AN INVESTIGATION INTO THE FACTORS THAT INFLUENCE CUSTOMERS' ADOPTION OF E-SERVICES

by

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ABSTRACT

Customer satisfaction is a key concern in any business strategy. It is often assumed that customer satisfaction can be enhanced using e-services. E-service is defined as interactive service received via the Internet (Jiang *et al.*, 2013). E-service has contributed to business-to-consumer (B2C) e-commerce by providing on-demand solutions to customers. The relationship with the customer is enhanced by introducing self-service options, product customisation and variety. However, there may also be negative impacts, such as techno-stress and lack of online customer assistance. The primary aim of this research was to develop a conceptual framework to describe the correlation relationship between the factors that influence customers' adoption of e-services.

Organisations use the Internet to attract customers, to conduct financial services and obtain information. This research focussed specifically on online shopping. The Grounded Theory research methodology was chosen for its flexibility and iterative comparison of data. A quantitative survey was conducted to determine the relative significance of the factors uncovered by the Grounded Theory methodology and to validate the hypothesis of the conceptual model.

Customer adoption is attained where customer satisfaction is high, where the customer sees value in the service, and where there is customer loyalty or trust. To date, research has focussed primarily on developed countries. Many challenges face South Africa as a Newly Industrialised Country (NIC). The negative factors facing developing countries in terms of e-service adoption include: lack of infrastructure, economic constraints and an emergent socio-political framework. The aim of this research was to build a conceptual model for explaining interrelationships between the identified factors that have an impact on customer e-service adoption. The customer's perception of technology-driven services affects the organisation's reputation, which in turn affects profitability. This research will be beneficial to

managers in local organisations that thrive on e-services. An understanding of customer preferences will lead to improvement of customer services in South Africa.

KEY TERMS: customer satisfaction, enabler, e-service, information and communication technology, inhibitor.

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1.1. BACKGROUND

The role of customer satisfaction is a key concern in any business strategy. It is often assumed that customer satisfaction can be enhanced through the use of e-services and that they contribute to business-to-consumer (B2C) e-commerce by providing on-demand solutions to customers. To foster customer satisfaction, the following factors regarding e-services must be considered: delivery performance; saving time; website functional properties; Internet familiarity; money saved; risk; customer support, and product variety (Lee *et al.*, 2007). The factors inhibiting customer e-service adoption are techno-stress, system failures, an increase in perceived risks and low online security to protect confidential data (Featherman *et al.*, 2011). It is essential for organisations and managers to understand the factors that inhibit (inhibitors) and foster (enablers) the adoption of e-services from a customer's perception. Customer adoption occurs when the e-service satisfies the customer's requirements and persuades the customer to return to the e-service. The aim of this research was to develop a conceptual framework to describe the correlation relationship between the factors that influence customer e-service adoption. This study will allow organisations to understand their customers' needs and thus improve customer service.

According to Bettencourt and Gwinner (1996), customers expect and demand flexibility and customisation in service encounters. The enablers must contribute to convenience and saving of time. For example, online shopping services are usually available 24 hours a day. Shoppers can access the service at any time. Online reviews encourage shoppers to purchase products. Most services have the functionality to do a quick price comparison as compared to shopping from store to store. The inhibiting factors also have significance in adopting e-services. Shoppers are concerned about privacy, fraud and financial risk (Aghekyan-Simonian *et al.*, 2006). This study identifies both the inhibitors and enablers of online shopping. An additional investigation into the significance of each factor provides a view into customer perceptions of online shopping. Customer perception is the key driver of influence on online shopping. The success of improving customer satisfaction in South Africa depends on attracting and retaining consumers. This study feeds into the inhibitors and enablers that influence consumers to shop online or not.

Self-service has become a popular trend (Joseph *et al.*, 1999). Curran, Meuter and Surprenant (2009) identify the main contributing factors to customer self-service adoption as the customer's attitude towards the e-service; the customer's intention to use the e-service (i.e. the customer's requirements); and Collier and Bienstock (2006) add to the list the customer's perception of the use of self-service technology, and the quality of the e-service. Customers are drawn towards e-services due to the convenience of, for example, booking of flights, shopping, and banking online (Featherman and Pavlou, 2003). Online self-service eliminates geographical barriers (Cloete and Courtney, 2002) and allows customers the convenience of shopping anywhere in the world via an e-service.

Customer loyalty is confirmed when a customer returns to a particular e-service to make another purchase as a result of the high quality of the service (Caruana, 2002). Customer satisfaction increases when customers perceive services as of a high quality. According to Parasuraman and Grewal (2000) there are five factors that increase customer loyalty, namely: reliability, responsiveness, assurance, empathy, and tangibles. Reliability refers to the ability to provide the promised service accurately. An example of reliability is to deliver the products on the specified time. Responsiveness is the ability to provide efficient assistance to customers. Services rendered by call centres, answering customers' queries, must be efficient. Assurance is attaining the customer's trust in the product or service. Online services that deliver on their promises or expected services build trust within customers. This leads to customers using the online service more often. Empathy is when customers are given individual assistance. This refers to addressing the customers' queries in a professional and attentive manner. Tangibles refer to the physical facilities and online support material offered, for example, online guides or videos.

Building customer trust seems to increase customer loyalty and gives the organisation a competitive advantage (Matzler and Hinterhuber, 1998). An increase in customer loyalty is one of the main factors that lead to an increase in customer e-service adoption. Building customer trust in technology also increases customer satisfaction, which also increases the likelihood of the customer adopting an e-

service (Montoya *et al.*, 2010). When a customer is so satisfied that they inform others about the service, the customer exerts a social influence on others, which leads to an increase in the number of customers returning to the e-service. Maintaining customer trust and loyalty is an on-going process, implying an on-going expense. Online systems must be evaluated periodically to ensure that the customers' needs are still being met (Montoya *et al.*, 2010).

Customers want convenience, product variety, affordable products, high-performing and user-friendly systems and relevant information with minimised risk from e-services (Cloete and Courtney, 2002). Risk is the main inhibitor of customer e-service adoption. Perceived risks, i.e., where customers are reluctant to complete online transactions due to the fear of online risks, hinder the use of e-services. Risks are categorised as performance risk, financial risk, time risk, psychological risk, social risk and privacy risk (Featherman and Pavlou, 2003). The lack of online security implemented is a factor that greatly concerns customers (Rust and Kannan, 2003). Any customer experience of risk, for example, loss of money or identity theft, strongly decreases the acceptance of e-services.

