics in the form of a Likert scale for reliability;

    - Descriptive statistics in the form of a Likert scale for responsiveness;

    - Descriptive statistics in the form of a Likert scale for website design;

    - Descriptive statistics in the form of a Likert scale for personalisation; and

    - Descriptive statistics in the form of a Likert scale for service quality.

5. To complete and present the correlation analysis in order to evaluate the strengths of the relationships between the dimensions.

6. To carry out the PCA.

7. To perform a multiple regression analysis in order to calculate and forecast values.

8. To present the validated frame of reference and draw the empirical conclusions represented by the results of the hypothesis tests.
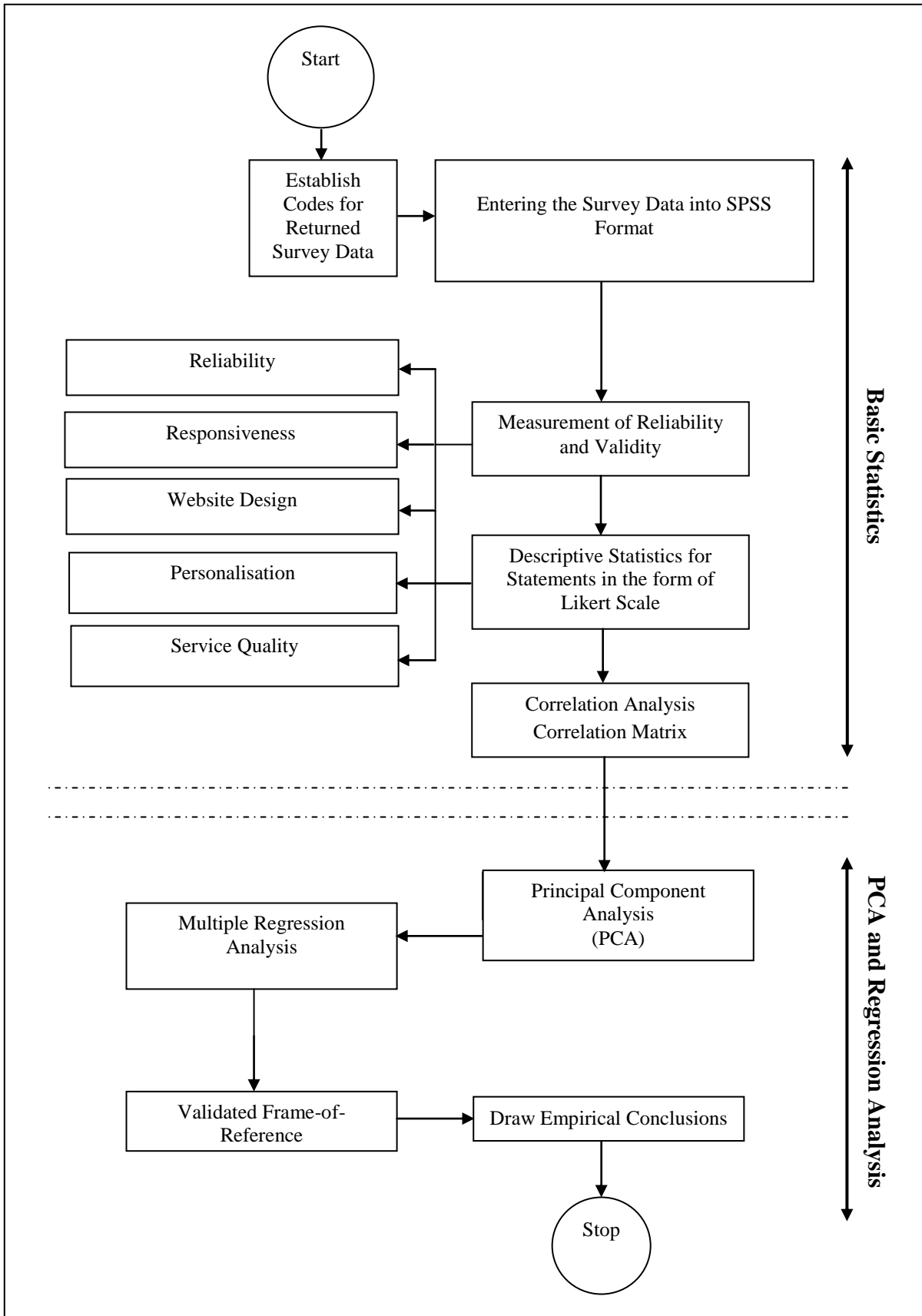
Figure 5.1: Statistical Analysis Road Map

5.3   Total Response Rate

A total of 914 questionnaires were distributed to undergraduate and postgraduate students in the Faulty of Economics and Administration, King Abdul Aziz University, Jeddah, Saudi Arabia. The researcher distributed and administered these questionnaires with the help of six academic staff members from the same school. A total of 803 questionnaires were received. 49 questionnaires were ineligible since their respondents indicated that they did not use Internet banking services and 22 questionnaires were rejected as they were completed incorrectly, leaving a total of 732 usable questionnaires. This gave a total response rate of 80% (Table 5.1).

Table 5.1: Total Response Rate

Item	Number of Questionnaires
Distributed	914
Received	803
Ineligible	49
Discarded	22
Usable	732
Total Response Rate	80%

The response rate can be different when collecting primary data through questionnaires based on the survey distribution method. Willimack et al. (2002) recommended a response rate of 50 to 65% for paper-based questionnaires distributed in a university-based context. Due to the following reasons, this study's response rate exceeded the recommended level by at least 15%:

1. Survey design

The well-structured design of the survey which consisted of a limited number of useful questions allowed the questionnaire to be completed in 10 to 15 minutes. Also, the responses of the Saudi Arabian students from Brunel University London in developing the survey during the pilot study stage helped the researcher's understanding since that group shared similar characteristics to the intended target population.

2. Ethical approval

Approval by the Research Ethics Committee at Brunel University London and the authorisation letter issued by the Vice-President for Postgraduate Studies and Scientific Research at King Abdul Aziz University facilitated the distribution and administration of the questionnaire.

3. Personal relationships

Since the researcher himself is a member of staff of the Faculty of Economics and Administration, King Abdul Aziz University, this assisted in achieving the outlined plan and objectives.

The above-mentioned explanations helped towards developing a consistent survey which, ultimately, made it possible to achieve a high participation rate beyond the researcher's expectations.

5.4   Measurement of Reliability and Validity

Saunders et al. (2007, p. 614) define the general term 'validity' as "the extent to which data collection method or methods accurately measure what they were intended to measure or as the extent to which research findings are really about what they profess to be about". In this study, validity explains the degree to which the measurement instrument can meet the purpose which it is developed to measure. The survey instrument has to be reliable and valid in order to obtain dependable research findings. To do so, four techniques are recommended as criteria to validate research on information systems and in the management fields (Straub et al., 2005). These processes are the Cronbach's alpha reliability coefficient, factor analysis, content validity, and construct validity. This study adopted these four processes to validate its instrument. The Cronbach's alpha reliability coefficient, factor analysis, and construct validity were adopted as post-data collection techniques, while Content validity was employed as a pre-data collection technique.

5.4.1 Cronbach's Alpha Reliability Coefficient

Cronbach's coefficient alpha (α) was used as an indicator for evaluating the reliability of the measurement scale. This indicator had values which varied from 0 to 1. Hinton et al. (2004) recommended four indicators of reliability: low (0.50 and below), high moderate (0.51 – 0.70), high (0.71 – 0.90), and excellent (0.91 and above). However, if the value of α is equal to or greater than 0.70, then the scale is believed to be reliable in measuring the construct (Straub et al., 2004). In accordance with this recommendation, this study considered an α value of 0.70 or greater as satisfactory. Table 5.2 shows the scale's reliability for the considered dimensions. This table also illustrates Cronbach's coefficient alpha results for the internal consistency of the scale. The figures varied between 0.715 for responsiveness to 0.781 for website design. The other values for the dimensions reliability, personalisation, and the dependent variable of service quality were 0.744, 0.719 and 0.720 respectively.

Generally, the Cronbach's alpha values tended to be large (more than 0.70), indicating the considered scale's reliability as a measure of the dimensions.

Table 5.2: Measures of Reliability

Dimension	Number of Statements	Cronbach's Alpha	Type
Reliability	5	0.744	High Reliability
Responsiveness	5	0.715	High Reliability
Website Design	5	0.781	High Reliability
Personalisation	5	0.719	High Reliability
Service Quality	3	0.720	High Reliability

5.4.2 Factor Analysis

The idea behind factor loading is to remove the redundancy from the variable sets and to reduce them to a specific number of factors. In other words, this method is used to evaluate the construct validity of the scale. Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity are particularly significant methods; these confirm the relationships between dimensions to check the suitability for running a factor analysis (Kaiser, 1974). The KMO value differs between 0 and 1. As a general rule of thumb, a value of 0 signifies that the factor analysis will be inappropriate, while a value equal to or close to 1 signifies that the factor analysis is appropriate. Hutcheson and Sofroniou (1999) indicated the following:

1. It is an acceptable value to run factor analysis when KMO $= 0.5$.
2. It is an average value to run factor analysis when $0.5 < KMO < 0.7$.
3. It is a good value to run factor analysis when $0.7 < KMO < 0.8$.
4. It is an excellent value to run factor analysis when $KMO > 0.8$.

As shown in Table 5.3, this study's KMO value is equal to 0.656, which is well above the recommended value. As a result, factor analysis is suitable.

Table 5.3: KMO and Bartlett's Test
* Highly significant.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.656
Bartlett's Test of Sphericity	Approx. Chi-Square	325.950
	df	6
	Sig.	0.000*

Accordingly, the factor analysis technique is performed through the PCA using Varimax as an extraction method and Kaiser Normalisation as a rotation method. Dwivedi et al. (2007) recommend 0.40 as the minimum value for factor loadings in marketing and information system research. The results of the PCA are shown in Table 5.4. The results of the rotated component matrix prove that all four factors along with the dependent variable are loaded appropriately. Their coefficients varied between 0.407 and 0.876. Additionally, there was no cross-loading of the items above 0.40. This suggests that the overall results obtained from this measurement scale are both reliable and valid and, as was believed when developing the research model and the measurement scale, a factor exists on the data.

Table 5.4: Rotated Component Matrix
Extraction Method: PCA
Rotation Method: Varimax with Kaiser Normalisation

Items	Components				
	1	2	3	4	5
REL3					0.703
REL2					0.695
REL5					0.611
REL1					0.568
REL4					0.566
RES2		0.607			
RES1		0.575			
RES5		0.537			
RES3		0.431			
RES4		0.420			
WD5	0.777				
WD3	0.671				
WD4	0.605				
WD2	0.501				
WD1	0.407				
PER5			0.876		
PER4			0.860		
PER1			0.643		
PER3			0.462		
PER2			0.447		
SQ3				0.876	
SQ2				0.860	
SQ1				0.524	

Additionally, there are a number of tests which can be taken to examine the validity of a scale, including content validity and construct validity.

5.4.3 Content Validity

Content validity refers to the fact that the measurement statement is able to measure the measurement it is developed to measure (Cooper and Schindler, 2001). This research study tested content validity through the following three practices:

- This study's integrated service quality dimensions have been adapted from previous and contemporary valid marketing literature.

- The questionnaire validity stage was subject to three significant procedures including consulting professional experts who had both good and wide experience of research methodology.

- A pilot study was conducted with the help of a group of students at Brunel University in London who were from Saudi Arabia and who represented similar social and economic characteristics to the target population.

5.4.4 Construct Validity

Construct validity stands for the degree in which the constructs have hypothetical relationships to one another in measuring a concept on the basis of the study's background theory (Malhotra, 1993). Convergent validity and discriminate validity have to be expressed in order to achieve construct validity.

a) Discriminate Validity

Discriminate validity means that there is not too high a correlation between items from one construct and items from different constructs (Hair et al., 2003). This study's correlation matrix was examined in order to discriminate validity as shown in section 5.6 of this chapter. It is clear that there is a significant relationship between different dimensions; therefore, one can conclude that this study lacks good discriminate validity.

b) Convergent Validity

Convergent validity, which is also known as criterion validity, stands for the evaluation of the degree in which two items of the same construct are highly correlated. These indicate that the scale is measuring the intended concept. With the help of the SPSS program, Cronbach's alpha has been adopted as a measure of the scale's internal consistency. The subsequent table sets out the test results and reports the construct validity for each of the independent variables and the dependent variable. The corrected item-total correlation column represents the measureable estimate. The Cronbach's alpha of the deleted items represents the values of α when an item is deleted.

Field (2005) listed a number of procedures for carrying out this test:

1. To remove one statement and calculate Cronbach's alpha for the remaining statements.

2. If the calculated Cronbach's alpha is greater than the Cronbach's alpha for all statements, this means that the reliability has increased and, therefore, the statement has to be removed.

3. If the calculated Cronbach's alpha is less than the Cronbach's alpha for all statements, this means that the reliability has decreased and, therefore, the statement should be retained.

4. This procedure has to be repeated for each statement.

Furthermore, Field (2005) suggested that the total values of Cronbach's α were acceptable for consistency when they were between 0.7 and 0.8, as any values less than these were considered to be unreliable.

As shown in Table 5.5, the overall values of Cronbach's α for the independent and the dependent variables are as follows:

- The overall value of Cronbach's α for the reliability dimension is 0.744
- The overall value of Cronbach's α for the responsiveness dimension is 0.715
- The overall value of Cronbach's α for the website design dimension is 0.781
- The overall value of Cronbach's α for the personalisation dimension is 0.719
- The overall value of Cronbach's α for the overall service quality is 0.720

A number of significant observations can be noted from the above results, including the following:

1. The overall value of Cronbach's α for the four independent variables reliability, responsiveness, website design, and personalisation and for the dependent variable (i.e. service quality) are all greater than 0.7, which means that all have values considered to be acceptable for reliability.

2. All of the values of Cronbach's α are within a close estimate to each other; this suggests that the data have good reliability.

3. Not one of the values of the Cronbach's alpha is greater than the overall Cronbach's α of the overall dimension.

In compliance with the literature (Field, 2005; Irani et al., 2009), this then indicates that there is no need to delete any of the statements since doing so would not help to improve the validity of the scale.

Table 5.5: Items Analysis

Items	Item-Total Statistics	
	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
REL1	0.484	0.708
REL2	0.589	0.667
REL3	0.585	0.668
REL4	0.488	0.706
REL5	0.393	0.739
Total	-	**0.744**
RES1	0.499	0.656
RES2	0.506	0.653
RES3	0.533	0.645
RES4	0.469	0.669
RES5	0.368	0.711
Total	-	**0.715**
WD1	0.465	0.769
WD2	0.532	0.748
WD3	0.660	0.704
WD4	0.582	0.733
WD5	0.549	0.744
Total	-	**0.781**
PER1	0.556	0.624
PER2	0.530	0.655
PER3	0.541	0.631
PER4	0.516	0.659
PER5	0.563	0.601
Total	-	**0.719**
SQ1	0.540	0.631
SQ2	0.539	0.632
SQ3	0.540	0.631
Total	-	**0.720**

In summary, in this part of the study (Section 5.4), a comprehensive assessment of the scale of Internet banking service quality was carried out in terms of examining its reliability and validity. In order to do so, four main methods were implemented: Cronbach's alpha reliability coefficient, factor analysis, content validity, and construct validity. The outcomes of such tests suggest that the service quality measurement scale is both reliable and valid. Therefore, the overall results obtained from this measurement scale are truthful and can therefore be trusted.