Customers experience techno-stress when technology is complex, difficult to use, and constantly changing (Tarafdar *et al.*, 2011). Tarafdar *et al.* (2008) investigated the impact of emerging information and communication technology (ICT) on end-user satisfaction. A techno-stress creator such as information overload decreases customer e-service adoption. Another techno-stress creator is the increase in system failures (Bitner *et al.*, 2000). Techno-stress creators frustrate customers, creating delays in shopping online. There is a great chance for errors. Building and implementing e-services must focus on the avoidance of techno-stress creators. These are known as techno-stress inhibitors. A techno-stress inhibitor, for example, is the assurance that online technical support is available. This provides a level of comfort to customers who are not familiar with e-services or technology.

To be successful, service providers must identify the requirements of their customers (Singh, 2006). In this way, the service provider creates a positive impression with the customer. Understanding the customers' needs increases profit, provides direction

for service improvements, increases the number of loyal customers and increases customer satisfaction. These are the enablers of e-service acceptance. This study also demonstrates the importance of each enabler to e-service adoption. This study will improve customer services in South Africa by providing a framework of the factors that enable or inhibit customer e-service adoption. The research firstly identifies both the inhibiting and enabling factors for e-service adoption via the Grounded Theory approach. Secondly, a survey determines the level of significance of each inhibitor and enabler on e-service adoption. The use of the Internet and self-service technologies is increasing in South Africa and across the world (Eriksson and Nilsson, 2007). Hence customers are more knowledgeable with regard to e-services, and this makes them more demanding in terms of receiving a high quality of service (Ahn *et al.*, 2004). Therefore, this type of research contributes to the professional practice in e-service delivery.

1.2.   PROBLEM STATEMENT

Many factors lead to the use of e-services within organisations. These factors include the replacement of manual processes; the decrease of cost by working more efficiently; and keeping in line with new business trends and standards (Sadeh *et al.*, 2011). Customers' acceptance of an e-service is another factor. However, this matter has not been fully explored, as compared to the impact that e-services have on organisations. The study of the adoption of Internet and mobile banking, in South Africa, addressed the attitudinal and perceived control factors (Brown *et al.*, 2003). The adoption of e-commerce in South Africa was explored from an organisational perspective (Uzoka and Shemi, 2007). Examples of factors investigated in Uzoka's (2007) research were the organisation's size, communication methods used, and information availability. A study by Moodley (2003) showed the benefits of adopting e-business in South Africa.

The research mentioned above did not consider the relative significance of factors that enable or hinder e-service adoption, and none of these studies included the customer's perception of e-services. Hence, there is a need to study the significance of the factors that lead to customer e-service adoption from a South African perspective. The customer's attitude towards e-service adoption should be further

explored in an attempt to improve customer satisfaction and improve the economy (Claes *et al.*, 2010).

The use of technology has led to an increase in the number of customers shopping online. Service providers must be aware of the factors that attract users to e-services to allow them to maintain and retain loyal customers. Ensuring that e-services cater for consumers' needs will also attract customers from other countries (La and Choi, 2012). This will improve the economy and customer services in South Africa. The research intends to explore the correlation and relative significance of the factors that have been found to influence e-service adoption.

1.3. PURPOSE OF THIS STUDY

The purpose of this study was to identify and analyse the factors that influence customer e-service adoption. These factors are also known as inhibitors and enablers, which represent the positive and negative effects on online shopping. This knowledge will improve customer services in South Africa, as it is the framework for understanding the customers' needs. The development of a conceptual framework helped to understand the relationships between the factors identified. Understanding the inter-linked relationships of the factors provides a guideline for prevention of creating inhibitors and encouragement of creating enabling factors. The relationship between fewer inhibitors and more enablers fosters customer e-service adoption. The study aimed to show this relationship.

1.4. RESEARCH QUESTION

This study aimed to answer the following main research question:
What are the factors that influence the customer's adoption of -services, and what are their relationships with and relative significance towards e-service customer adoption?

The research question was resolved by addressing the following sub-questions:
1. What are the factors that enable e-service adoption?
2. What are the factors that inhibit e-service adoption?
3. How does perceived risk affect e-service adoption by the customer?

4. What is relationship between a customer's perception of an e-service and the enablers and inhibitors of e-service adoption?

5. What is the relationship and relative significance of these factors with regard to the customer's e-service adoption?

The above questions were addressed by using the Grounded Theory methodology, followed by a quantitative survey. The intention of questions 1 and 2 was to establish the main factors impacting acceptance of online shopping. Risk was identified as a critical factor in previous studies. Question 3 aimed at understanding the types of risks that concerned shoppers and the level at which risk led to users rejecting online shopping. Previous studies have indicated that the customer's perception is a key driver of e-service adoption. It was essential that question 4 addressed the importance and impact of customer perception. Question 5 provided a comparison of all factors. This showed the inhibitors that should be prevented in online shopping malls and the enablers that increase customer satisfaction.

1.5.   RESEARCH OBJECTIVES

The main objective of this study was to develop a conceptual framework to show the correlation relationship among and relative significance of the factors that influence the customer's e-service adoption.

The following sub-objectives were addressed in order to achieve the main objective:

1. to identify the factors that have a positive impact on customers' online shopping experience by using Grounded Theory research;

2. to identify the factors that have a negative impact on customers' online shopping experience by using Grounded Theory research;

3. to assess the effect of perceived risk on e-service adoption in South Africa by identifying the most prevalent factors that influence customer e-service adoption;

4. to explore the customer's preference of e-services compared to face-to-face interaction. (A customer's perception of an e-service determines the level of customer service satisfaction, which will result in the adoption or rejection of the e-service.);

5. To determine the significance of and relationship between the factors identified as influencing customer e-service adoption.

The follow diagram shows the links between the research questions and the research objectives:

Research questions and objectives

Research Question 1:
What are the factors that enable e-service adoption?

Objective 1:
To use Grounded Theory methodology to uncover the factors that have a positive impact on a customers' online shopping experience. Identifying these factors will lead to understanding the reasons for e-service adoption/rejection.

Research Question 2:
What are the factors that inhibit e-service adoption?

Objective 2:
To use Grounded Theory methodology to uncover the factors that have a negative impact on a customer's online shopping experience. Identifying these factors will lead to understanding the reasons for e-service adoption/rejection.

Research Question 3:
How does perceived risk affect e-service adoption by the customer?

Objective 3:
To assess the effect of perceived risk in e-service adoption in South Africa. That is, which risk factors are most prevalent in South Africa and the impact this has on e-service adoption.