5.5   Preliminary Statistical Analysis

Descriptive statistics stand for the conversion of raw data into useful information which can be interpreted to explain a group of dimensions (Brayman and Bell, 2007). They represent one of the most important early stages of statistical data analysis. This form of statistical analysis can include a number of outputs, including tables, diagrams and measures of means and standard deviation.

For the purpose of this study, the weighted mean was calculated in the form of fifth-scaled Likert's measures for responses to each single statement for all dimensions. In order to calculate the weighted mean, each and every response had to be given a specific weight reflecting its importance. The weight which each response took for every individual statement was as follows: 1 for strongly disagree, 2 for disagree, 3 for neutral, 4 for agree, and 5 for strongly agree (Table 5.6).

Table 5.6: Fifth-Scaled Likert's Measures

Response	Weight
Strongly Disagree	1
Disagree	2
Neutral	3
Agree	4
Strongly Agree	5

Following Al-Sayyad et al. (2006), the responses had to be classified in order to study the importance of each statement. By giving each statement a level of priority according to its importance, this classification included both the calculated value of the weighted mean and the degree of importance. As shown in Table 5.7, each statement was given a response according to its weighted mean on the following basis:

- **Strongly Disagree**: This response was given for the statement if its weighted mean was from 1.00 to less than 1.80.

- **Disagree**: This response was given for the statement if its weighted mean was from 1.80 to less than 2.60.

- **Neutral**: This response was given for the statement if its weighted mean was from 2.60 to less than 3.40.

- **Agree**: This response was given for the statement if its weighted mean was from 3.40 to less than 4.20.

- **Strongly Agree**: This response was given for the statement if its weighted mean was from 4.20 to less than 5.00.

Table 5.7: Fifth-Scaled Likert's Criterions
Source: Al-Sayaad et al. (2006)

Weight Mean	Response
From 1.00 to less than 1.80	Strongly Disagree
From 1.80 to less than 2.60	Disagree
From 2.60 to less than 3.40	Neutral
From 3.40 to less than 4.20	Agree
From 4.20 to less than 5.00	Strongly Agree

The above procedures were repeated for all of the independent variables (i.e. reliability, responsiveness, website design and personalisation) and for the dependent variable (i.e. service quality).

a) Independent Variable 1: Reliability

The reliability dimension was assessed by five measurement statements. Each statement was designed to measure one single theme. As can be seen from Table 5.8, the results obtained from the preliminary analysis of the reliability dimension are as follows:

1. Respondents had different points of view about the bank fulfilling its promises to do something by a certain time. The majority of respondents rated the services neutral, yielding an average weighted mean of 3.22 and a priority rank of 4.

2. The majority of respondents considered, that Internet banking provided a dependable service. This resulted in a relatively low weighted mean of 3.21 and a neutral overall response and a priority ranking of 5.

3. Respondents were satisfied with the performance of the bank in providing the service correctly on the first occasion. This entailed a weighted mean of 3.42, resulting in an overall response of agree and a priority ranking of 1.

4. Respondents were fairly satisfied with the safety and security of using Internet banking services. Such results generating a weighted mean of 3.28, an overall response of neutral and a priority ranking of 2.

5. The fact that respondents seemed generally quite satisfied with the accuracy of Internet banking transactions resulted in a weighted mean of 3.24, an overall response of neutral and a priority ranking of 3.

Overall, the majority of respondents considered that the reliability of the bank's Internet services was fair, generating a weighted mean of 3.27 and an overall response of neutral.

Table 5.8: Descriptive Statistics for Statements in the Form of Likert Scale for Reliability

Item	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Weighted Mean	Overall Response (in Mean)	Priority
	f	%	f	%	f	%	f	%	f	%			
REL 1	74	10.1	79	10.8	310	42.3	148	20.2	121	16.5	3.2227	Neutral	4
REL 2	74	10.1	80	10.9	303	41.4	164	22.4	111	15.2	3.2158	Neutral	5
REL 3	66	9.0	67	9.2	210	28.7	269	36.7	120	16.4	3.4235	Agree	1
REL 4	65	8.9	70	9.6	310	42.3	167	22.8	120	16.4	3.2828	Neutral	2
REL 5	71	9.7	87	11.9	287	39.2	166	22.7	121	16.5	3.2445	Neutral	3
Total	350	0.09	383	0.10	1420	0.41	914	0.22	593	0.16	3.27786	Neutral	

b) Independent Variable 2: Responsiveness

The responsiveness dimension was assessed by five measurement statements. Each statement was designed to measure one single theme. As can be seen from Table 5.9, the results obtained from the preliminary analysis of the responsiveness dimension are as follows:

1. A number of respondents were fairly satisfied with the system's speed in responding to their requests and enquiries through an immediate electronic confirmation proving the completion of an Internet banking transaction. Consequently, their results produced a noticeably low weighted mean of 3.18, a neutral overall response and a priority ranking of 5.

2. The customers' responses suggested that they had a variety of experiences in relation to the bank's prompt service. In this regard, the results were a weighted mean of 3.24, an overall response of neutral and a priority ranking of 3.

3. In relation to the level of help which Internet banking provided to its customers if they had any problems, the respondents were fairly satisfied. In this respect, the results were a respondents' average weighted mean of 3.28, an overall response of neutral and a priority ranking of 1.

4. A number of the respondents were quite satisfied with the flexibility of being able to make changes to their orders after their online submission of financial transactions.

Consequently, their results produced a weighted mean of 3.24, an overall response of neutral and a priority ranking of 2.

5. In regard to the bank providing online updated information, respondents considered that the information available on the bank's website to a certain extent satisfied their basic needs. Therefore, the results were a weighted mean of 3.23, an overall response of neutral and a priority ranking of 4.

Overall, the respondents agreed among themselves that the responsiveness of the bank's Internet services was reasonable, producing a weighted mean of 3.23 and an overall response of neutral.

Table 5.9: Descriptive Statistics for Statements in the Form of Likert Scale for Responsiveness

Item	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Weighted Mean	Overall Response (in Mean)	Priority
	f	%	f	%	f	%	f	%	f	%			
RES 1	76	10.4	98	13.4	273	37.3	183	25.0	102	13.9	3.1872	Neutral	5
RES 2	75	10.2	78	10.7	301	41.1	152	20.8	126	17.2	3.2404	Neutral	3
RES 3	75	10.2	72	9.8	292	39.9	159	21.7	134	18.3	3.2801	Neutral	1
RES 4	71	9.7	75	10.2	316	43.2	144	19.7	126	17.2	3.2445	Neutral	2
RES 5	68	9.3	87	11.9	299	40.8	162	22.1	116	15.8	3.2336	Neutral	4
Total	365	0.09	410	0.11	1481	0.40	800	0.21	604	0.16	3.23716	Neutral	

c) Independent Variable 3: Website Design

The website design dimension was assessed by five measurement statements. Each statement was designed to measure one single theme. As Table 5.10 confirms, the results obtained from the preliminary analysis of the website design dimension are as follows:

1. A number of respondents were fairly unhappy with the organisation of the bank's website. This is shown by the results which comprise the weighted mean of 3.20, a neutral overall response and a priority ranking of 5.

2. Respondents were also quite dissatisfied with the ease of navigation and routes through the bank's website, which they regarded as poor. Consequently, their results produced a low weighted mean of 3.23, a neutral overall response and a priority ranking of 3.

3. The respondents liked the aesthetics of the bank's website and welcomed the fact that its graphics and animation did not detract from their being able to navigate the website successfully and find the information which they were looking for, Consequently, their results generated a particularly weighted mean of 3.31, an overall response of neutral and a priority ranking of 1.

4. Respondents were fairly happy with the ease of using the bank's website and considered its features to be user friendly. In this regard, their responses generated a weighted mean of 3.22, an overall response of neutral and a priority ranking of 4.

5. Respondents were reasonably happy with the contents of the bank's website, including its organisation and efficient display of the information. Consequently their results produced a relatively high overall mean rating of 3.30, an overall response of neutral and a priority ranking of 2.

Overall, respondents agreed with the quality level of the bank's website design, resulting in a weighted mean of 3.25 and an overall response of neutral.

Table 5.10: Descriptive Statistics for Statements in the Form of Likert Scale for Website Design

Item	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Weighted Mean	Overall Response (in Mean)	Priority
	f	%	f	%	f	%	f	%	f	%			
WD 1	69	9.4	84	11.5	319	43.6	147	20.1	113	15.4	3.2063	Neutral	5
WD 2	70	9.6	81	11.1	307	41.9	158	21.6	116	15.8	3.2309	Neutral	3
WD 3	74	10.1	73	9.9	271	37.0	179	24.5	135	18.4	3.3115	Neutral	1
WD 4	80	10.9	66	9.0	312	42.6	159	21.7	115	15.7	3.2227	Neutral	4
WD 5	76	10.4	75	10.2	276	37.7	157	21.4	148	20.2	3.3087	Neutral	2
Total	369	0.10	379	0.10	1485	0.40	800	0.21	627	0.17	3.25602	Neutral	

d) Independent Variable 4: Personalisation

The personalisation dimension was assessed by five measurement statements. Each statement was designed to measure one single theme. As Table 5.11 shows, the results obtained from the preliminary analysis of the personalisation dimension are as follows:

1. Respondents agreed with the fact that the Internet banking service always acknowledged each customer by name. Consequently their responses to the statement

about greeting each customer by name resulted in a relatively average weighted mean of 3.26, an overall response of neutral and a priority ranking of 4.

2. Respondents reported favourable experiences in regard to their being familiar with the bank's website. As regards their familiarity with the website, their responses produced a very high weighted mean of 3.31, an overall response of neutral and a priority ranking of 2.

3. Respondents appeared fairly happy with the bank's website enabling customers to perform transactions in a way which met their specific needs – hence customised service – and this resulted in a weighted mean of 3.29, an overall response of neutral and a priority ranking of 3.

4. It seems that the respondents' experiences with the bank's website being able to recognise customers' specific needs was fair but not great. In regard to website recognition, their results produced a weighted mean of 3.08, an overall response of neutral and a priority ranking of 5.

5. Respondents appeared reasonably satisfied with the bank's website being able to provide recommendations on the financial services preferred by customers, with their results producing a weighted mean of 3.43, an overall response of agree, and a priority ranking of 1.

Overall, most respondents viewed the personalisation of the bank's Internet services as being reliable enough to result in a weighted mean of 3.28 and an overall response of neutral.

Table 5.11: Descriptive Statistics for Statements in the Form of Likert Scale for Personalisation

Item	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Weighted Mean	Overall Response (in Mean)	Priority
	f	%	f	%	f	%	f	%	f	%			
PER 1	69	9.4	75	10.2	300	40.9	167	22.8	121	16.5	3.2678	Neutral	4
PER 2	68	9.3	87	11.9	261	35.7	175	23.9	141	19.3	3.3197	Neutral	2
PER 3	77	10.5	68	9.3	286	39.1	161	21.9	140	19.1	3.2992	Neutral	3
PER 4	200	27.3	112	15.3	93	12.7	81	11.1	246	33.6	3.0833	Neutral	5
PER 5	98	13.4	106	14.5	171	23.4	91	12.4	266	36.3	3.4385	Agree	1
Total	512	0.13	448	0.12	1111	0.30	675	0.18	914	0.24	3.28170	Neutral	

e) Dependent Variable: Overall Perceived Service Quality

The dependent variable of service quality was assessed by three measurement statements. The reason for the inclusion of these measurement statements was to help the statistical analysis of the dependent variable and, also, to investigate the effect of the independent variables on it. These measurement statements were as follows:

- Overall, Internet banking provides a high level of service quality (SQ1).
- The overall experience with Internet banking services is excellent (SQ2).
- Taking everything in consideration, the bank is a capable and proficient Internet banking service provider (SQ3).

As can be seen from Table 5.12, the results obtained from the preliminary analysis of the dependent variable are as follows:

1. Respondents regarded Internet banking as providing a high level of service quality. Consequently, their responses to the first statement produced a weighted mean rating of 3.05, an overall response of neutral and a priority ranking of 2.

2. Respondents agreed that their overall experience with Internet banking was excellent. In this regard, their results produced a weighted mean of 3.26, an overall response of neutral and a priority ranking of 1.

3. Respondents rated the bank as being only average in regard to its capacity to provide a proficient Internet service. Consequently, in this respect their results produced a weighted mean of 3.00, an overall response of neutral and a priority ranking of 3.

Overall, the majority of customers considered the services offered by the Internet banking divisions to be fairly good. As a result, when respondents were asked about their overall perception of the quality of Internet-based banking services, the solid majority responded that it was good, producing a weighted mean of 3.10 and an overall response of neutral.

Table 5.12: Descriptive Statistics for Statements in the Form of Likert Scale for Service Quality

Item	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Weighted Mean	Overall Response (in Mean)	Priority
	f	%	f	%	f	%	f	%	f	%			
SQ 1	69	9.4	262	35.8	121	16.5	121	16.5	159	21.7	3.05	Neutral	2
SQ 2	68	9.3	261	35.7	87	11.9	45	6.1	271	37.0	3.26	Neutral	1
SQ 3	77	10.5	286	39.1	68	9.3	161	21.9	140	19.1	3.00	Neutral	3
Total	214	0.09	809	0.36	276	0.12	327	0.14	570	0.25	3.1033	Neutral	

5.6   Correlation Analysis

Robson (2002) stated that correlation analysis is the study and investigation of the linear relationship between two variables by expressing the associated direction between them. However, this does not include the identification of the interdependency between them. Table 5.13 is the correlation matrix and consists of values representing the correlation coefficients for the involved dimensions. The correlation coefficients which fall between -1 and +1 represent the strength between two dimensions in a numerical measure (Saunders et al., 2007).

Table 5.13: Correlation Matrix
** Correlation is significant at the 0.01 level (2-tailed)

Dimensions	Reliability	Responsiveness	Website Design	Personalisation	Service Quality
Reliability	1				
Responsiveness	0.579**	1			
Website Design	0.330**	0.449**	1		
Personalisation	0.130**	0.260**	0.298**	1	
Service Quality	0.177**	0.229**	0.278**	0.890**	1

As Table 5.13 shows, positive correlations were found between the independent variables and the dependent variable. The highest correlation (0.890) is between personalisation and service quality. On the other hand, the lowest correlation (0.130) is between reliability and personalisation. It is clear from Table 5.17 that there is a significant relationship between different dimensions at the 0.01 level.

In addition to the correlation analysis results, the KMO Measure of Sampling Adequacy and Bartlett's Test of Sphericity were conducted for the purpose of confirming the relationship between variables and measuring the absence of correlations between them (Table 5.3). As a general rule of thumb, a KMO value equal to or greater than 0.5, with a P value less than 0.001, indicates a significant relationship between items (Hutcheson and Sofroniou, 1999). This study's results show that the statistics are highly significant and that the associated probability is less than 0.001 with a high KMO value (P = 0.000; KMO = 0.656).

As shown in tables 5.3 and 5.13, this suggests that the partial correlations are high enough and therefore reflect the inappropriateness of the usual regression model using the least squares method.

5.7   Principal Component Analysis

The main idea of the PCA is to reduce the dimensionality of a data set, which consists of a large number of inter-correlated variables, while retaining as much as possible of the variation present in the data set. This is achieved by transforming the principal components (PCs) into a new set of variables that are uncorrelated and ordered so that the first few retain most of the variation present in all the original variables (Joliffe, 1986; Johnson and Wichern, 2007). In this study, the responses were studied using the four variables of Reliability (x_1), Responsiveness (x_2), Website Design (x_3), and Personalisation (x_4) in order to perform a regression analysis on Service Quality (y). Table 5.13 presents the calculated correlation matrix of these explanatory variables and Table 5.14 shows these variables' descriptive statistics. The results show that there is a significant correlation between the explanatory (independent) variables. The reason for this high level of dimensionality was the constraints of the population being sampled (Paul, 2004). The sample consisted only of students with almost similar perceptions. Consequently, this phenomenon vitiated the usual problem of using the least square method for regression analysis.

Table 5.14: Descriptive Statistics

	Mean	Std. Deviation
Reliability (x_1)	3.27786	0.58429
Responsiveness (x_2)	3.23716	0.63010
Website Design (x_3)	3.25602	0.64976
Personalisation (x_4)	3.28170	0.72803

In order to overcome the above problem it is possible to transform the data set (explanatory variable) into a new data set (the PC) via PCA and these new data sets will be uncorrelated, i.e. they will be independent and orthogonal. Table 5.15 presents the amount of variance explained by the PCs.

Table 5.15: Total Variance Explained (Principal Component Analysis)

Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	2.060	51.499	51.499
2	.921	23.014	74.513
3	.625	15.620	90.133
4	.395	9.867	100.000

It is noteworthy that the greater variance components have the more capability they have to predict the dependent variables. Table 5.15 shows that the first component explains 51.5% of the total sample variance. The second PC explains 23.0% of the total sample variance. Collectively, the first two PCs explain 74.5% of the total sample variance. The third PC explains 15.6% of total sample variance. Together, the first three PCs explain 90.1% of the total sample variance. Consequently, the three PCs summarise very well the sample variation and it may be reasonable to reduce the data from 732 observations on four observations to 732 observations on three PCs.

Assuming that the ordered (descending) PCs are denoted by w_1, w_2, w_3 and w_4, the ordered component coefficients are given in Table 5.16.

Table 5.16: Component Matrix*
*4 components extracted from principal component analysis.

	Component coefficients			
	1	2	3	4
Reliability (x_1)	0.750	-0.464	0.275	0.383
Responsiveness (x_2)	0.843	-0.216	0.114	-0.480
Website Design (x_3)	0.731	0.180	-0.648	0.114
Personalisation (x_4)	0.504	0.791	0.340	0.068

The four principal components are as follows:

$$w_1 = 0.750\ x_1 + 0.843\ x_2 + 0.731\ x_3 + 0.504\ x_4$$

$$w_2 = -\ 0.464\ x_1 - 0.216\ x_2 + 0.180\ x_3 + 0.791\ x_4$$

$$w_3 = 0.275\ x_1 + 0.114\ x_2 - 0.648\ x_3 + 0.340\ x_4$$

$$w_4 = 0.383\ x_1 - 0.840\ x_2 + 0.114\ x_3 + 0.068\ x_4$$

It is noteworthy that components w_1, w_2, w_3 and w_4 are orthogonal (i.e. linearly independent). Consequently, a regression analysis will be performed with perceived service quality as the dependent variable and reliability, responsiveness, website design, and personalisation as predictor variables. This study will include a total of 732 cases.

5.8   Regression Analysis and Hypothesis Testing Results

Simple statistical investigative procedures were carried out throughout the data analysis stage of this study. These tests were significant since they were used to perform some basic evaluation of the research model. However, the observation of these initial statistical examinations suggested that further data analysis was required to determine exactly how the independent variables affected the dependent variable. Consequently, this section of the study examines the research hypothesis and aims to determine its results. Regression analysis was used to predict the inter-relationships between the independent variables and the dependent variable. In regard to the evidence from the data analysis, following their evaluation through the PC analysis and using the least squares method to the dependent variable (i.e. service quality, y), the values of the independent variables (i.e. w_1, w_2, w_3, and w_4) fitted the usual linear regression model.

Table 5.17 shows the statistical summary in respect of the service quality model. It is apparent from this table that the R value is 0.893, the R^2 value is 0.798 and the adjusted R^2 is 0.796. The results indicate that, by computing one predictor variable, the correlation (R) between predictor and overall perceived service quality is 0.893. Also, the results explain that the explanatory variables (i.e. independent variables) are able to explain the dependent variable to a level of approximately 80%. In addition, the analysis results are highly significant and, therefore, a significant model emerges (F $(4,732) = 420.697$, $p < 0.001$).

Table 5.17: Model Summary*
*Predictors: (Constant), Fourth PC, Third PC, Second PC, First PC. Dependent Variable: Service Quality (y)

R	R Square	Adjusted R Square	Std. Error of the Estimate	F-value	df1	df2	Sig. F
0.893	0.798	0.796	0.33816	420.697	4	427	0.000

In order to determine if the model is significant at predicting the obtained outcome, the analysis-of-variance (ANOVA) test was performed. Table 5.18 presents the results obtained from this analysis. As can be seen from the following table, the outcome from this test demonstrated the following main statistical indicators:

- **Sum of Squares (SS)**

The total sum of square is 241.2. Out of this total, the model accounted for 192.4, while 48.8 remained unexplained.

- **Degree of Freedom (DF)**

The table also shows that there are 431 total degrees of freedom. Out of this total, the model deduced four observations and the remaining 427 were for the residual.

- **Mean Square (MS)**

This is equal to the result of the residual sum of squares divided by the corresponding degrees of freedom (192.426/4=48.106).

- **F-value (F)**

The F-ratio result is 420.697 (P<0.0001).

Overall, the results of the ANOVA analysis prove that the model significantly improved the ability to predict the overall service quality.

Table 5.18: ANOVA Results
* The model is highly significant.

Model	Sum of Squares	df	Mean Square	F-value	Sig.
Regression	192.426	4	48.106	420.697	0.000*
Residual	48.827	427	0.114		
Total	241.253	431			

Table 5.19 provides the results of the sample's regression coefficients. Specifically, it shows the values of the Standardised Beta Coefficients (β). These values indicate the effects of each single independent variable on the model. The following table illustrates some of the research model's important empirical results, including the following:

- Reliable services (β=0.676, t=31.046, p<0.001) significantly and positively affects user perception towards the quality of Internet banking services, providing support for the first hypothesis (H1).

- Responsive services (β=0.474, t=21.779, p<0.001) significantly and positively affects user perception towards the quality of Internet banking services, providing support for the second hypothesis (H2).

- Website design (β=0.316, t=14.517, p<0.001) significantly and positively affects user perception towards the quality of Internet banking services, providing support for the third hypothesis (H3).

- Personalised services (β=0.127, t=5.818, p<0.001) significantly and positively affects user perception towards the quality of Internet banking services, providing support for the fourth hypothesis (H4).

Overall, the model's standardised coefficients are highly significant. Statistical tests reveal that they are significant at the 0.001 level (*) and there are positive correlations between the independent variables (i.e. reliability, responsiveness, website design, and personalisation) and the dependent variable (i.e. overall perceived service quality).

Consequently, all four research hypotheses (i.e. H1, H2, H3, and H4) proposed in Chapter 3 of this study are supported and, therefore, accepted.

Table 5.19: Test of Sample Regression Coefficients*
* All coefficients are highly significant. Dependent Variable: Service Quality (y).

	Unstandardised Coefficients		Standardised Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta (β)			Tolerance	VIF
Constant	3.566	.016	-	219.157	0.000	-	-
First Principal Component (w_1)	0.506	.016	.676	31.046	0.000	0.657	1.521
Second Principal Component (w_2)	0.355	.016	.474	21.779	0.000	0.578	1.732
Third Principal Component (w_3)	0.236	.016	.316	14.517	0.000	0.683	1.465
Fourth Principal Component (w_4)	0.095	.016	.127	5.818	0.000	0.772	1.295

Further analysis was carried out in order to compute multicollinearty statistics. The results obtained from these tests are shown in Table 5.19. The phenomenon of multicollinearty refers to the very high correlation between two or more independent variables (Al-Sayaad et al., 2006). Testing the incidence of multicollinearty is an important step in checking whether or not the data experienced the problem of high correlation. In order to estimate multicollinearty, two statistical examinations are recommended (Myers, 1990; Brace et al., 2003) as follows:

1. Variance Inflation Factor (VIF)

VIF is the first suggested examination to investigate the problem of multicollinearty. If the VIF value for any predictor exceeds 10, there is a chance of an incidence of multicollinearty between predictors. If this is the case and in order to overcome the problem, a predictor, with a VIF value of greater than 10, has to be eliminated (Myers, 1990). Empirically, the VIF values for all four independent variables are as follows: reliability (1.521), responsiveness (1.732), website design (1.465), and personalisation (1.295). Clearly, the VIF values for all predictors vary between 1.295 and 1.732, which falls within the acceptable value (Brace et al., 2003).

2. Tolerance

Tolerance is the second advised investigation in checking for the existence of multicollinearty. Tolerance values are measures of correlations in the middle of independent variables. These values differ between 0 and 1. If the tolerance value is closer to 0, this indicates that the inter-relationship between the two predictors is very high. As a

general rule of thumb, if the tolerance value is less than 0.0001, multicollinearty exists (Brace et al., 2003). Empirically, the tolerance rates for the four predictors are as follows: reliability (0.657), responsiveness (0.578), website design (0.683), and personalisation (0.772). The lowest tolerance value is 0.578 and the highest one is 0.772, which again falls within the recommended values (Myers, 1990).

Thus, these results are both interesting and positive and suggest there is an absence of multicollinearty in this research study.

The regression model is a useful tool which can be used in order to demonstrate the behaviour of the dependent variable. Four regression paths are demonstrated separately. Each path clarifies the inter-relationship between each single independent variable and the dependent variable. The regression model of service quality in Internet banking services is exemplified in Figure 5.2. The demonstration represents significant regression paths from reliability, responsiveness, website design, and personalisation towards Internet banking service quality.
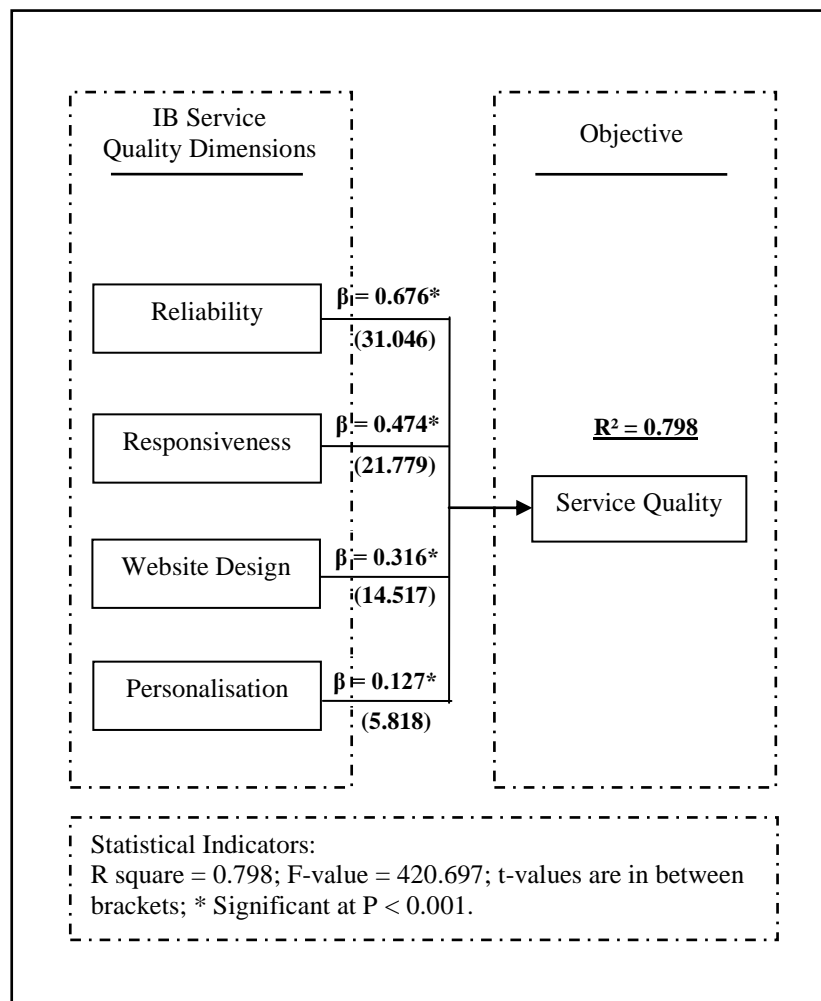
Figure 5.2: Regression Model

5.9   Results of Focus-Group Interviews

The main aim of this mini qualitative study was to act as a complementary instrument to the main quantitative study and thus focus-group interviews were employed as a supportive data collection method to strengthen the results of the main survey study. The main objective of the focus-group interviews was to gain as much as information as possible from participants regarding their behaviour and feelings towards the quality of Internet banking services and to identify the specific themes which played a significant role in improving their levels of satisfaction. Qualitative data analysis was carried out in accordance with the framework analysis technique. Obviously, there was no need for numerical data analysis as this small descriptive study aimed to highlight the main themes of the investigated topic rather than to generate numerical connections between factors. During the indexing stage of the data analysis, the researcher developed the interview transcripts. This record brought a great deal of benefits to the study, including the following:

1. Increased recognition of consumers' views on the offered Internet banking services; and

2. The identification of the major themes in relation to the examined subject.

The results obtained from the data analysis of questions 1, 2, and 3 were combined with the aim of establishing a clear understanding of the end-users' evaluation of the level of superiority provided by Internet banking services. Consequently, this led to the discovery and the classification of Internet banking service quality attributes. Throughout the content analysis of the interview transcripts, a number of service quality themes caught the researcher's eye and resonated with him. This was due to the following two reasons:

•   The majority of the respondents emphasised some experiences and drew the researcher's attention to feedback and comments related to these service quality themes.

•   These attributes were considered to be the most frequent service quality themes mentioned by most of the respondents, if not all of them.

Hence, it could be argued that these underlined themes represented the critical criteria observed by potential end-users in estimating their perceptions of service quality in the context of Internet banking services. A total of eight attributes of Internet banking service quality were identified. The following summary lists these themes, incorporating their theoretical definitions, and provides some supportive studies from contemporary literature.

1. Correct Service

'Correct service' refers to the banks being able to provide a correct and accurate service, as required by the customer, through online facilities. Many researchers argue that providing the requested service accurately is an essential component in offering high-quality online services (Roundtree and Bitner, 2000; Cai and Jun, 2003; Swaid and Wigand, 2007). This study produced results which corroborated the findings of a great deal of the previous work in this field. The majority of those interviewed indicated that correct service was a significant facet of Internet banking service quality determinants.

2. Prompt Service

'Prompt service' refers to the provision of quick and professional responses to the Internet banking requests of end-users and to minimising their waiting times. Numerous studies have emphasised the role of timely replies in improvements to the quality of Internet-based services (Joseph and Stone, 2003; Swaid and Wigand, 2007). This study's findings supported previous research which linked prompt service and positive Internet service quality. For instance, Internet banking customers tended to be pleased when banks responded to their inquiries without delay.

3. Security and Safety

'Security and safety' refers to the degree to which Internet banking services are safe and secure enough to perform important financial transactions. Recent evidence suggests that the safety features of Internet-based services are vital in improving their quality through building trust and confidence on the consumer side (Nusair and Kandampully, 2008; Lau et al., 2011). This study confirms that superior Internet banking service quality is associated with secure and safe transactions. The majority of those interviewed were likely to be dissatisfied when banks were not taking serious measures to protect their online customers from potential threats and frauds.