Research Question 4:
What is the relationship between a customer's perception of an e-service and the enablers and inhibitors of e-service adoption?

Objective 4:
To explore the customer's preference to E-services compared to face-to-face interaction. The customers' perception of an e-service determines the level of customer satisfaction which will determine the adoption/rejection of the e-service.

Research Question 5:
What is the relationship and relative significance of these factors with regard to the customer's e-service adoption?

Objective 5:
To determine the significance of the factors uncovered by the Grounded Theory methodology. That is, which factors contribute stronger than others to the adoption of E-services.

The main objective is to develop a conceptual framework to show the correlation relationship and relative significance among the factors that influence customer e-service adoption.

Figure 1.1: Research questions and objectives

1.6.   SIGNIFICANCE OF STUDY

Management information systems have the potential to introduce new and dynamic methods for improving customer service (Lin and Chang, 2010). Customer satisfaction is used as an indicator for making business decisions to assist with the forecasting and identification of customer preferences. This study will help organisations to strengthen customer relationships. The benefits of measuring customer satisfaction are mentioned next, to motivate the significance of this study.

- Competitive advantage – This refers to organisations competing to increase profit by acquiring more customers and maintaining customer loyalty (Matzler and Hinterhuber, 1998).
- Elimination of barriers – This refers to customers being able to shop from any location via the Internet (Cloete and Courtney, 2002).
- Building customer trust in technology – This involves ensuring that customers are comfortable with the e-service and will return to it (Montoya *et al.*, 2010).
- Customisation of services – This is the process of identifying the customers' requirements and ensuring that the e-service meets these requirements (Bettencourt and Gwinner, 1996).
- Customer self-service – Services are made available and accessible to customers via the Internet, for example, Internet banking (Joseph *et al.*, 1999).

It is evident that the customer's view and experience of the service constitutes vital information for the organisation offering such a service. This study aimed at understanding the customer's perception of e-service providers. This is significant because it determines the success or failure of a business. It also determines customer loyalty, which refers to retaining future business. Understanding the customer helps to identify the risks that must be addressed and also the enablers that keep customers satisfied.

1.7. DEFINITION OF KEY TERMS

Customer satisfaction – The measure of repeat purchases by loyal customers (Caruana, 2002).

E-services – The provision of service over an electronic network such as the Internet (Rust and Kannan, 2002).

Business to consumer (B2C) – According to Andam (2003, p.11) *"business-to-consumer e-commerce, or commerce between companies and consumers, involves customers gathering information; purchasing physical goods (i.e. tangibles such as books or consumer products) or purchasing information goods (or goods of electronic material or digitised content, such as software, or e-books). In the case of information goods, products are also received over an electronic network."*

Information and communication technology (ICT) – Technology that makes it possible for many business end-users to get a high speed data connection while travelling or working on site or at home (Tu, 2008).

Inhibitor – This term relates to the factors that discourage online shopping (Cenfetelli, 2004).

Enabler – This term relates to the factors that encourage online shopping (Cenfetelli, 2004).

Techno-stress – This stress occurs when customers cannot cope with the fast changing technology (Tarafdar *et al.*, 2011).

1.8. SCOPE OF THE STUDY

1.8.1. Boundaries

This research did not focus on the phases of the software development life cycle of the system. The focus was limited to the customer's attitude towards the system after development and implementation of the system.

1.8.2. Limitations of the Study

The data were collected from participants with differing levels of IT knowledge so as to ensure a true reflection of customer satisfaction. Participants were however required to be familiar with online services.

Grounded Theory was the chosen methodology, therefore no hypothesis was proposed. Grounded Theory is an explicitly emergent process. The process is time-

consuming as it requires repeated analysis, and determining of relationships between categories. The guidelines from the Grounded Theory process were used to ensure validity. Construct validity was ensured by using open coding. That is, by clearly identifying the factors that arise from the online shoppers experience. Internal validity can be linked to axial coding where relationships and links are identified from the feedback from online shoppers. External validity can be ensured by using random participants, at random times. This will create different situations in which to repeat the same test cases.

1.9.   STRUCTURE OF STUDY

The dissertation is comprised of the following chapters.

Structure of dissertation
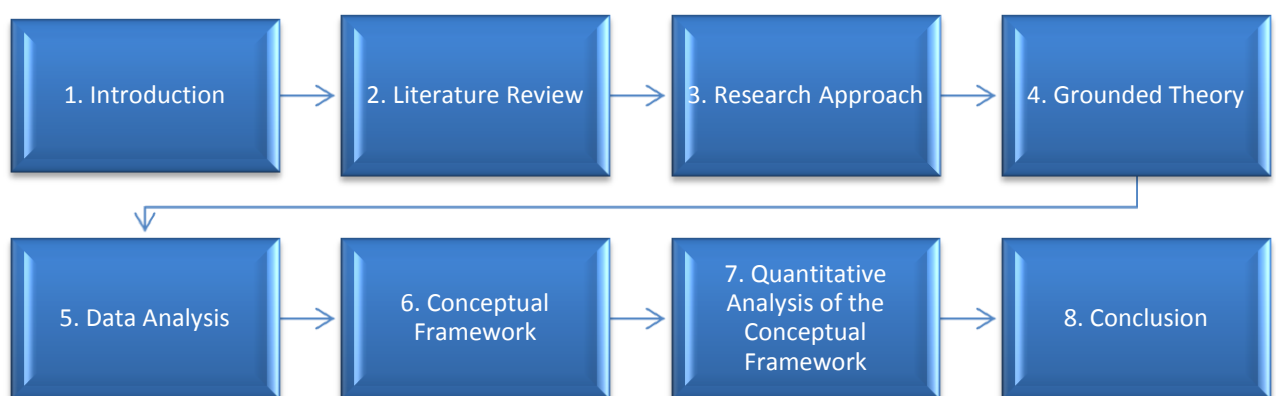
Figure 1.2: Structure of the dissertation

Below is a brief description of each chapter.

Chapter 1: Introduction

This chapter describes the goal of the intended research. The content includes the background, problem statement, purpose of the study, research questions and objectives, significance of the study, definition of key terms, scope of the study, the research context and design.

Chapter 2: Literature Review

This chapter contains relevant information about research relating to the usage of Grounded Theory and the factors surrounding the use of e-services. Existing research is sited to validate this study, comparisons are made between the literature review and this study.

Chapter 3: Research Approach

This chapter describes the chosen research methods for this study. This includes the research design, research setting, the chosen population and sample, data collection, reliability and validity, ethical consideration and data analysis.

Chapter 4: Background on Grounded Theory

This chapter provides a deeper understanding of Grounded Theory by discussing previous studies that involved this methodology. There is also focus on philosophical assumptions.

Chapter 5: Data Analysis

This chapter describes the data collected following the Grounded Theory process. The data are presented in categories according to the factors that impact customer e-service adoption. The sampling method, the participant profile and the result of the analysis are discussed in this chapter.

Chapter 6: Conceptual Framework

This chapter presents the conceptual framework, which will contain the categories from the previous chapter. The chapter includes the derivation of the conceptual framework, the significance and the limitations.

Chapter 7: Quantitative Analysis of the Conceptual Framework

This chapter describes the results of the quantitative survey, i.e., the relationships between the uncovered categories and the impact this has on customer perception. This chapter includes the data collection method, the sampling method, the profile of the participants and the results of the analysis.

Chapter 8: Conclusion

This chapter includes the summarised research findings, the significance of the contribution and recommendations for future research.

1.10. RESEARCH CONTEXT

The research participants were from a single organisation, but participants were randomly chosen from various regions. Also, age and IT knowledge varied. This provided a true reflection of customer perception of online shopping.

1.11. RESEARCH DESIGN

The research was divided into two phases. The first phase focussed on identifying the factors that impacted e-service adoption. These were factors are known as inhibitors or enablers, i.e., some factors had a negative effect on the research, objective while other factors encouraged e-service acceptance. The main aim was to develop a conceptual framework.

The factors identified in Phase One fed into Phase Two of the study, which focussed on identifying the significance of the factors on customer e-service adoption. A quantitative survey was used to gather information.

1.12. CONCLUSION

The aim was to firstly create a framework consisting of the factors that impact online shopping. Relationships between factors were also investigated. The need to identify these factors is to retain customers and improve online shopping services. Secondly, the research aimed to validate the conceptual framework. Grounded Theory methodology guided the research. A combination of surveys and interviews were used to gather information.

The next chapter describes research that is relevant to online shopping. The literature review summarises the available research regarding online shopping. This study aimed to build on the existing research and provide a fresh perspective on online shopping.

CHAPTER 2: LITERATURE REVIEW

A navigation map of the chapter is as follows.

Chapter 1: INTRODUCTION

Chapter 2: LITERATURE REVIEW

- Introduction
- Enablers of e-Service Adoption
- Inhibitors of e-Service Adoption
- The Theoretical Unpinning of the Conceptual Framework
- Conclusion

Chapter 3: RESEARCH APPROACH

Chapter 4: GROUNDED THEORY

Chapter 5: DATA ANALYSIS

Chapter 6: CONCEPTUAL FRAMEWORK

Chapter 7: QUANTITATIVE ANALYSIS OF THE CONCEPTUAL FRAMEWORK

Chapter 8: CONCLUSION

2.1. INTRODUCTION

Advances in technology have replaced face-to-face interaction between suppliers and customers in many organisations, and self-service technology has changed the way customers engage with service providers (Lee and Joshi, 2007). E-services are widely used and to an ever-increasing extent. Hence, the customer's perceptions of e-services must be evaluated. It is important for managers and organisations to understand the factors that lead to e-service adoption. This chapter considers the use of e-services, mostly focussing on online shopping. The literature review draws attention to the existing factors that impact customer e-service adoption. These factors are discussed in two categories: the enablers of e-service adoption and the inhibitors. Enablers encourage online shopping while inhibitors discourage online shopping.

The main objective of this study was to develop a conceptual framework to show the correlation relationship among and relative significance of the factors that influence the customer's e-service adoption. The literature review intends to identify the factors that enable or inhibit customer adoption. E-service adoption refers to a satisfied customer that receives a service via the Internet (Safeena *et al.*, 2011). The customer is considered satisfied, as the online service is convenient, accessible, reliant and secure (Qureshi *et al.*, 2000).

The information summarised, in this chapter, assisted in partially answering the following research questions:
1.   What are the factors that enable e-service adoption?
2.   What are the factors that inhibit e-service adoption?
3.   How does perceived risk affect e-service adoption by the customer?
The remainder of the research questions were answered by conducting qualitative and quantitative study (Chapter 3).

2.2. ENABLERS OF E-SERVICE ADOPTION

An enabler allows organisations to successfully render services and retain customers, using technology (Chiu *et al.*, 2012). Enablers positively impacts the customer's perception of the e-service by being efficient, accurate, user-friendly, convenient and cost effective (Bask *et al.*, 2011). They are the factors that encourage customer e-service adoption by satisfying the customer's needs in a timeous manner (Taylor, 2012).

2.2.1. Delivery performance of e-services and the time factor

The use of e-services has increased due to technological advancement and economic growth (Kandampully, 2002). Advancement in technology has also led to improved delivery performance in e-services. The most important measure of delivery performance is the speed of the operating system (Meuter *et al.*, 2005). For example, the operating system will determine how quickly a customer can conclude a purchase online. It allocates resources, such as space and memory, to allow the e-service to function (Youssef, 2012). A high performing system saves the customer time. This is a key customer need in the acceptance of e-services (Abubakar and Tasmin, 2012).

The infrastructure setup is linked directly to the speed of the e-service, that is, the faster the network service, the faster the performance of the e-service (Meuter *et al.*, 2000). Many e-services are rejected by customers due to poor system design, which leads to very slow system response (Lee and Joshi, 2007). E-services that have a high system performance and therefore save time are more likely to be used by the customer. Customers expect on-demand self- service. Cloud technology has become popular for this reason. High performance e-services can be provisioned, via cloud technology, without human interaction (Youssef, 2012).

Customers conceive convenience as the amount of time saved (Kaufman-Scarborough and Lindquist, 2002). Time can be saved in the following ways: by providing relevant content to the customer; ensuring that the content is presented well and easy to navigate; ensuring that the customer's needs are met, and providing a high performing infrastructure for the e-service (Lee and Joshi, 2007). An e-service

that saves time invariably increases the likelihood that the customer will adopt the use of such a service (Hua *et al.*, 2009).

Kandampully (2002), Meuter *et al.* (2005), Youssef (2012), Abubakar and Tasmin (2012), Lee and Joshi (2007), Kaufman-Scarborough and Lindquist (2002), and Hu (2009) agreed that the speed of the service impacts the customer's view of e-services. The researchers provided guidelines to ensure customers save time by using e-services. These guidelines included optimal infrastructure set-up and selection and presentation of content. Most research showed that this factor directly impacts the customer's perception of e-service adoption. Therefore, delivery performance of e-services and the time factor were included in the development of the conceptual framework.