4. Service Availability

'Service availability' refers to the easy availability of Internet banking services as and when they are required. Previous studies reported that ease of access was a fundamental issue when it came to online self-services (Cox and Dale, 2002; Zeithaml, 2002; Swaid and Wigand, 2007). This study reinforces this point by observing that other forms of e-banking channels were insufficient in providing banking services anytime and anywhere. The majority of the interviewees accepted the fact that self-banking services such as ATMs and telephone banking were crucial. However, they agreed that these were only supporting tools and Internet banking services remained the foremost method.

5. Website Content

'Website content' refers to the available material on the bank's website including up-to-date, in-depth, and accurate information. A number of studies found that website content played a significant role in determining the level of perceived online service quality from the end-user's point of view (Janada et al., 2002; Ho and Lee, 2007; Lau et al., 2011). In this study, the level of satisfaction about Internet banking services among consumers corroborated these earlier findings. The majority of the interviewees indicated that a modern bank website, including updated financial-related information, was essential in maintaining their happiness about the service being offered.

6. Website Design

'Website design' refers to the organisation of a well-structured website containing all the features which make it effective. The relationship between website design and increased overall perceived Internet service quality has been investigated widely (Nusair and Kandampully, 2008; Lau et al., 2011). This study was able to demonstrate that investing in the development of a well-designed website led to a significant improvement in quality measures. In response to this issue, most interviewees agreed about certain aspects which needed to be addressed when designing the bank website. These included the following:

- I always understand clearly the main purpose of the website.
- The bank's logo is prominently placed on each page of the bank's website.
- The website is logical and consistent and, therefore, I always know where I can navigate.
- Colours, images, pictures, animations, and sound effects do not distract from use.
- The website provides clear wording, fonts and texts.
- The website has a search engine which allows required information to be found and makes it easy to access other interior pages.
- The bank website is linked to other related financial organisations' websites.
- A clear menu is available which contains a list of important and frequently used financial services.

7. Website Ease of Use

'Website ease of use' refers to the overall design of the website being user-friendly. This involves mainly the ease of access to the bank website and ease of navigation throughout its interior pages. The consequences of a user-friendly website have also been investigated widely (Al-Adwani and Palvia, 2002; Ruiz-Mafe et al., 2009; Lau et al., 2011). This

study's findings supported the idea that there was a vital need for a number of determinants in establishing excellent Internet banking services. These might include, but are not limited, to the following:

- The bank's cyberspace address is easy to remember.
- The terms and conditions are written clearly and, therefore, easily understood.
- The overall context of the bank website is simple and uncomplicated.

The majority of the interviewees indicated that a bank's website should be basic and compatible with customers' technological capabilities.

8. Website Customisation

'Website customisation' (also known as 'personalisation') refers to the adaptation of the service to customers' needs and desires. It has previously been proven that customising Internet services results in improved service quality (Nusair and Kandampully, 2008; Lau et al., 2011) and this study's findings were consistent with previous research. The majority of the interviewees indicated that matching customers' requirements creates a favourable image, on the part of customers, that the bank understands the customer, recognises him/her, and provides customers with the best service.

5.10 Integrating the Quantitative and Qualitative Studies

This study applied a mixture of quantitative and qualitative methods. The methodological triangulation approach was chosen because of its ability to compare results, integrate them and, consequently, strengthen them. The logical structure of reporting the comparative study is to summarise the results of the empirical research from both studies and, then, to incorporate them during writing up and in structural diagrams. The following outlines those steps:

a) Antecedents of Internet Banking Service Quality

The regression analysis showed that the four research hypothesis results were statistically significant and, therefore, accepted. The following statements consider this study's results:

- The current study found that reliability (β=0.676, t=31.046, p<0.001) is a major antecedent that contributed significantly to service quality, and ranked first in terms of its effect in the context of Internet banking services.

- The current study found that responsiveness (β=0.474, t=21.779, p<0.001) is a major antecedent that contributed significantly to service quality, and ranked first in terms of its effect in the context of Internet banking services.

- The current study found that website design (β=0.316, t=14.517, p<0.001) is a major antecedent that contributed significantly to service quality, and ranked first in terms of its effect in the context of Internet banking services.

- The current study found that personalisation (β=0.127, t=5.818, p<0.001) is a major antecedent that contributed significantly to service quality, and ranked first in terms of its effect in the context of Internet banking services.

b) Factors of Successful Internet Banking Service Quality Evaluation

Previous qualitative data analysis of the focus-group interviews produced a set of eight main themes which defined consumers' overall observations of the quality standards of Internet banking services. A comparison of the eight themes with each other showed that they differed with respect to their originalities. In this study, correct service, prompt service, security and safety, and service availability were found, among the majority of Saudi Arabian bank customers, to result in an improvement in customer service quality levels. On the other hand, website content, design, ease of use, and customisation were found to be the most important drivers of system service quality. This study suggested the implementation of two-dimensional constructs when online service providers were trying to improve quality levels among their services. These constructs were as follows:

- **Customer Care Service**

In Internet banking, customer care service was defined as the presentation of service to end-users before, during, and after the electronic transaction (Turban, 2002). The aim of such a provision was to present an adequate level of service which would make the majority of existing customers consider the service satisfactory and, therefore, feel very good about being with the bank. According to Buchanan (2011), the role of customer service in determining the levels of quality, satisfaction, and loyalty is enormous. Therefore, there was a definite need for e-bankers to try and allocate their resources in the direction of developing and maintaining a practical customer service plan.

- **Technical Support Service**

In Internet banking, the technical support service was defined as a variety of technological specialised services, offered by the service provider, in order to fulfil consumers' requests (Walker, 2001). Providing technical support services for Internet banking users can be done through different forms and means. For example, a customer might send, through e-mail, a direct question with his/her concerns to the designated department. Another possible way was through Short Message Services (SMS), whereby banks could send

answers and provide clarifications for the most frequently asked questions. Lastly, online chat services through the bank website were seen as another helpful channel.

c) Integrating the Empirical Studies

A methodological triangulation technique was used in order to measure the level of perceived service quality in Internet banking from the consumer's perspective. The overall results of the quantitative and the qualitative studies were compared in order to generate straightforward and trustworthy evaluation outcomes. It is therefore likely that such connections exist between the two results. The overall theme of the findings suggests that the Internet banking delivery method consists of two main aspects:

- The **outcome** which follows from the service process. The identified factors of reliability, responsiveness, and customer care service may emerge as possible predictors of this aspect.
- The actual **mechanism** of the service procedure. The identified factors of website design, personalisation, and technical support service may emerge as possible predictors of this aspect.

A comparison of the two results revealed that two major elements were found to cause a clear trend in increasing customers' perceptions of the level of Internet banking service quality. These two elements are service outcome and service process. Figure 5.3 matches the results obtained from the quantitative and the qualitative studies.
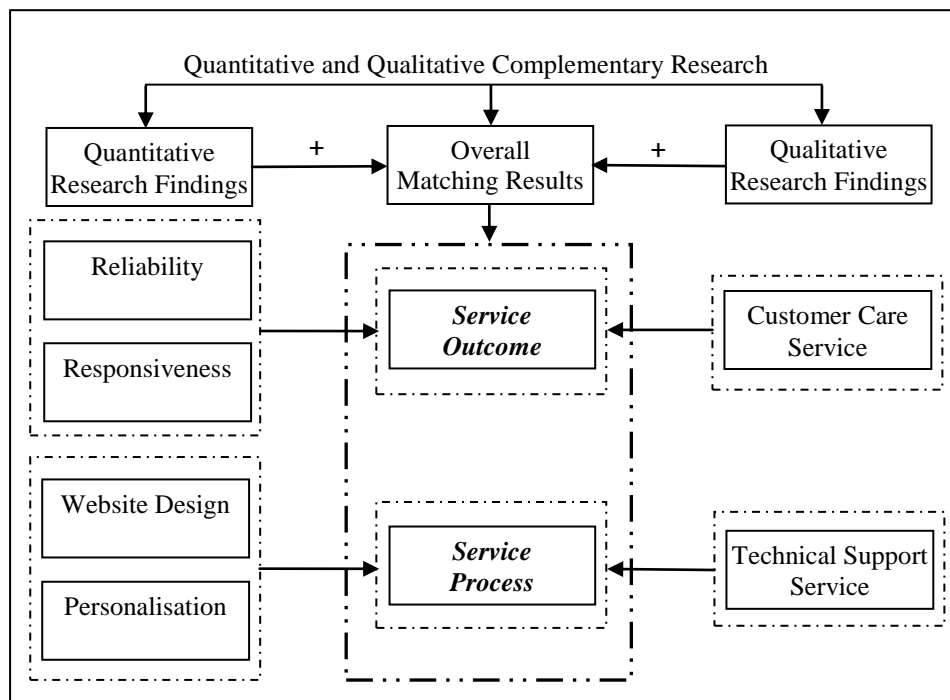
Figure 5.3: General Triangulation Results

Interestingly, it is encouraging to compare Figure 5.3 with that of Lehtinen and Lehtinen (1982; 1991), who presented another major contribution to the service quality literature. They suggested that service quality can be viewed from the consumers' point of view as a two-dimensional approach including physical quality and interactive quality. This accords with this study's earlier observations, which argued that Internet banking service quality is formed of a multi-factor approach centred on the following two main elements:

1. Service Outcome

The service outcome dimension is related to the communications between the consumers and the equipment of the service firm. Service outcome is the determinant concerned with consumers' assessment of the outcome of the service production process. In terms of Internet banking services, it refers to the soft interactions between the service provider (i.e. the bank) and the service receiver (i.e. the end-user).

2. Service Process

The service process dimension is related to the physical aspects of the service such as the physical machines required during the service production process. Service process is the factor associated with consumers' assessment of their involvement in the service production process. In regard to Internet banking service, it refers to hard concerns related to the service system.

5.11 Applicability of the Research Model

This section discusses the practicality of this study's research model and examines its applicability in the industry. In the management literature, the Importance-Performance Analysis (IPA) is regarded as a useful and easily adopted marketing technique to organise the attributes of a service and provide implications for a business for the purpose of resource allocation. This approach was suggested first by Martilla and James (1977), who saw it as a key user-friendly method in the employment of service quality and customer satisfaction survey studies. This analytical method is one of the most widely used approaches and, for decades, has been used extensively to tackle consumer research studies (Tih, 2004; Pezeshki, 2009). Moreover, this method has been applied to a number of industries, such as health care services, tourism and hospitality, and education (Dolinsky, 1991; Go and Zhang, 1997; Alberty and Mihalik, 1989). The design of the IPA method is based on a grid consisting of two axes (Figure 5.4). The horizontal x-axis represents the performance ratings and the vertical y-axis represents the importance ratings. Furthermore, the IPA framework is structured into four quadrants:

- **Quadrant 1:** This unit describes a negative relationship between high importance and low performance. It is considered to be a major weakness and, therefore, dimensions falling into this unit require more attention.

- **Quadrant 2:** This unit describes a positive relationship between high importance and high performance. It is considered to be a major strength and, therefore, dimensions falling into this unit should not be altered.

- **Quadrant 3:** This unit describes a positive relationship between low importance and high performance. It is considered to be a minor strength and, therefore, dimensions falling into this unit require only a little more effort.

- **Quadrant 4:** This unit describes a positive relationship between high importance and high performance. It is considered to be a minor weakness and, therefore, dimensions falling into this unit should not be major concerns.

The research model will be adopted in one of the well-developed and sophisticated technological industries (i.e. Internet banking services) in one of the fast-growing and liberalised economies (i.e. Saudi Arabia). The study aims to standardise the results of the customer service quality measurement survey by means of a standard agenda. This will facilitate the creation of an action plan which will generate a useful, thorough assessment and a clear picture of the level of performance being achieved currently by Saudi Arabia's banking industry. The following sub-sections discuss the implementation of this study's model in the industry.

5.11.1 Importance-Performance Ratings

Each service attribute has two dimensional angles: *importance* and *performance* (Tih, 2004). While a variety of definitions of the attribute *importance* were suggested, this study defines it as the significance of the service attribute and its state of being important to the customer. For the purpose of measuring importance, the mean scores (x) are recommended as a straightforward indicator in determining the significance of the attribute to the customer (Ennew et al., 1993; Joseph et al., 1999). On the other hand, throughout this analysis, the term *performance* refers to the degree of accomplishment of an attribute in regard to a given task. For the estimation of performance measurement, the standardised coefficients (β) are suggested as a basic pointer in verifying an attribute's actual performance (Pezeshki, 2009). On this basis, the following headlines illustrate some of the main features of this study's service quality dimensions and the breakdown of their importance and performance ratings:

- **Predictor No. 1: Reliability**

Importance indicator (Mean x) = 3.27

Performance indicator (Standardised Coefficient β) = 0.676

- **Predictor No. 2: Responsiveness**

Importance indicator (Mean x) = 3.23

Performance indicator (Standardised Coefficient β) = 0.474

- **Predictor No. 3: Website Design**

Importance indicator (Mean x) = 3.25

Performance indicator (Standardised Coefficient β) = 0.316

- **Predictor No. 4: Personalisation**

Importance indicator (Mean x) = 3.28

Performance indicator (Standardised Coefficient β) = 0.127

Table 5.20 summarises this study's Internet banking service quality dimensions, their codes, and the results of their importance and performance ratings.

Table 5.20: Importance-Performance Ratings of Service Quality Dimensions

Dimension	Code	Importance Rating	Performance Rating
Reliability	REL	3.27	0.676
Responsiveness	RES	3.23	0.474
Website Design	WD	3.25	0.316
Personalisation	PER	3.28	0.127

5.11.2 Importance-Performance Analysis

Nowadays, there are 12 registered commercial retail banks operating in the Saudi Arabian banking market which provide financial service to nationals and local residents. In order to assess their current level of performance, measures were used to determine each attribute's importance and performance. Table 5.20, in section 5.11.1, presented the results obtained from the preliminary analysis and the multiple regression analysis in regard to the importance and performance values of the independent variables. In terms of the importance ratings, the means (x) were used to determine them. The results in relation to the independent variables reliability, responsiveness, website design, and personalisation were 3.27, 3.23, 3.25, and 3.28 respectively. On the other hand, in terms of the performance ratings, the standardised coefficient (β) values were used to determine them. The results for the independent variables reliability, responsiveness, website design, and personalisation were 0.676, 0.474, 0.316, and 0.127 respectively.

A scatter diagram, as shown in Figure 5.4, was created and used in order to demonstrate the relationships between each Internet banking service quality attribute's importance and performance values. The graphical display has two value axes. The horizontal one, along the x-axis, represents performance values in one set of numerical data. On the other hand, the vertical one, along the y-axis, represents the importance values in one set of numerical data. Then, the two values are joined together into one single data point representing the attribute site within the IPA frame. The experimental data distributions are as follows:

- **Independent Variable No. 1 (Reliability):** The first data point to come into view in the scatter graphic representation stands for a y-value of 3.27 (importance) and an x-value of 0.676 (performance).

- **Independent Variable No. 2 (Responsiveness):** The second data point to come into view in the scatter graphic representation stands for a y-value of 3.23 (importance) and an x-value of 0.474 (performance).

- **Independent Variable No. 3 (Website Design):** The third data point to come into view in the scatter graphic representation stands for a y-value of 3.25 (importance) and an x-value of 0.316 (performance).