2.2.2. Elimination of barriers

Using technology in business has many benefits such as improved exchange of information with customers and suppliers; better customer service; the expansion of business reach; increased access to international markets; and a reduction in costs (Cloete and Courtney, 2002). A service provider that can achieve the above benefits by introducing technology will increase customer satisfaction. Service providers are also able to attract foreign customers through their use of technology. Geography and location is no longer a restricting factor to do business and attract new customers.

However, the fact that customers are able to access a service online from anywhere in the world poses security risks, and customers fear that their personal information will be misused. Organisations therefore have to invest in ensuring high security over the Internet.

The perception of online trust may differ across cultures and internationally (La and Choi, 2012). E-services eliminate the physical barriers but not the psychological barriers. Psychological barriers refer to perceived risks, trust, social support, familiarity and experience (Chattaraman, 2012).

Cloete and Courtney (2002) discussed the benefits to developing countries and small businesses through the use of e-services to eliminate barriers. This opens the flow of information and goods to developing countries and small businesses in the hope of creating more opportunities.

Conversely, according to Cloete and Courtney (2002), the concerns of using e-services to eliminate barriers include:

- online security and trust
- legal and liability aspects
- high cost of networking technology.

There were contrasting views relating to the elimination of barriers. Cloete and Courtney (2002) explained that the elimination of barriers benefits a country's exchange rate, while Rust and Kannan (2003) described the perceived risk factor as relating to elimination of barriers. The perceived risk factor refers to the overall risk of shopping online. Both views are relevant to this study.

2.2.3. Trust, loyalty and social influence

The significant factors to consider to increase customers' trust in a service provider's technology include: high quality user interface, relevant information, security risk perception and privacy perception (Eid, 2011). Customer trust will increase customer loyalty, which can be expected to result in future profit gain. Customer loyalty can also be ensured by customising service offering and guaranteeing quick recovery from system failure.

Customer loyalty and trust are also increased by social influence (Montoya *et al.*, 2010), which occurs when satisfied customers refer the e-service to other customers. Prior experiences relating to online trust impact the degree of social influence. Social influence reduces the cost of maintaining customer loyalty, and an increase in customer loyalty usually leads to an increase in customer e-service adoption. Rao and Troshani's (2008) study argued that customers learn and follow behaviours they observe in their social groups. Social influence plays a major role in customer e-service adoption (Ghane *et al.*, 2011). Ghane *et al.* (2011) also showed that

customer loyalty significantly impacts customer satisfaction. Customer satisfaction leads to customer e-service adoption.

Organisations benefit from knowing which of the factors increase customer trust, loyalty and social influence (Eid, 2011) in that they can build and manage better relationships with customers and stakeholders. E-Service strategy is about using the Internet to revise the business model and redesign the organisation using the latest technology trends to attract customers.

Lack of online trust is the most common reason for customer e-service rejection (Tsanga *et al.*, 2010). When shopping face-to-face, there is the comfort of speaking to a physical sales person. This is substituted by help buttons and search features when shopping online. There is also the risk of not being able to verify the quality of the product before purchasing it. Trust is an important factor in retaining customers and increasing customer e-service adoption (Tsanga *et al.*, 2010).

This factor was relevant and included in the development of the conceptual framework. As part of this study, further analysis was done to prove the increase in customer preference to e-service where trust, loyalty and social influence exists.

2.2.4. Customer preference and customisation

Customers have become more demanding and they have ever more complex requirements. Customisation of e-services is definitely an advantage in the field of technology (Pitler *et al.*, 2004). An example of such a customised e-service is Streamline – an online grocery store (Meuter *et al.*, 2000). The store has created a competitive advantage by identifying every customers' preferences and buying patterns, determining when the customer will need another order/delivery (based on the last purchase date) and generally adding value for customers. By being aware of its customers' preferences, this e-service increases customer satisfaction by rendering the desired service. Although it is costly to maintain customisations compared to merely offering generic functionalities (Pitler *et al.*, 2004), the customers' needs are met (McFarlan, 2010) and these satisfied customers return for more business.

FedEx also implemented software called POWERSHIP to improve customer services (Meuter *et al.*, 2000). This system can track orders, store data, provide billing functions and information, and allows customers to customise the service to their needs. The technology is user friendly. Many customers have expressed their satisfaction in making use of the system.

Focus groups and survey methodology techniques were used to prove the benefits of customisation in the banking sector. They were recent users of electronic banking. The participants were asked to describe their online experience. Thereafter, surveys were distributed. Technology in the banking industry is constantly improving to increase customer satisfaction. Information overload is minimised by allowing customers more than one type of service, for example, call centres, telephone banking and online self-service. Customers have the option of choosing a preferred method of service.

A negative factor was the concern over security. Customers are uneasy with entering personal information online (Smith *et al.*, 2011). The rate of fraud and the misuse of personal information over the Internet create fear amongst customers. Safety and security is the most significant factor in e-service satisfaction and retention of customers (Tsanga *et al.*, 2010). Security and privacy play a role in e-service adoption, as proffered by Rust and Kannan (2003). The customer's need for control and protection of privacy is high. Providing value to customers instead of using customers' information for cross-selling will build customer trust and loyalty (Eid, 2011). This is an inexpensive way to maintain long-term customers.

Furthermore, the cost of customisation is a debate between Pitler *et al.* (2004) and McFarlan (2010). Pitler *et al.* (2004) posit that it is costly to maintain customisations compared to generic functionalities. On the other hand, McFarlan (2010) suggests that it is less costly, because the customers' needs are met. McFarlan (2010) used aerospace companies as an example of companies that acquire customised computer-aided design (CAD) equipment. In this case, customisation acts as an enabler, reducing the cost and time of design changes and purchasing new parts. Customisation as an inhibitor will be discussed later in this chapter.

These two contrasting views related to customising the e-service to meet customers' needs versus the cost risk and privacy risk of customisation. These were relevant to the conceptual framework. In cases of contrasting views, this study also aimed to answer the following research question:

What is the relationship and relative significance of these factors with regard to the customer's e-service adoption?

2.2.5. Self-service

Cenfetelli *et al.* (2005) used field survey methodology and the Customer Service Life Cycle Model (CSLC) to show that customers are drawn towards self-service. Customers were asked to use various online services and the experiences were recorded. The focus was on the customer's perceived usefulness of an online service. It was proved that customers who were satisfied with the service were more likely to return to the same service provider. Cenfetelli's (2005) conclusion was that technology is an effective means of facilitating and enhancing customer service. Picolli *et al.* (2001) also used the CSLC to show the benefits of integration technology into customer experience.

Wu and Wang (2005) used the Technology Acceptance Model (TAM) to investigate customers' satisfaction with the use of mobile commerce (MC). The irony in the discovery was that even though 99% of the participants owned mobile phones, only 26% of the participants used the online services provided by mobile phone companies. The study focussed on the customer's behavioural intention to use mobile commerce. Customers did not find mobile commerce technology convenient. One could pose the following questions: Why do customers behave differently to mobile technology compared to online shopping? Do customers perceive mobile technology as too complex to use? How can mobile technology which is easy to obtain and is used on a daily basis by 99% of the participants be the less preferred customer choice?

Organisations, for example, McCarthy and Hewlette Packard (Ruyter *et al.*, 2001), have increased customer satisfaction by the implementation of e-service applications. The aim of self-service environments was to increase profit. Ruyter *et*

al. (2001) describes five advantages of using technology to improve customer satisfaction:

- Compatibility – The level to which innovation is in line with current values, habits and past experience;
- Complexity – The level of ease in learning;
- Triability – The opportunity to test an innovation before implementing it;
- Communicability – Whether the innovation can be observed by others; and
- Perceived Risk – The describes the concerns relating to the innovation.

Bitner *et al..* (2000) used Amazon.com as an example of technology that enables online shopping. Customers select the items they require. These are placed in a virtual shopping cart. Payment is made online via secure methods such as Paypal or PayGate. Items are delivered to the customer via courier services. This is convenient and quick. Products are received without the customer leaving his/her home. Convenience encourages the use of e-services.

Kandampully (2002) postulated that organisations compete on the basis of services, and not on the basis of physical products. His research showed how services can reach international borders by the use of technology. Customer service is evolving in that fewer face-to-face interactions occur between customer and service provider. This increases convenience and removes geographical barriers. Kandampully also mentioned that the level of service convenience was increased by the use of technology and emphasised the importance of monitoring customer trends and experiences facilitates future planning. This means that a customer's behavioural patterns to technology impact the success and failure of a company.

However, Lee and Joshi (2007) illustrated a different view to self-service, arguing that face-to-face interaction is more effective in resolving customer dissatisfaction. For example, if a product is damaged or delayed, it can easily be rectified within a store, whereas attempting to resolve the problem online results in further delays.

Finally, the customer's perception of the usefulness of an online service increases customer adoption of the e-service (Cenfetelli *et al.*, 2005). Customers who are

satisfied with the service that was rendered are more likely to return to the same service provider. The conclusion reached in Cenfetelli's (2005) study is that technology is an effective means of facilitating and enhancing customer service. (Piccoli *et al.*, 2001) likewise concluded that technology enhances customer service.

Although most studies discuss the convenience of self-services, Lin (2011) explains that customers must be comfortable with the use of technology. Also, the technology must be accessible to customers. The benefits of self-service cannot be enjoyed without ensuring ease of use and purpose for use (Hua *et al.*, 2009).

2.2.6. Speedy recovery from system failure

Management information systems are used to store, retrieve and generate data. These functions must be optimised to serve customers efficiently and intelligently. Bitner *et al.* (2000) investigated the technology used by ATandT to provide a service and also considered the principles of the Service Marketing Pyramid. The Service Marketing Pyramid shows the relationship between employees, customers and technology (Bitner *et al.*, 2000).

Using this theory, proposed by Bitner *et al.* (2000), the following was deduced :
- Technology increases customised service offerings. There is more opportunity to comply with the customer's exact needs.
- Technology allows recovery from service delivery failure. An important reason for using technology is to create backup systems and disaster recovery plans. This ensures a continuous delivery of service to customers.

Similarly, the Technology Infusion Matrix, proposed by Parasuraman and Grewal (2000) focuses on the following areas:
- Response to customer needs and requests (customisation and flexibility). It is important to understand the customer's needs and preferences.
- Response to service delivery system failures. The time taken to assist customers during system failures affects an organisation's reputation and subsequent customer loyalty.

Wang's (2010) study discussed the relationship between recovery from system failure and customer loyalty. Customers gain confidence in e-services that recover from error in a short time (Lee and Joshi, 2007). La and Choi's (2012) study was in agreement with the positive impact that speedy recovery from system failure has on customer e-service adoption. A speedy recovery implies that customers do not lose time while waiting for a system to restart. It also contributes to trust in the system because customers will automatically experience suspicion when a system stalls, especially when the customer has provided their financial details.

2.2.7. Online customer support

Customer support must be effective and available online (Rose *et al.*, 2010). The following tools that are used to increase customer e-service adoption: Video Response Systems (Bitner *et al.*, 2000); online documentation including system screenshots (Kaufman-Scarborough and Lindquist, 2002); system prompts that provide the user with error descriptions and directions to resolve the problem (Kaufman-Scarborough and Lindquist, 2002); and helpdesk and online support contact details (Lee and Joshi, 2007).

2.2.8. User-friendly systems (Usability)

Jiang (2013) recommended that the site be user-friendly, since no physical salesperson is present. A user-friendly system is one that is easy to navigate, has clearly depicted icons and language that is easy to understand (Jiang et al., 2013). Two factors that enhance the ease of use of e-services are the customer's level of familiarity with technology, and the relevant content provided (Lee & Joshi, 2007; Piccoli et al., 2001; Bachelet & Cansfield, 2010). In addition, good e-services would also provide a number of additional functionalities, as well as an effective design and layout.

Firstly, the customers' IT knowledge enables them to navigate easily through the e-service. Experience of the e-service reduces both the time taken to make a purchase as well as the techno-stress experienced by the user, as the user does not have to read and search for functionalities, but can anticipate where to find what they are looking for.

Furthermore, access to relevant information also contributes to usability, as it reduces techno-stress. The customer is not overloaded with unnecessary information that may cause irritation and confusion in deciding on a product or purchase. Customers are likely to return to user-friendly e-services when it was an effortless experience, and this results in an increase of customer e-service adoption (Bachelet & Cansfield, 2010).

In addition to the above two factors, a user-friendly e-service would also offer a variety of products, answers to frequently asked questions, return and payment policies, an uncluttered and easy to navigate layout, product comparison, and security of online transactions (Park & Kim, 2003). These factors enable customers to make decisions easily.

Another factor to consider in the usability of an e-service is the design. Participants proposed that the layout of the website should be similar to the physical store so that customers who have little knowledge of the service can easily find the service easy to use.