- **Independent Variable No. 4 (Personalisation):** The fourth data point to come into view in the scatter graphic representation stands for a y-value of 3.28 (importance) and an x-value of 0.127 (performance).
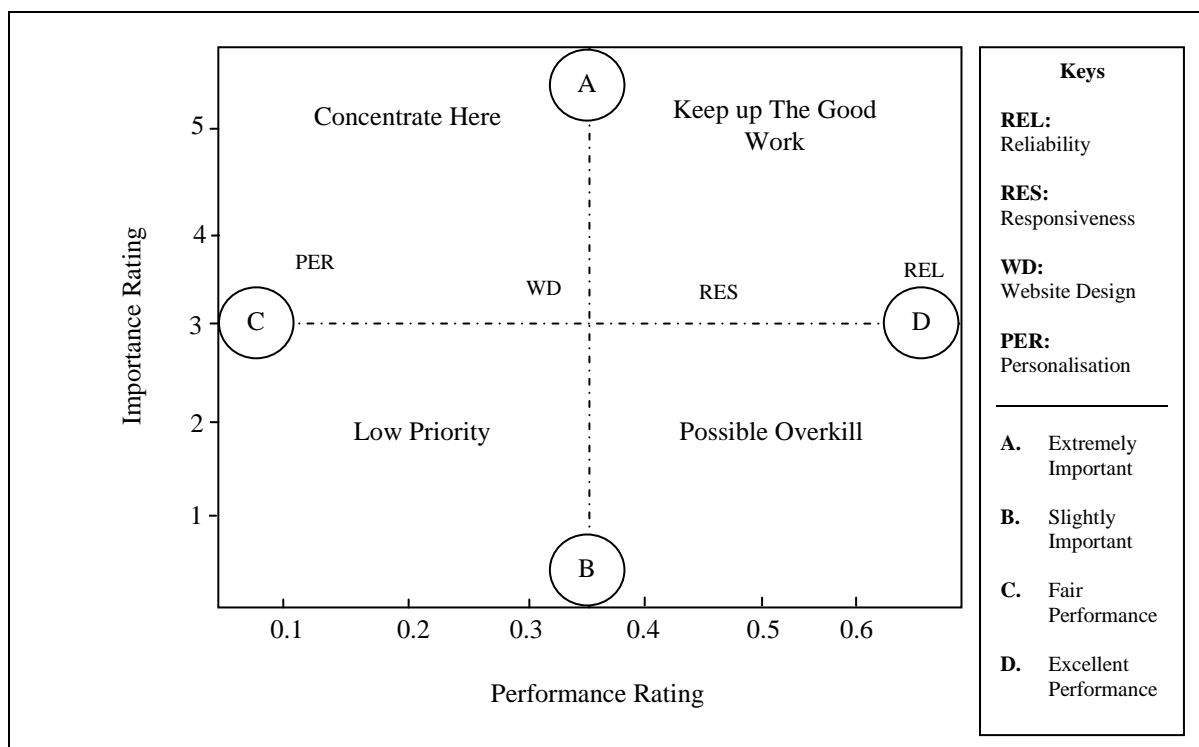
Figure 5.4: Importance-Performance Grid of Service Quality Dimensions
Source: Adapted from Martilla and James (1977, p. 78)

As shown in Figure 5.4, the IPA matrix was used to determine the relationship between them. The headings below show some of the main characteristics of this study's service quality dimensions:

- **Cell No. 1 (Concentrate Here):** This label represents cell number one in the IPA framework. Two of this study's Internet banking service quality dimensions fall within this unit. These attributes are website design and personalisation.

- **Cell No. 2 (Keep up the Good Work):** This label represents cell number two of the IPA framework. Two of this study's Internet banking service quality dimensions fall within this unit. These attributes are reliability and responsiveness.

- **Cell No. 3 (Possible Overkill):** This label represents cell number three of the IPA framework. None of this study's Internet banking service quality dimensions fall within this unit.

- **Cell No. 4 (Low Priority):** This label represents cell number four of the IPA framework. None of this study's Internet banking service quality dimensions fall within this unit.

The IPA was employed and, consequently, the following conclusions can be drawn from the current analysis of Saudi Arabia's banking industry. Overall, Saudi Arabia's banking industry seems to be suffering some of the common effects of traditionally and until recently being focused on face-to-face service provision. Imported networking technology such as Internet banking services, which were implemented in the latter part of the 20th century and the early 21st century, allowed the banks to function adequately. Nevertheless, the absence of refined quality management programmes has entailed a certain level of deterioration in the technical service side. Also, it is obvious that with the spread of the implementation and utilisation of Internet banking services worldwide, a number of possible challenges may arise. These can result in pitfalls arising from the different cultural, social, psychological, and technical perspectives and can lead to some drawbacks. If this debate is to be moved forward, there is a need to develop a better understanding and a more comprehensive picture of the Internet banking service process, as it is encountered by end-users. Consequently, some recommendations are made to the banks in order to improve the overall quality of their self-service deliverables. The implementation of these recommendations should result in improvement in overall customer satisfaction and be a means of encouraging customer loyalty and the repeat business this entails. Additionally, these are vital measures to increasing corporate financial gains.

5.11.3   Practical Implications and Recommendations

Overall, while the Saudi banks have managed to retain a strong market position in the kingdom, these IPA results should be a serious cause for concern on the part of these banks. The aim of this section is to lay out practical advice based on the research, and to provide bank's decision makers, generally, and service marketing managers, in particular, with some possible ideas of ways to improve the quality of their services, increase their customer satisfaction and loyalty levels, improve their overall performance, and enhance their efficiency.

a) Issues related to the Service Encounter

The evidence from this study suggests that Internet banking managers are recommended to keep up the good work on issues related to reliability and responsiveness. In providing a reliable service, the general themes which need to be considered include fulfilment of promises, dependable service, quick service, security, and accuracy. In terms of responsiveness, a number of themes need to be monitored. These include confirmation, prompt service, availability of help, flexibility, and updated information. This study's findings have a number of important implications related to the service which customers encounter. These include the following:

- This study highlighted the necessity for the bank to fulfil its promises to customers, through Internet services, when it promises to do so. This includes, for example, when an Internet retail banker promises to send an e-mail by a certain time. Only when this is done can it be said that the promise has been fulfilled.

- One of the issues emerging from this study's findings is that Internet banking divisions have to provide dependable services to their customers. This includes, for example, the ability to consistently handle customer service problems through the Internet.

- This study identified the need for the bank to perform its Internet services correctly on the first occasion. For example, this includes limiting the waiting time between the customer's order and the response from the bank's website. Also, the bank's website has to load quickly.

- Some of the issues emerging from this study's findings relate specifically to safety and security. Internet banking services have to be safe. To achieve this, the bank's website has to be trustworthy and maintain a good reputation. Also, the customer's private and payment information have to be managed securely and safely. In addition, the bank's website has to offer full information about security.

b) Issues related to the Service Process

On the other hand, Internet banking service providers are advised to concentrate on improving the quality of items related to the design of their websites and the personalisation dimensions. In developing a well-designed website, the issues include the website's organisation, ease of navigation, aesthetics, ease of use, and content. In terms of personalisation, numerous themes need to be addressed. These include personal attention, system familiarity, customised service, system recognition, and recommendation of services. This study's findings have a number of important implications related to the service processed by the system. These include the following:

- This study's results indicate that the bank's website has to be well organised and able to organise information efficiently. The results support the idea that navigation through the bank's website has to be consistent and that the graphics and animations should not detract from their use.

- In addition, this study's findings imply that the bank's website recognises their customer's specific needs and acknowledges them personally. In addition, the findings also suggest that the bank's website takes account of their customers' preferences in recommending financial services.

- Moreover, the bank's website should make available to customers more up-to-date quality financial information. The available information has to be relevant to the customers and useful, consistent and accurate, sufficient, and easy to understand.

- An important implication of these findings is that, when designing the bank's website, the website's ease of use should be taken into account. The findings suggest several courses of action for developing a user-friendly website. The wording, display format, and graphic symbols have to be standardised and clear and the colours have to be conventional. The URL has to be easy to remember and the contents of the website – including all terms and conditions – should be easy to understand.

Ultimately, greater service quality of Internet banking services should result in a bank becoming a more profitable organisation since, with improved services, it would be able to extract higher fees from satisfied and loyal customers willing to pay for top-quality service. Banks must begin to evaluate and reform themselves before they are forced to do so. This will give them a valuable opportunity to survive and prosper in a truly competitive marketplace. A practical quality management programme of customer service reform is the best way to start this process.

5.12 Internet Banking Service Quality Model

This study introduced a research model called the Internet Banking Service Quality (IBSQ) Model. The model is intended to be adopted by researchers from the academic community and practitioners from the industry. The main idea behind the model is for it to act as a blueprint in enabling top-level management and strategic plan makers to assess and guide them in understanding consumer behaviour. These consumers represent the individual end-users of the bank's Internet self-service delivery system. The model is intended to be useful in measuring customers' perceptions of the level of service quality provided by Internet banking services. It is also useful for enhancing the level of customer satisfaction, loyalty, and their retention by such banks. It is expected that the model will influence end-users' intentions to use and to repurchase Internet banking services. Consequently, this will lead a bank to more effective performance and thus to be a more successful business.

5.12.1 Design and Development

The research model is described as a notional mixture of four marketing variables (*20-items*) controlled by banks operating online for the purpose of meeting their business missions through fulfilling their customers' needs, wants, and requirements. The model speculated that IBSQ is exemplified as a multi-dimensional construct and could be characterised by four dimensions: reliability, responsiveness, website design, and personalisation (Figure 5.5).
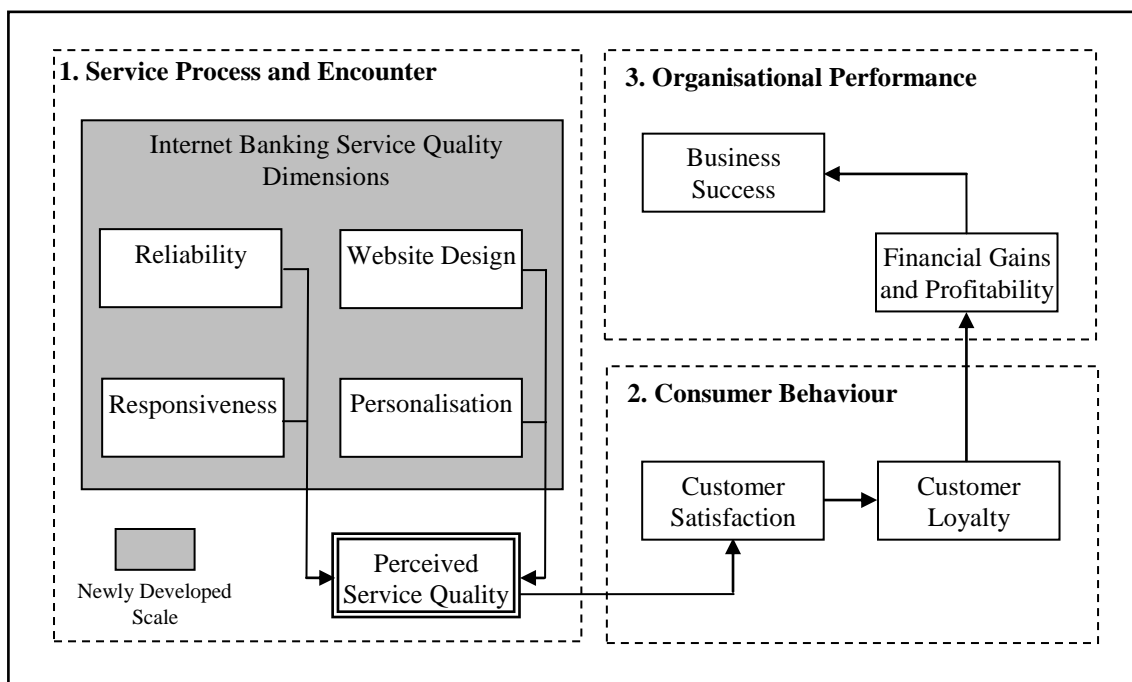
Figure 5.5: Internet Banking Service Quality Model

The fundamental aim behind the combination of these dimensions is to improve the overall quality of Internet banking services. Ultimately, this satisfies as many customers as possible, in that it hopefully attracts new customers and retains existing ones. The obvious result of this achievement is the influence on the level of demand for financial services delivered over the Internet. Consequently, banks enjoy greater business growth and expansion.

A number of methods were used in designing the stages of the model. The model's conceptual frame consists of three main constructs: service process and encounter; consumer behavioural attitudes; and organisational performance. This research's major finding was that there were four major determinants which joined together to characterise the conceptual meaning of IBSQ:

1. The bank's ability to offer dependable, correct, safe, quick, and accurate services through the Internet to their customers.

2. The bank's ability to offer prompt and up-to-date information and services to their customers.

3. The sophisticated development of the bank's website including graphics and animations that do not detract from use and a well-organised and user-friendly structure.

4. The bank's ability to offer individualised services, via the Internet, which meet each individual customer's specific needs, including, for example, acknowledging each customer by name, , and recommending certain services of interest to the customer.

The consequences of service quality were integrated into the research model on the basis of the recommendations in the literature (Hallowell, 1996; Evans and Berman, 1997; Lin and Wang, 2005; Shamdasani et al., 2008). The underlying principle was to design a unified business model by means of effective and significant outcomes. The model's end results consist of two main elements: consumer behaviour and organisational performance. They are described as follows:

- Consumer behaviour refers to the activities of individuals who make use of the services. This is normally determined by their degree of satisfaction and loyalty towards the service.

- Organisational performance refers to the productivity of the bank compared to its planned goals and objectives. Usually, amongst other indicators, this is determined by profit gains.

5.12.2 Benefits of Adoption

This study's findings are helpful to both managerial practitioners and academic researchers in the area of Internet marketing management. This study introduced a research model which is developed after a conceptualisation process. The model is structured as a cognitive belief system. It was empirically tested and validated in a single industrial case study (i.e. Internet banking services) in a less developed country (i.e. Saudi Arabia). Clearly, technology-based services are considered to be multinational services since they are provided for customers globally (Bitner et al., 2002; Habib and Al-Shadokhi, 2006). However, a small number of studies have identified the cultural role in service quality (Kettinger et al., 1995; Karatepe et al., 2005). Accordingly, as has been mentioned, a service quality model may not apply equally across cultures (Raajpoot, 2004; Karatepe et al., 2005; Ladhari, 2010). This makes it impossible that managerial practitioners simply implement this study's model cross-culturally due to its localised findings. Consequently, it is anticipated that the model of this study is culturally and industry specific, in that it defines and describes IBSQ management in Saudi Arabia.

Practically, banks can improve performance and achieve reputational and other gains when employing the model due to its great number of benefits. These benefits are derived from both its economic and strategic outcomes. Additionally, from an operational angle, the model is significant in building customer relationships through value and quality. Furthermore, it is important to emphasise the link between the quality of Internet banking services and organisational performance. This can be done by integrating the attributes of IBSQ into a business plan, which generates the following outcomes:

- Providing an alternative state of the art technology-based system so that the end-users operate and communicate with their banks efficiently and easily.

- Giving the local banks the ability to operate globally, to achieve new customer segments, and to attract potential international customers.

- Enhancing the bank's corporate image, which depends on a number of determinants influenced by the consumers' perceptions including, for example, the quality of the external communication system.

- Encouraging customers who are feeling good about being with their banks and using their online systems to remain with them and benefit from using their automated facilities.

- Persuading satisfied customers to recommend their banks to friends and relatives.

- Enhancing the value delivered by encouraging customers to participate in evaluating the ability of the Internet banking services to satisfy their needs.