All research reviewed showed user-friendly systems in a positive light. It is seen as an enabler of e-service adoption because it leads to customer satisfaction.

2.2.9. Satisfying customer requirements

Customer satisfaction is significant in total quality management (TQM). TQM is described by Kailani and Kumar (2011) as a systematic management strategy to address the e-service challenges. Total Quality Management (TQM) is a method used to ensure that customers' needs are met the first time, every time. Having to repeat the same function several times increases customer frustration and decreases profitability (Ward, 2006). TQM focusses on the customer by regularly monitoring customer service satisfaction and offering management involvement to ensure that the organisation understands the customer (Ward, 2006). Kandampully (2002) also concluded that customer satisfaction must be monitored regularly to identify customer trends and experiences for future strategic planning.

Similar to the method of TQM, Kano's Model (Matzler and Hinterhuber, 1998; Bayus, 2010) of customer satisfaction also places emphasis on the customer's requirements. Kano's Model was built on the following three factors that influence customer satisfaction:

- 'must-be' Requirements (refer to the basic requirements of a service or product);

- one-dimensional requirements (refer to the relationship between customer satisfaction and level of fulfilment. The relationship is proportional, that is, the higher the level of fulfilment the higher the level of customer satisfaction);

- attractive Requirements (refer to services that the customer does not expect but that are available, for example, airlines that offer in-flight telephone services).

Monsuwe (2004) identified the following factors as being significant towards satisfying customer requirements:

- time pressure
- lack of mobility
- geographical distance
- need for special products
- and appealing alternatives.

Satisfying the customer's requirements was seen as a very important factor, as the use and acceptance of an e-service depends on the purpose a customer has for the e-service. This was a very relevant factor that was included in the conceptual framework and further investigated.

2.2.10.   Convenience and Efficiency

The aim of e-services is to provide convenience and efficiency, which are significant factors in customer e-service adoption (Axelsson *et al.*, 2013; Jiang *et al.*, 2013). Convenience refers to shopping from home and having products delivered to the customer and efficiency refers to having the products delivered in good condition and on time (Jiang *et al.*, 2013).

Connaway's (2011) research focussed on convenience and efficiency related to information. Customers want to access relevant information quickly in order to save time. Connaway's (2011) research identified the time factor as being significant to providing customers with shopping convenience.

2.3. INHIBITORS OF E-SERVICE ADOPTION

An inhibitor creates challenges for organisations that aim to successfully render services and retain customers through the use of technology (Chiu *et al.*, 2012). Inhibitors negatively impact the customer's perception of the e-service by creating user frustration, inconvenience, and resulting in wasted time and money (Bask *et al.*, 2011). Inhibitors are the factors that discourage customer e-service adoption by decreasing customer satisfaction (Taylor, 2012).

2.3.1. Techno-stress

Techno-stress is stress experienced when users are not able to adapt to new technology or receiving an overload of information. Constant changes and complex customisations increase techno-stress (Tarafdar *et al.*, 2011). Techno-stress creators are those factors that introduce stress into an information technology environment (Tu *et al.*, 2008).. For example, communication overload and information overload are techno-stress creators where users are faced with too many electronic services. Keeping track of the latest technology trends and coping with the complexities of newer electronic devices are also causes of such stress. Techno-stress inhibitors, on the other hand, are ways to prevent techno-stress. For example, technical support and help desks are identified as techno-stress inhibitors, as they provide users with relevant information that reduces techno-stress and facilitates the use of e-services (Prabhakaran and Mishra, 2012).

Tu *et al.* (2008), used two public sector organisations to study the impact emerging information and communication technology (ICT) has on end-user satisfaction. Examples of ICT are wireless LANs and mobile phones. These technologies allow users to access data from any location. The techno-stress inhibitors increase customer satisfaction, whereas techno-stress creators decrease customer satisfaction. The Techno-stress Creators and Techno-Stress Inhibitors were also

seen as providing useful information management improving organisation strategy, in turn increasing customer satisfaction.

Techno-stress can lead to adversely affecting the outcome of an online purchase, having a direct impact on customer satisfaction and completion of a purchase. This was a relevant factor as it focussed on human emotion and perception regarding the ability to use technology and e-services. This factor is largely linked to customer perception of e-services.

2.3.2. Perceived risk

Perceived risk is defined as *'a consequence in the purchase environment where consumers may consider the purchase outcomes uncontrollable or the importance and seriousness of the results associated with making a wrong, unsuitable decision as high'* (Kailani and Kumar, 2011, p.79). Consumers are more comfortable using face-to-face services because they feel that there is less risk (Featherman and Pavlou, 2003). This decreases the competitive advantage of e-services and hampers customers' adoption of such services. According to Featherman and Pavlou (2003), perceived risk involves seven facets:

- Performance risk – The risk of the product malfunctioning
- Financial risk – The risk of losing profit
- Time risk – The risk of a transaction taking too long to complete
- Psychological risk – The risk of customer frustration due to using an e-service
- Social risk – Loss of social status by adopting a particular e-service
- Privacy risk – Loss of control over personal information
- Overall risk – A measurement of perceived risk when all the above risks are evaluated

Perceived risk also impacts the intent to use e-services (Belanche *et al.*, 2012). Belanche *et al.* (2012) have highlighted perceived risk as an inhibitor to online shopping as it negatively impacts the customer's perception of e-services.

Perceived risk reduces the number of repeat customers (Chiu *et al.*, 2012). This impacts retaining of customers and customer loyalty. Customers reject e-services due to perceived risk. Customers fear losing money, time, purchasing the wrong

item, purchasing a faulty item, dealing with a dishonest vendor and fraudulent activities (Park *et al.*, 2012).

E-services provide convenience and efficiency, but also a perception of risk. The significance of perceived risk on other factors will be considered in this study.

2.3.3. Increased cost of customisation

Customisation aims to satisfy the customer's needs by providing services for which there is a demand (Matzler and Hinterhuber, 2011). The increase in variety and new, complex technology leads to additional cost for e-service strategy (Pitler *et al.*, 2004). The organisation is responsible for the financial risk of customisation. The customer needs are met at a high cost. Organisations also consider raising the cost of the service to the customer. This financial risk negatively impacts the customer's perception of e-services (Chiu *et al.*, 2012) which in turn impacts the organisation and customer. It is relevant to the research on customer e-service adoption because increase in cost is seen to discourage e-service adoption.