- Enabling banks to achieve and sustain a competitive advantage in the electronic commerce industry, which is a very liberal market.

- Increasing the bank's financial return and effectiveness by enhancing customer relationships and, ultimately, maximising sales.

- Creating social benefits to the community by understanding end-users' requirements and designing the services on the basis of their needs.

In summary, this study introduced the IBSQ model. This business model underlines how four factors – reliability, responsiveness, website design, and personalisation – play a significant role in determining the quality level of Internet banking services from a consumer's standpoint. The model is developed based upon the idea that the best way to achieve the bank's objectives is firstly to investigate and identify its customers' preferences and then to offer financial, technical, and customer services which meet these requirements. The implementation of this model is an essential process towards achieving the bank's strategic goals of maintaining its ultimate financial flow and sustaining its competitive advantage.

5.13 Chapter Summary

This chapter's aim was to analyse the collected data, to present the research findings, and to discuss the overall results. This study supports the idea that Internet banking services are a very important tool for building successful customer relationships. In addition, it considers e-banking methods as practical tools that allow banks and users to move around the globe in seconds. Consequently, this study measured and evaluated customer service quality levels within the Saudi Arabian banking industry's Internet-based self-service division. A total of 732 questionnaires were collected from college students. Each questionnaire contained a total of 20 main questions divided into four categories of five questions relating to each single IBSQ dimension. This allowed the levels of all of the dimensions to be measured individually. The results of the questionnaire were benchmarked against the findings of a focus-group study of Internet banking users on quality levels. The results of both studies indicate an average level of satisfaction amongst Internet banking customers in most areas of customer services. Amongst all respondents, dissatisfaction levels were remarkably consistent and tended to be concentrated in Internet banking services related to technology. The next chapter summarises this study and draws attention to its main findings and contributions.

CHAPTER 6

Conclusions and Further Research

6.1   Research Overview

This study comprehensively examined and then carried out an analysis of previous and contemporary literature on the quality of service. This resulted in the identification of three research gaps. The first gap is the weakness of the original SERVQUAL model in assessing quality of service across a variety of service industries. The second gap is the shortage of an appropriate well-defined and industry-specific quality management model for banking services delivered over the Internet. As indicated from the limited research on the matter, the third gap is the lack of knowledge about the quality of service in the information technology field. Therefore, this study addresses these research gaps by developing a research model for measuring consumers' evaluation of the quality of Internet banking services. This evaluation is carried out through a reformulation of the original SERVQUAL model intended to join together four dimensions: reliability, responsiveness, website design, and personalisation. The research consisted of a case study in the Kingdom of Saudi Arabia's Internet banking services, which is one of the country's most rapidly developing service industries. Survey-based research was conducted with 732 students of King Abdul-Aziz University in Jeddah, Saudi Arabia. They represented a major segment of the consumers of the country's Internet banking services. The students were asked to complete a questionnaire regarding their experiences of the quality of Internet banking services. The primary data collected from their questionnaires was analysed using multiple regression, which is widely recognised as a well-founded technique for analysing major statistical work. Focus-group interviews were also carried out to obtain as much information as possible about consumers' perceptions of Internet banking services in order to use those findings as support for this study. This study contributes to knowledge in the field of service quality research. It provides a model that can be adopted by Internet banking service providers as a useful roadmap for measuring the level of service quality perceived by their customers.

6.2   Main Findings

This study investigated service quality. It argued that the SERVQUAL model was the most frequent model utilised to embark upon the representation of service quality assessment from the end-user point of view within the public and private sectors globally. However, the study found that recently more literature had emerged which offered contradictory findings about the SERVQUAL's functionality. Despite its generalisation, the model suffers from several major conceptual, methodological, and empirical drawbacks. Against this background, more completed model, on the conceptualisation of service quality helps to establish a greater degree of accuracy on this matter. This research has been undertaken to review the literature on service quality measurement and to discuss some of its implications in the context of Internet banking. The study is designed to measure customer perceived service quality at the Saudi Arabian Internet banking services through a combination of quantitative and qualitative research. The most striking observations to emerge from this study are outlined as follows:

1. The data analysis resulted in the discovery of a four-factor (*20-items*) IBSQ model. The study found that reliability (β=0.676), responsiveness (β=0.474), website design (β=0.316), and personalisation (β=0.127) are the major determinants of the quality of Internet banking services.

2. The model is described as a strategic managerial tool which can assist managers and decision-makers within the Internet banking service sector to take necessary decisions in order to improve the bank's performance through meeting customers' needs which will ultimately contribute towards building successful customer-relationships.

3. The general statistical finding revealed that the determination coefficient of the model is high at (R^2 = 0.798). The F-Statistic ratio of the model is (420.697) which show that the estimated model as a whole is statistically significant. This study's results show that the adapted model goodness of fit is considerably high. This indicates that, in this study, the four independent variables are vital in understanding consumer's perceptions towards evaluating the quality of Internet banking services.

4. This study did not support a generic five-dimensional model of service quality as two of the four determinants established by this study were unrelated to the SERVQUAL directly. The study supports the application of the SERVQUAL model, subject to adjusting its components to different versions. This is done by modifying the required items in order to capture service quality adequately across different service industries.

6.3   Research Contribution and Novelty

This research explores the concept of Internet banking services from the perspective of individual users. In particular, the researcher comprehensively examined and analysed the prior and contemporary literature on service quality. This led to the identification of theoretical, practical, and methodological gaps in the research, which have been addressed through the development of a research model to measure consumers' evaluation of the service quality of Internet banking services. This academic study makes both a significant and important theoretical, practical, and methodological contribution to research about service quality and these contributions have extended the current body of knowledge in the marketing literature. The following three sections highlight this study's originality.

a) Theoretical Contribution

This study's major theoretical contribution is the adaption and customisation of the SERVQUAL model, proving its relevance in the context of Internet banking services. To do this the current study recalibrated the SERVQUAL model, adapting it from a generic to an industry-specific focus. The original generic dimensions of reliability, responsiveness, tangibles and empathy were converted into reliability, responsiveness, website design and personalisation in the context of Internet banking services. In addition, the generic assurance dimension was transformed into website security. However, this dimension was merged under the reliability dimension. The four new industry-specific dimensions were tested statistically in one of the major technology-based sectors and in one of the fastest developing economies. The outcome of this study proves that the SERVQUAL model is applicable in industry-specific cases subject to modifying its dimensions to match the particular industry's specific attributes.

b) Practical Contribution

This study's major practical contribution is the development from the end-user's point of view of a refined service quality model constructed from the key dimensions of service quality in Internet banking services. The empirical research findings prove that the model is ready to serve as a marketing research instrument for service providers interested in measuring their customers' perceptions of the level of service quality in Internet banking services. Consequently, this will help Internet banking retailers to satisfy and retain as many customers as possible and maintain healthier organisations. The newly developed scale has noteworthy consequences in regard to building a successful and comprehensive customer relationship plan and providing organisations with the opportunity to discover more about customer requirements.

c) Methodological Contribution

This study drew a comprehensive picture through a research plan which dealt with a number of methodological constraints. This picture has been accomplished through the following:

1. The current study used student sampling in its quantitative investigation and academic staff sampling in its qualitative one. It is considered that using a mixed sample would usefully supplement and extend the analysis.

2. The current study targeted a developing nation (i.e. Saudi Arabia) and provided insights from an unexplored society. It is recommended that future research might explore further cultural contexts in order to compare results.

3. The current study tested a high-involvement risky industry (i.e. Internet banking services). Most previous studies were designed specifically to evaluate dimensions related to low-involvement non-risky websites and overlooked the active business of Internet-based self-service technologies.

4. The current study used a large sample size (i.e. 732 respondents). The majority of previous studies were misleading because their sample sizes were too small.

6.4   Limitations and Future Research

The following two sections detail the limitations of this research and provide some suggestions for future researchers to extend the current body of knowledge in the service quality literature.

6.4.1 Research Limitations

This study is comprehensive and thorough but nevertheless suffered from unavoidable limitations, including the following:

1. The timeframe within which the study had to be completed was limited, to a certain extent, by the researcher's ability to employ research techniques such as questionnaires and focus-group interviews beyond those already mentioned. The current study has only investigated the key antecedents of service quality in the context of Internet banking services.

2. The sample population was relatively limited. Although it represented an accurate cross-section of Saudi Arabian society, caution must be applied as the findings might not be transferable to other cultures. Future researchers might consider that a more comprehensive sample population would eliminate the possibility of skewed, incomplete, or misleading results.

3. There is an obvious element of personal and cultural bias inherent in the study since the researcher is a Saudi national, who has used Internet banking services frequently throughout his life and who, no doubt, has his own conscious or subconscious opinions about the service providers and, on larger scale, the political, social, and religious environment within which the service providers operate on a daily basis.

6.4.2 Future Research Directions

There are many ways through which future researchers can continue to develop this line of research. These include multi-case, cross-cultural, benchmarking, behavioural, and industry-specific studies.

1. Measurement of service quality can be applied to other electronic banking services including Automated Teller Machines (ATMs), telephone banking, and points of sale. These actions are essential in order to compare their respective results and identify the gaps between them.

2. It is essential that future researchers undertake cross-cultural studies in order to identify the cultural role in service quality. Such actions will help service providers to customise their service attributes. This study recommends that future researchers extend their research to other developed and developing countries.

3. It is recommended that the results of this study be benchmarked against other standard results in order to produce a rigorous, reliable assessment and to provide a clear picture of the operational performance level of Saudi Arabia's banking sector.

4. Future researchers should consider more comprehensive studies to identify the major consequences of service quality in this context. This may include studying the impact of service quality on consumer satisfaction and the means of encouraging customer loyalty so that they provide repeat business. Additionally, it is important to study the link between service quality and the attitudinal behaviour of customers towards Internet banking services. This is vital in understanding how service quality impacts on customers' intentions to use the service and how they respond to the systems' behaviour in delivering the service.

5. Future researchers should consider the development of alternative industry-specific measures for service quality in order to match the perceptions, expectations and delivery of service quality provided in other strategic service sectors. This can be done by modifying the original SERVQUAL model to address and embrace other vital and strategic industry-specific contexts.

6.5   Accomplishment of Research Objectives

This academic study explained the central importance of service quality to Internet banking services. The research was undertaken to design a research model to examine the relationship between Internet banking service quality dimensions and overall service quality. This aim threw up four objectives in need of further investigation if this research's overall mission was to be met. These objectives were pursued as follows:

1. Critically reviewing the literature on service quality, highlighting a knowledge gap in the field of this study and establishing the importance of the topic.

2. Identifying and describing the main factors delineating the relationships between the elements that define Internet banking service quality.

3. Designing a specific methodological process for carrying out the research and justifying the adoption of the chosen technique.

4. Reporting and highlighting significant, interesting, or surprising results and considering and discussing the final outcomes in light of the background information.

In line with the general reference to the background theory, this study developed a model to investigate the inter-relationships between the major determinants of Internet banking service quality and the level of consumers' perceptions of them. The instrument was designed professionally and scientifically on the basis of business-modelling standards. The SERVQUAL model was segmented into two parts and the expectation half was eliminated on the basis of references to previous research. The four factors of reliability, responsiveness, tangibles, and empathy were re-labelled correspondingly, in the Internet banking context, as reliability, responsiveness, website design, and personalisation. The assurance dimension was re-named security and merged with reliability.

The research approach and design was structured using the same methods detailed for similar studies and according to the following procedure:

•   Phase 1: quantitative survey study;

•   Phase 2: complimentary follow-up qualitative study.

Combinations of numerical and non-numerical techniques were used to perform data management and analysis. Results were reported from questionnaires and focus-group interviews, compared to each other, and reference made to previous research. Additionally, sources of secondary data including government publications, periodicals and books, commercial data, and international data were incorporated.

Figure 6.1 shows the arrangement plan, which explains the road map in which this research study met the overall aim and objectives established in the initiation phase.
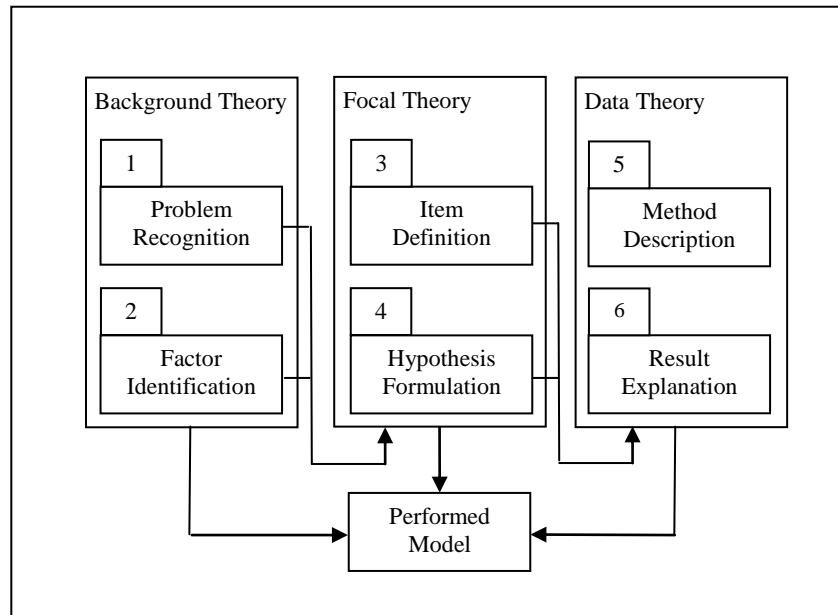
Figure 6.1: Accomplishment of Research Objectives

Four research hypotheses were proposed in the theoretical section of this study. Empirical analysis showed that the four research hypotheses results were statistically significant and, therefore, accepted. The findings were expected and produced results which corroborated the findings of a great deal of the previous work in this field. This study's findings were consistent with those of previous studies which found that the four main dimensions of Internet banking service quality were reliability, responsiveness, website design, and personalisation. With reference to the background information, this study's main outcome is the determination and identification of the key factors which contributed towards the development, from the end-user's stand point, of a unified model of practical evaluation of Internet banking services.

Finally, to sum up, the major intention of this research study has been to develop, evaluate, and validate a holistic model for the purpose of estimating the quality of Internet-based banking services from a business-to-consumer standpoint. In order to do so, a comprehensive assignment was undertaken to measure and evaluate service quality in the self-service banking context. The identified results assisted in enhancing the understanding of the role of technology in relation to the quality of banking services. Returning to the main aim and objectives set out at the beginning of the project, it is now possible to conclude from the evidence provided by this study that this task had been accomplished successfully.

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Appendix A. Profile of Banks in Saudi Arabia

Kingdom of Saudi Arabia Banking Sector

Current Operators and Service Providers

Saudi Arabian banking services were formally a semi-monopoly; they were operated by the Saudi Hollandi Bank, a branch of the Netherlands Trading Society and, under its authority, were regulated as the enacted central bank (The Saudi Hollandi Bank, 2012). The Saudi Government was preparing itself to join the international economic community; this would have required it to regulate its financial sector anyway. Consequently, in the 1950s, the Saudi Arabian Council of Ministers issued a royal decree which established efficiently the Saudi Arabian Monetary Agency (SAMA) which acted as Saudi Arabia's central bank (Hertog, 2007). Amongst others, SAMA's main objective was to supervise and act as an umbrella for the Saudi Arabian commercial banks. Previously, banking services were limited and did not include all cities, in the Kingdom; they extended only to Riyadh, Jeddah, and Dammam. However, as a step towards improvement, SAMA played a crucial role in extending these services by establishing a modern chain of branches, for the commercial retail banks, which incorporated the rest of the Kingdom. Currently, it is knowable that the total number of registered commercial retail banks operating in the Saudi banking market is twelve in addition to four international foreign financial institutions (Al-Sajjan, 2010). The aim of these banks is to ensure the provision of highly quality financial services to both nationals and local residents at the Kingdom. These service providers include the following:

1. The National Commercial Bank (NCB)
2. The Saudi French Bank
3. Riyadh Bank
4. The Saudi British Bank
5. Al-Rajhi Bank
6. The Saudi Hollandi Bank
7. The Saudi Investment Bank (SAIB)
8. Bank Al-Jazira
9. The Arab National Bank (ANB)
10. Samba Financial Group
11. Al-Bilad Bank
12. Al-Inma Bank

Table Part No. 1: Profile of Banks in Saudi Arabia

Bank No.	Bank Name	Descriptions	Bank Website
1	The National Commercial Bank (NCB)	The National Commercial Bank (NCB), or also known in Arabic as Al-Ahli Bank, is one of the first banks established in the Kingdom of Saudi Arabia. It was established back in 1953. It is operating as one of the largest and most successful retail banks in the Middle East area. The bank's headquarters is in the coastal city of Jeddah in the western province of Saudi Arabia with more than 282 branches throughout the kingdom. Currently, 70 percent of the NCB shares are owned by the government of Saudi Arabia. In 2002, the Saudi government stated that 30 percent of NCB shares would be available for sale to Saudi citizens and organisations.	www.alahli.com [Accessed 1 July 2012]
2	The Saudi French Bank	The Saudi French Bank is a financial institution offering full financial services to its existing customers inside the kingdom and around the world. It is united to Calyon of France which is one of the top ten banks in the world. The bank's mission is to be the most preferred bank in Saudi Arabia, and the best alternative to other foreign financial institutions. The bank's headquarter is in the capital city of Riyadh.	www.alfaransi.com [Accessed 2 July 2012]
3	Riyadh Bank	Riyadh Bank is considered as one of the new and modern financial institutions in the Kingdom of Saudi Arabia. It is also known as one of the largest banks in the Middle East region. Its headquarters office is in the capital city of Riyadh. However, it has regional offices and branches all around the 13 administrative provinces of Saudi Arabia. In addition, it has three overseas offices in the cities of Singapore, London, and Houston.	www.riyadhbank.com [Accessed 3 July 2012]
4	The Saudi British Bank	The Saudi British Bank (SAAB) was established back in 1978. It was taken over by the British Bank in the Middle East region. The bank is now a connected organisation with the HSBC Group which is considered as one of the world's largest financial institutions. Thus, SAAB has a connection to an international network which allows the bank to offer huge resources, expertise, and experience.	www.sabb.com [Accessed 4 July 2012]

Table Part No. 2: Profile of Banks in Saudi Arabia

Bank No.	Bank Name	Descriptions	Bank Website
5	Al-Rajhi Bank	The history of Al-Rajhi Bank goes back to 1957 when the bank was first established. It is dedicated to Islamic banking. In fact, it is considered as the largest Islamic bank in the word. With an established headquarters in Riyadh, Al-Rajhi Bank has over 500 branches around the kingdom as well as an international presence in three different countries including Kuwait, Jordan, and Malaysia. In terms of technology, it is one of the leading banks in the region in adopting different technology-based banking solutions with 2500 ATMs around the country.	www.alrajhi.com [Accessed 5 July 2012]
6	The Saudi Hollandi Bank	The Saudi Hollandi Bank was originally established back in 1926 as the Netherlands Trading Society in the city of Jeddah. The main aim of the company was to serve the pilgrims from the Dutch East Indies which is known nowadays as the Republic of Indonesia. Therefore, the Saudi Hollandi Bank is known as the first bank in Saudi Arabia. Even though the bank was first established in Jeddah, the branch network was expanded to include other major cities in different regions around the kingdom.	www.shb.com [Accessed 6 July 2012]
7	The Saudi Investment Bank (SAIB)	The Saudi Investment Bank (SAIB) is a Saudi Arabian financial company that was established by the Royal Decree number M/31 dated 23rd of June, 1976. It offers a wide range of retail and commercial financial and banking products and services as well as investment banking. The headquarters of the bank is in the capital city of Riyadh and the bank has a number of retail branches across the kingdom.	www.saib.com [Accessed 7 July 2012]
8	Bank Al-Jazira	Bank Al-Jazira was established by the Royal Decree number 46/M dated 21st of June, 1975. However, the bank commenced its business on 9th of October, 1976 with the takeover of the National Banks of Pakistan's (NBP) branches in Saudi Arabia. The bank is dedicated to providing a wide diverse range of customised financial services to its customers based on their preferences including a number of Islamic banking services.	www.baj.com [Accessed 8 July 2012]

Table Part No. 3: Profile of Banks in Saudi Arabia

Bank No.	Bank Name	Descriptions	Bank Website
9	The Arab National Bank (ANB)	The Arab National Bank (ANB) is a leading bank in the area. It is considered as one of the top ten banks in the Middle East. It was first founded back in 1979. It operates 168 local branches around the kingdom and one single international branch in London. It offers an extensive variety of financial services including Islamic banking. It is a leading bank in adopting and implementing technology with a total number of 925 ATMs distributed locally.	www.anb.com [Accessed 9 July 2012]
10	Samba Financial Group	Samba Financial Group was called the Saudi American Bank. It is one of the most well-known names in the banking industry in the kingdom. On 12th of February, 1980, the Saudi Arabian Council of Ministers issued a Royal Decree number M/3 to establish the Saudi American Bank by taking over the existing branches of Citibank in Riyadh and Jeddah. Samba was the first bank to offer priority banking and to adopt technology.	www.samba.com [Accessed 10 July 2012]
11	Al-Bilad Bank	Al-Bilad Bank is a Saudi bank that was established by the Royal Decree number 48/M on 4th of November, 2004. The main vision of the bank is to be the most reputed Islamic based financial solutions provider, meeting the aspirations of their customers, employees and shareholders. Even though it is a new born bank, it is seeking to expand all over the cities and provinces of Saudi Arabia. The bank is competing to provide a high quality standard of products and services including business finance products, retail products, and investment products.	www.bankalbilad.com [Accessed 11 July 2012]
12	Al-Inma Bank	Al-Inma Bank is the recent bank opened in the Saudi Arabia financial service sector. It was founded by the Royal Decree number 15/M dated 28th of March, 2006 It is devoted to Islamic banking solutions. It has an Islamic committee with well-qualified members from the academic staff of the Islamic University. In addition, the bank is keen to invest more in e-banking in order to provide alternative channels to reach its customers.	www.alinma.com [Accessed 12 July 2012]

Appendix B. Service Quality Measurement in Internet Banking

Customers Survey – English Version

KINGDOM OF SAUDI ARABIA

Ministry of Higher Education

KING ABDULAZIZ UNIVERSITY

Economics Department

6952123 Fax: 6952000 Ext. 66930

P.O. Box 80201 Jeddah 21589

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المملكة العربية السعودية

وزارة التعليم العالي

جامعة الملك عبد العزيز

قـــسم الاقـــتـــصــاد

٦٩٥٢١٢٣ فاكس ٦٩٥٢٠٠٠ تحويلة ٦٦٩٣٠

ص.ب ٨٠٢٠١ جدة ٢١٥٨٩

1 June 2010

Dear Participant

Good Day

I am enrolled as a postgraduate student at Brunel Business School, Brunel University West London, UK. Currently, I am conducting a quantitative primary research project as part of a thesis submitted for the degree of doctor of philosophy. The main aim of this study is to develop a research model in order to be implemented as a frame-of-reference for measuring service quality from a customer perspective in the specific context of Internet-based services. As part of my primary research, I would like to invite you to participate in this academic study through filling out this questionnaire. The purpose of this questionnaire is to measure customers' level of perceptions of service quality towards Internet banking services. Therefore, I would greatly appreciate if you could spare just a few minutes of your time to answer the following questions. All questions will require placing ticks in the selected boxes and no names are required, so complete confidentiality is assured. In participating, I would like to thank you a great deal for taking the time to assist me in my thesis.

Best Regards,

Tameem Al Bassam

Doctoral Researcher

Brunel Business School

Brunel University West London

Uxbridge, Middlesex

UB8 3PH

UK

Attachment: .... المرفقات :   Date: .... / .... / .... : التاريخ   Number: .... : الرقم

Section (1): Background

1. Internet banking services usage

☐   Yes
☐   No

If you do not use Internet banking services, please finalise this questionnaire as it is not relevant to you, thank you.

2. To thank you for your participation, the researcher will enter all questionnaire participants into a lucky draw. You could be the lucky winner for a gift of SR 500. Please complete the information below and return it with the questionnaire, so that the researcher can send the gift if your name was drawn as a winner – This is an optional question.

Name: ....   Student ID Number: ....

Signature for Participation

- **Student: I have completed this consumer evaluation questionnaire to the best of my ability, and I confirm that it is an accurate account of the perceptions of this case context.**

  o   Student Signature: _____
  o   Date Signed: _____

- **Supervisor: I have reviewed this questionnaire and agree with the content.**

  o   Supervisor Signature: _____
  o   Date Signed: _____

Note:

Kindly, if you need to obtain the results of the current study, if you have any questions, or if you have any additional comments of any of the questions on the questionnaire, please contact the researcher on one of the following address:

UK Address:	**KAS Address**:	**University Address**:
483 Green Lanes	P.O. Box: 48069	Brunel Business School
London	Jeddah 21572	Brunel University London
N13 4BS	Al-Khaldiah Dist.	Uxbridge UB8 3PH
UK	Saudi Arabia	UK

Note: Write your answers directly on the questionnaire.

Section (2): Evaluation of Internet Banking Services

In this section, based on your own service provider; evaluate the bank Internet services by indicating your level of agreement in the following statements:

5: Strongly Disagree. 4: Disagree.   3: Neutral.   2: Agree.   1: Strongly Agree.

Code	Measurement Statement	Scale
Reliability Dimension		
REL1	When the bank promises to do something by a certain time, it does so	1 2 3 4 5
REL2	Internet banking provides dependable service	1 2 3 4 5
REL3	The bank performs the service correctly the first time	1 2 3 4 5
REL4	Internet banking is safe to use	1 2 3 4 5
REL5	Internet banking transactions are always accurate	1 2 3 4 5
Responsiveness Dimension		
RES1	An immediate confirmation message is given after completing the Internet banking transaction	1 2 3 4 5
RES2	The bank always gives prompt service to requests via online	1 2 3 4 5
RES3	Internet banking provides helps to its customers if they have any problems	1 2 3 4 5
RES4	It is easy for customers to make changes on their orders after submitting their financial transactions	1 2 3 4 5
RES5	The bank's website has an update information	1 2 3 4 5
Website Design Dimension		
WD1	The bank's website is well organised	1 2 3 4 5
WD2	Navigation is consistent and standardised	1 2 3 4 5
WD3	Graphics and animation do not detract from use	1 2 3 4 5
WD4	The banks' website is user friendly	1 2 3 4 5
WD5	The banks' website organises information efficiently	1 2 3 4 5
Personalisation Dimension		
PER1	Internet banking always acknowledge customer by name	1 2 3 4 5
PER2	The banks' website is always familiar to the customer	1 2 3 4 5
PER3	The bank's website enables customers to perform transactions in a way that meets their needs	1 2 3 4 5
PER4	The bank's website recognises customer's specific needs	1 2 3 4 5
PER5	The banks' website provides the recommendation of financial services by customer preferences	1 2 3 4 5
Overall Perceived Service Quality		
SQ1	Overall, Internet banking provides a high level of service quality	1 2 3 4 5
SQ2	The overall experience with the Internet banking services is excellent	1 2 3 4 5
SQ3	Taking everything in consideration, the bank is a capable and proficient Internet banking service provider	1 2 3 4 5

Appendix C. Service Quality Measurement in Internet Banking

Customers Survey – Arabic Version

KINGDOM OF SAUDI ARABIA

Ministry of Higher Education

KING ABDULAZIZ UNIVERSITY

Economics Department

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P.O. Box 80201 Jeddah 21589

المملكة العربية السعودية

وزارة التعليم العالي

جامعة الملك عبد العزيز

قسم الاقتصاد

٦٩٥٢١٢٣ فاكس ٦٩٥٢٠٠٠ تحويلة ٦٦٩٣٠

ص.ب ٨٠٢٠١ جدة ٢١٥٨٩

fea.kau.edu.sa

1 June 2010

عزيزي المشارك

يوم سعيد

هذه الاستبانه جزء من بحث علمي خاص باطروحة لنيل درجة الدكتوراه في ادارة الاعمال بجامعة برونيل غرب لندن في المملكة المتحدة. وتهدف هذه الدراسة الى تطوير نموذج لقياس جودة الخدمة في قطاع الخدمات الذاتية الالكترونية من وجهة نظر العميل وذلك بالتطبيق على القطاع المصرفي في المملكة العربية السعودية. كجزء من هذه الدراسه امل التكرم بتعبئة هذه الاستبانه والتي تهدف الى التعرف على وجهة نظر العملاء والمستهلكين حول جودة الخدمات المصرفية الالكترونية في المملكة العربية السعودية، والثقة كبيرة في أن تأتي اجاباتكم معبرة بصدق عن وجهات نظركم، حتى يمكن الوصول الى نتائج قيمة تساعد على تطوير هذا المقترح واخراجه بالصورة المأمولة. وبقدر ما يكون تجاوبكم مع هذه الاستبانة بسرعة ودقة، بقدر ما تكون مساعدتكم في تحقيق أهداف هذه الدراسة المتخصصة. هذا وستكون معلومات هذه الاستبانة سرية ولن تستخدم لغير أغراض هذا البحث. وختاما أشكر لكم وقتكم الثمين وتعاونكم في تعبئة فقرات هذه الاستبانه والله يحفظكم ويرعاكم.

المخلص

تميم عبدالله عبدالرحمن البسام

باحث في برنامج الدكتوراه

كلية إدارة الأعمال

جامعة برونيل غرب لندن

المملكة المتحدة

Attachment: .... : المرفقات   Date: .... / .... / .... : التاريخ   Number: .... : الرقم

الجزء (١): معلومات عامة

١. استخدام الخدمات المصرفية الالكترونية

□ نعم

□ لا

اذا كنت لا تستخدم الخدمات المصرفية الالكترونية ، فالرجاء انهاء هذه الاستبانة لانها لا تتعلق بك ، شكرا لك

٢. لشكرك على المشاركة ، سيقوم الباحث بإدخال جميع المشاركين في تعبئة الاستبيانات في سحب للفوز بجائزة. يمكن ان تكون انت الرابح بالجائزة التي تعادل ٥٠٠ ريال سعودي. الرجاء اكمال المعلومات ادناه وإعادتها مع الاستبيان ، حتى يتمكن الباحث من بعث الهدية لك في حال اختيارك الفائز – السؤال اختياري .

الاسم: .... رقم الطالب الجامعي: ....

التوقيع على المشاركة

- **الطالب : لقد اكملت الاستبيان الخاص بتقييم العميل بناءا على المعلومات المتاحة لدي ، واؤكد ان هذه المعلومات دقيقة بحسب اداركي لمحتوى الحالة الخاصة بهذه الدراسة .**

  ○ توقيع الطالب : _____

  ○ تاريخ التوقيع : _____

- **المشرف : لقد راجعت هذا الاستبيان واوافق على محتواه .**

  ○ توقيع المشرف : _____

  ○ تاريخ التوقيع : _____

ملاحظة :

لطفا ، اذا كنت ترغب في الحصول على نتائج هذه الدراسة ، اذا كان لديك بعض الاسئلة ، او اذا كان لديك ملاحظات اضافية عن اي من اسئلة الاستبيان ، الرجاء الاتصال بالباحث مباشرة عن طريق احد العناوين البريدية التالية :

العنوان في المملكة المتحدة	العنوان في المملكة العربية السعودية	العنوان الجامعي
483 Green Lanes	ص . ب : ٤٨٠٦٩	Brunel Business School
London	جدة ٢١٥٧٢	Brunel University London
N13 4BS	شعبة الخالدية	Uxbridge UB8 3PH
UK	المملكة العربية السعودية	UK

ملاحظة : الرجاء كتابة الاجابة على ورقة الاستبيان مباشرة .

الجزء (٢): تقييم جودة الخدمات المصرفية الالكترونية

في هذا الجزء وبناءا على مقدم الخدمات البنكية الخاص بكم الرجاء تقييم جودة الخدمات البنكية الالكترونية وذلك بتحديد الخيار المناسب الذي يمثل درجة موافقتكم على اعتبار مضمون العبارة من جودة الخدمة :

٥: غير موافق بشدة.   ٤: غير موافق.   ٣: محايد.   ٢: موافق.   ١: موافق بشدة.

	المعيار				عبارة القياس	الرقم
					عامل الاعتمادية	
٥	٤	٣	٢	١	عندما يعد البنك بتأدية عمل معين، فانه يؤديه في الوقت المحدد	١
٥	٤	٣	٢	١	الخدمات المصرفية الالكترونية يمكن الاعتماد عليها	٢
٥	٤	٣	٢	١	البنك يؤدي الخدمة الالكترونية بشكل صحيح ومن المرة الاولى	٣
٥	٤	٣	٢	١	الخدمات المصرفية الالكترونية آمنة الاستخدام	٤
٥	٤	٣	٢	١	التعاملات المصرفية الالكترونية دائما دقيقة	٥
					عامل الاستجابة	
٥	٤	٣	٢	١	رسالة تأكيد لحظية تعطى بعد اتمام العملية المصرفية الالكترونية	١
٥	٤	٣	٢	١	البنك دائما يوفر خدمة سريعة للطلبات الالكترونية	٢
٥	٤	٣	٢	١	الخدمات المصرفية الالكترونية توفر المساعدة للعملاء عندما تكون لديهم أي مشكلة	٣
٥	٤	٣	٢	١	من السهولة للعملاء عمل تغييرات بعد طلب العملية المصرفية الالكترونية	٤
٥	٤	٣	٢	١	الموقع الالكتروني للبنك لديه معلومات محدثة	٥
					عامل تصميم الموقع الالكتروني	
٥	٤	٣	٢	١	الموقع الالكتروني للبنك منظم بشكل جيد	١
٥	٤	٣	٢	١	الابحار في الموقع الالكتروني متناسق وموحد	٢
٥	٤	٣	٢	١	الرسوم والخطوط لا تنقص من القدرة على استخدام الموقع	٣
٥	٤	٣	٢	١	يعتبر أمرا سهلا وسريعا اتمام العملية المصرفية في الموقع الالكتروني للبنك	٤
٥	٤	٣	٢	١	الموقع الالكتروني للبنك ينظم المعلومات بشكل فعال	٥
					عامل الاهتمام	
٥	٤	٣	٢	١	الخدمات المصرفية الالكترونية دائما تشكر العميل باسمه	١
٥	٤	٣	٢	١	العميل دائما ما يكون معتادا على التعامل مع الموقع الالكتروني للبنك	٢
٥	٤	٣	٢	١	الموقع الالكتروني للبنك يوفر للعملاء فرصة القيام بالعمليات المصرفية بالطريقة التي تناسب احتياجاتهم	٣
٥	٤	٣	٢	١	الموقع الالكتروني للبنك يفهم الاحتياجات الخاصة للعملاء	٤
٥	٤	٣	٢	١	الموقع الالكتروني للبنك يوفر التوصيات الخاصة بالخدمات المالية بناء على رغبات العملاء	٥
					جودة الخدمة	
٥	٤	٣	٢	١	بشكل عام ، الخدمات المصرفية الالكترونية تقدم مستوى عالي من الخدمة	١
٥	٤	٣	٢	١	التجربة العامة من استخدام الخدمات المصرفية الالكترونية تعتبر ممتازة	٢
٥	٤	٣	٢	١	بعد أخذ كل شيئ في الاعتبار ، البنك مؤهل وخبير في تقديم الخدمات المصرفية الالكترونية	٣

Appendix D. Research Ethics Committee Letter

Brunel University

Brunel
UNIVERSITY
WEST LONDON

Brunel University, Uxbridge,
Middlesex, UB8 3PH, UK
Telephone +44 (0)1895 274000
Web www.brunel.ac.uk

Brunel Business School
Research Ethics Committee

28 May 2010

STATEMENT OF ETHICS APPROVAL

Proposer: Tameem Albassam

Title: A Framework for Measuring Services in Web Based Services

It should be noted that, following internal scrutiny and approval in accordance with Brunel University Research Ethics Standard Operating Procedures, the University agrees to act as Sponsor and to provide appropriate indemnity in relation to the above study.

Should you require further information, please do not hesitate to contact me.

Yours sincerely,

Dr. Tillal Eldabi
Chair, Research Ethics Committee
Brunel Business School

Appendix E. Data Collection Involvement Letter

King Abdul Aziz University

KINGDOM OF SAUDI ARABIA

Ministry of Higher Education

KING ABDULAZIZ UNIVERSITY

Economics Department

☎ 6952123 Fax: 6952000 Ext. 66930

✉ P.O. Box 80201 Jeddah 21589

fea.kau.edu.sa

المملكة العربية السعودية

وزارة التعليم العالي

جامعة الملك عبد العزيز

قسم الاقتصاد

☎ ٦٩٥٢١٢٣ فاكس ٦٩٥٢٠٠٠ تحويلة ٦٦٩٣٠

✉ ص.ب ٨٠٢٠١ جدة ٢١٥٨٩

31 August 2010

To Whom It May Concern

This is to certify that Mr. Tameem Al-Bassam student of BruneI Business School, Brunel University, UK has done his data collection for his PhD project under my guidance at King Abdulaziz University, Jeddah, Saudi Arabia from 1st June to 31^{St} August 2010.

He has completed a survey project titled "Measuring Service Quality from a Customer Perspective in Internet Banking Services" towards the fulfillment of his PhD degree.

During his data collection trip he was found to be very sincere and attentive to small details whatsoever told to him.

I wish him luck and success in future.

Regards.

Dr. Khalid Al-Bassam, PhD
Associate Professor
King Abdul Aziz University

Attachment: .... : المرفقات   Date: .... / .... / .... : التاريخ   Number: .... : الرقم

Appendix F. Focus-Group Interviews Study

Plan Guide – English Version

1. Welcome Stage

- Good day, ladies and gentlemen and welcome to this session of the focus group.

- The researcher extends his grateful thanks to the participants in spending their valuable time in joining the focus group.

- This session's moderator is a researcher at the United Kingdom's Brunel University's Business School's Centre of Research in Marketing (CREAM).

- The main aim of this session is to gain a better understanding of the level of service quality of Internet banking services perceived by customers in the Kingdom of Saudi Arabia.

- The participants are considered to be experienced users of Internet banking services and the reason for inviting them to participate in this session is so that they can share their experiences and points of view.

2. General Rules Stage

- The participants are welcome to express their views freely since there is no right or wrong answers.

- This is an academic research project which does not involve any commercial or business activities.

- The session will be audio-recorded for future reference.

- The discussions will be conducted in Arabic and each participant will have the opportunity to talk one at a time and be asked to speak loudly and clearly.

- All the participants' positive and negative comments will be translated into English and will be used for academic purposes.

- Complete confidentiality is assured and no names or any demographical or personal data will be provided to a third party.

- The session will last for 90 minutes and, at halfway, there will be a ten minutes break when refreshments will be provided.

- The participants are required to avoiding using mobile phones and, also, not to make any unnecessary distractions during the session.

3. Discussion Stage

- What key dimensions do you use in evaluating the level of service quality in Internet banking services?

  ....

  ....

- What specific items of each dimension play a significant role in your decision-making process on the level of service quality in Internet banking services?

  ....

  ....

- Have you had any problems using Internet banking services? If yes, please provide some examples and explanations.

  ....

  ....

- What should Internet banking service providers do to provide better quality services?

  ....

  ....

4. Conclusion Stage

- The researcher wishes to offer his sincere thanks to the participants for their contributions to this focus group.

- The participants are requested kindly to provide their names and contact details if they are interested in receiving the results of this study.

First Name	Middle Name	Family Name
……………………	……………………	……………………
Department	College	Academic Institution
……………………	……………………	……………………
Identification Number	P. O. Box	Postal Code
……………………	……………………	……………………
City	Province	Country
……………………	……………………	……………………
E-mail Address	Phone Number	Fax Number
……………………	……………………	……………………

- The participants will be provided with gifts in appreciation of their help.

Appendix G. Focus-Group Interviews Study

Plan Guide – Arabic Version

١. مرحلة الترحيب

- يوم سعيد ، ايها السيدات والسادة ، واهلا وسهلا بكم الى الى هذه الجلسة الجماعية المركزة.

- الباحث يرغب في تقديم شكره الجزيل لكم على امضاء وقتكم الثمين ومشاركتكم في هذه الجلسة الجماعية المركزة.

- رئيس هذه الجلسة الجماعية المركزة هو باحث في مركز ابحاث التسويق التابع لكلية ادارة الاعمال في جامعة برونيل في المملكة المتحدة.

- الهدف الرئيس من هذه الجلسة هو الحصول على مفهوم افضل عن مستوى جودة الخدمات المصرفية الالكترونية من وجهة نظر العميل في المملكة العربية السعودية.

- المشاركين في هذه الدراسة الجماعية المركزة يعدون من المستخدمين الخبراء للخدمات المصرفية الالكترونية والهدف من دعوتهم للمشاركة في هذه الجلسة هو الرغبة في مشاركتهم في تجاربهم ووجهات نظرهم عن هذه الخدمات.

٢. مرحلة القواعد العامة

- يرحب في اراء المشاركين ووجهات نظرهم بكل حرية بما انه لا يوجد اجابات صحيحة او خاطئة.

- هذا مشروع بحث اكاديمي ولا يحتوي على اي ممارسات تجارية او مالية، وجميع البيانات المستقاة منه سوف تستخدم لاغراض بحثية وعلمية فقط.

- الجلسة سوف تكون مسجلة صوتيا وذلك في حال الرغبة في الرجوع لها مستقبلا، مع الحرص على الحفاظ التام على خصوصية التسجيلات الصوتية، وعدم استخدامها الا في الاغراض المجموعة من اجلها.

- المناقشات سوف تكون باللغة العربية وكل مشارك يحق له التحدث منفردا على ان يكون بصوت واضح ومسموع.

- جميع الملاحظات الايجابية والسلبية للمشاركين سوف تترجم الى اللغة الانجليزية وتستخدم لاغراض اكاديمية.

- السرية التامة مضمونة ، وجميع الاسماء والبيانات الشخصية لن تكون متاحة او متوفرة الى اي طرف آخر.

- الجلسة سوف تستمر لمدة ٩٠ دقيقة ، وفي وسط الجلسة سيكون هناك ١٠ دقائق للراحة وسوف توفر خلالها المرطبات.

- الرجاء من جميع المشاركين عدم استخدام الهاتف الجوال ، وعدم القيام بأي اعمال مزعجة خلال الجلسة، مع الالتزام التام بأنظمة وقوانين الجلسة.

٣. مرحلة المناقشة

- ماهي الابعاد الرئيسة التي تستخدمها في تقييم جودة الخدمات المصرفية الالكترونية؟

....
....

- ماهي الاشياء المحددة الموجودة في كل من هذه الابعاد والتي تلعب دورا مهما في عملية اتخاذك للقرار في تقييم جودة الخدمات المصرفية الالكترونية؟

....
....

- هل سبق وان واجهت مشاكل في استخدام الخدمات المصرفية الالكترونية؟ اذا كان الجواب بنعم ، الرجاء اعطاء بعض الامثلة والتوضيحات.

....
....

- ماذا يجب من مقدمي الخدمات المصرفية الالكترونية تقديمه لتحسين جودة الخدمة؟

....
....

٤. مرحلة الخاتمة

- الباحث يرغب في توجيه شكره العميق لجميع المشاركين لمشاركتهم في الدراسة الجماعية المركزة.
- الرجاء التكرم من جميع المشاركين بتقديم اسماءهم ومعلومات الاتصال بهم اذا كانوا يرغبون في الحصول على نتائج هذه الدراسة.

اسم العائلة	اسم الاب	الاسم الأول
....	....	....
المؤسسة التعليمية	الكلية	القسم الاكاديمي
....	....	....
الرمز البريدي	صندوق البريد	رقم الهوية
....	....	....
الدولة	المنطقة	المدينة
....	....	....
رقم الفاكس	رقم الهاتف	البريد الالكتروني
....	....	....

- سيكون هناك توزيع هدايا للمشاركين وذلك تقديرا وشكرا لمشاركتهم ومساعدتهم في هذه الدراسة.

Appendix H. Curriculum Vitae (CV)

Personal Profile of the Researcher

Tameem Al-Bassam

B.Sc. (Honors), M.Sc.
Teaching Assistant (T.A.)

Department of Marketing
Faculty of Economics and
Administration
King Abdul-Aziz
University

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**University Address
(KSA)**
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University
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Jeddah 21589, KSA
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University Address (UK)
Brunel Business School
Brunel University London
Kingston Lane
Uxbridge, Middlesex, UK
UB8 3PH

E-mail Address
t.a.albassam@gmail.com

Objective

My goal is growing inside King Abdul-Aziz University and having responsibility to all requirements by doing my job and handling my task in aim to reach the university mission.

Employment History

Teaching Assistant (T.A.)

1st of September 2006 - Present: King Abdul-Aziz University, Jeddah, KSA

- Taught undergraduate courses including:
    - Principles of Business Administration
    - Business Administration Readings in English
    - Basic Marketing
    - Basic Marketing Readings in English
    - Marketing Research
    - Communication Skills
- Supervised undergraduate projects in various marketing areas such as:
    - Customer Service Quality
    - Customer Satisfaction and Loyalty
    - Customer Relationship Management
- Participated on the development of the syllabus and the overall course structure of the newly established Department of Marketing.
- Collaborated on curriculum and exam development.
- Graded all written work including the following:
    - Weekly Assignments
    - Research and Academic Projects
    - Quizzes and Final Exams
- Met with undergraduate students on request including:
    - Full Time Students
    - Part Time and Distance-Learning Students
- Helped to organise academic events such as:
    - Postgraduate Symposiums
    - Workshops and Scientific Conferences

Academic Qualifications

2000-2004 University of South Florida, Tampa, FL, USA

- B.Sc. Honors in Business Administration
- Major: Marketing (GPA: 3.6/4.0)

2005-2006 Brunel University London, Uxbridge, Middlesex, UK

- M.Sc. in Marketing

Other Experience

- Strong Academic Skills: Teaching, Publishing
- Excellent Public Relations Skills: Communication and Public Speaking Skills
- Computer Proficiency: Microsoft Office Applications, SPSS

References

References are available on request.