2.3.4. Weak security

Security is a major concern as customers are uneasy about entering personal information online. Encrypted data, firewalls and password protection policies may be used to ensure maximum security of personal data (Rust and Kannan, 2003). Weak security leads to perceived risk, which discourages customers from using e-services (Kailani and Kumar, 2011). Customers feel comfortable and confident using e-services that have considered security policies, safe transacting, control of passwords and information verification methods.

2.3.5. Privacy

Privacy is a significant factor that impacts customer trust of online shopping services and customer satisfaction (Sadeh *et al.*, 2011). Privacy impacts customer trust and loyalty (Wang and Cao, 2009; Stancombe, 2012). Customers do not trust e-services that do not ensure privacy of personal details.

Privacy also contributes to e-service quality (Sahadev and Purani, 2008). E-Service quality is determined by privacy, fulfilment, the availability of the system and

efficiency (Sadeh *et al.*, 2011). These factors also impact customer trust and loyalty, which directly impacts on customer e-service adoption.

Research by Yen and Lu (2008) and Kassim and Abdullah (2010) also resulted in privacy being a relevant factor in the study of customer e-service adoption. The results of these 2 studies showed that customers prefer to shop online when privacy is taken into high consideration in the e-service strategy.

2.4.   THE THEORETICAL UNPINNING FOR THE CONCEPTUAL FRAMEWORK

Below is a summary of the factors that were identified from the literature review that enhances or impede customers' adoption of e-services.

POSITIVE FACTORS

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NEGATIVE FACTORS

CUSTOMER ADOPTION

- Speedy delivery performance
- Saved time
- Elimination of barriers
- Trust, loyalty and social influence
- Customisation
- Self-service
- Speedy recovery from system failure
- Online customer support
- User-friendly system
- Meeting customer needs
- Convenience
- Efficiency

- Techno-stress
- Perceived risk
- Increased cost of customisation
- Weak security and privacy

Figure 2.1: The enablers and inhibitors that affect customer e-service adoption

The literature review was imperative for developing the conceptual framework. It was used as a guide to identify the existing factors that impact customer e-service adoption. The following table summarises the relevant factors for this study which were discovered during the literature review. These are the factors that determine whether a customer chose to shop online or in a physical store and whether a customer chose to return to a particular service. The inhibitors of customer e-service

adoption which should be mitigated are also provided. Mitigation of the inhibitors will increase the use of e-services and ensure customer satisfaction (Ghane *et al.*, 2011). Effective implementation of the enablers will also increase the use of e-services and ensure customer satisfaction (Ghane *et al.*, 2011).

Table 2.1: Requirements for e-service adoption

CATEGORY	COMMENTS
Delivery performance	This relates to the system's performance (Lee and Joshi, 2007), i.e., how does the speed of an online system affect customers' perception of the overall service?
Elimination of barriers	The Internet makes it possible to shop from home at stores in other countries. Cloete and Courtney (2002) focussed on accessing services from any location. Does this create convenience or does it reduce local business? Do customers prefer to shop online and are they satisfied?
Customer trust, loyalty and social influence	Customers will trust an e-service and return to an e-service if their experience was satisfactory (Montoya *et al.*, 2010). Social influence occurs when a customer is so satisfied that he/she informs others about the service. This increases the number of customers using the e-service (Montoya *et al.*, 2010).
Customisation	Customisation refers to providing functionality specific to a sector. This means providing customers with exactly what they want (Pitler *et al.*, 2004; Meuter *et al.*, 2005). However, the steps necessary to ensure that customers adopt customised e-services should be considered.
Self-service	Self-service is seen as a means of convenience (Joseph *et al.*, 1999). However, do self-service systems create convenience or customer frustration from techno-stress?
Techno-stress	Techno-stress occurs when customers cannot cope with the fast-changing technology (Tarafdar *et al.*, 2011). What impact does this have on a customer's perception of e-services?
Recovery from system failure	This refers to how quickly a system is restored after a failure (Meuter *et al.*, 2000). How do customers respond to this?

Time factor	E-services aim at saving time (Joseph *et al.*, 1999). Do all e-services satisfy this requirement and how can this be achieved?
User-friendly systems and customer familiarity	Lee and Joshi (2007)stated that it is important to take the user's IT knowledge into account. Customers who use e-services have varying levels of knowledge of technology. What standard requirements must e-services meet in order to satisfy customers with varying skills and knowledge of e-services?
Relevant content	Relevant content is a requirement for e-service adoption, in other words the applicability of the information accessible to the customer (Lee and Joshi, 2007). How does relevance affect the customer's perception of an e-service?
Customer support	Since online support is required to assist customers when problems arise, it is a factor that leads to customer satisfaction (Lee and Joshi, 2007). Are online documents sufficient or are call centres the preferred method of assistance for customers?
Satisfying of customer requirements	Ensuring that an e-service satisfies a customer's needs guarantees that the customer will return to the e-service (Ward, 2006). Satisfying customer requirements saves time, sustains loyal customers, and increases customer satisfaction (McFarlan, 2010).
Risk	Security risks occur when personal data is misused (Rust and Kannan, 2003). Perceived risk is measured according to the following categories: performance, financial, time, psychological, social, and privacy risk (Featherman and Pavlou, 2003). Risk affects customer satisfaction, which has an impact on the increase/decrease in customer e-service adoption.

2.5. CONCLUSION

The factors listed in Table 2.1 are in line with the main research question: What are the factors that influence the customer's adoption of e-services, and what is their relationship and relative significance towards e-service customer adoption? These factors form the basis for the development of the theoretical framework. The results of the theoretical framework were used as the basis for the quantitative study.

Literature by Lin and Chang (2011) discussed the use of self-services. The adoption of self-services is dependent on the customer's attitude towards technology. Self-service was excluded from this study as it is seen to have the same purpose as e-services. The factors that impact the adoption of self-services are the same as those identified in the literature review (Hilton *et al.*, 2013).

CHAPTER 3: RESEARCH APPROACH

A navigation map of the chapter is as follows.

Chapter 1: INTRODUCTION

Chapter 2: LITERATURE REVIEW

Chapter 3: RESEARCH APPROACH

- Introduction
- Phase 1
- Phase 2
- Reliability and Validity
- Ethical Considerations
- Flow Diagram of the Research Process
- Conclusion

Chapter 4: GROUNDED THEORY

Chapter 5: DATA ANALYSIS

Chapter 6: CONCEPTUAL FRAMEWORK

Chapter 7: QUANTITATIVE ANALYSIS OF THE CONCEPTUAL FRAMEWORK

Chapter 8: CONCLUSION
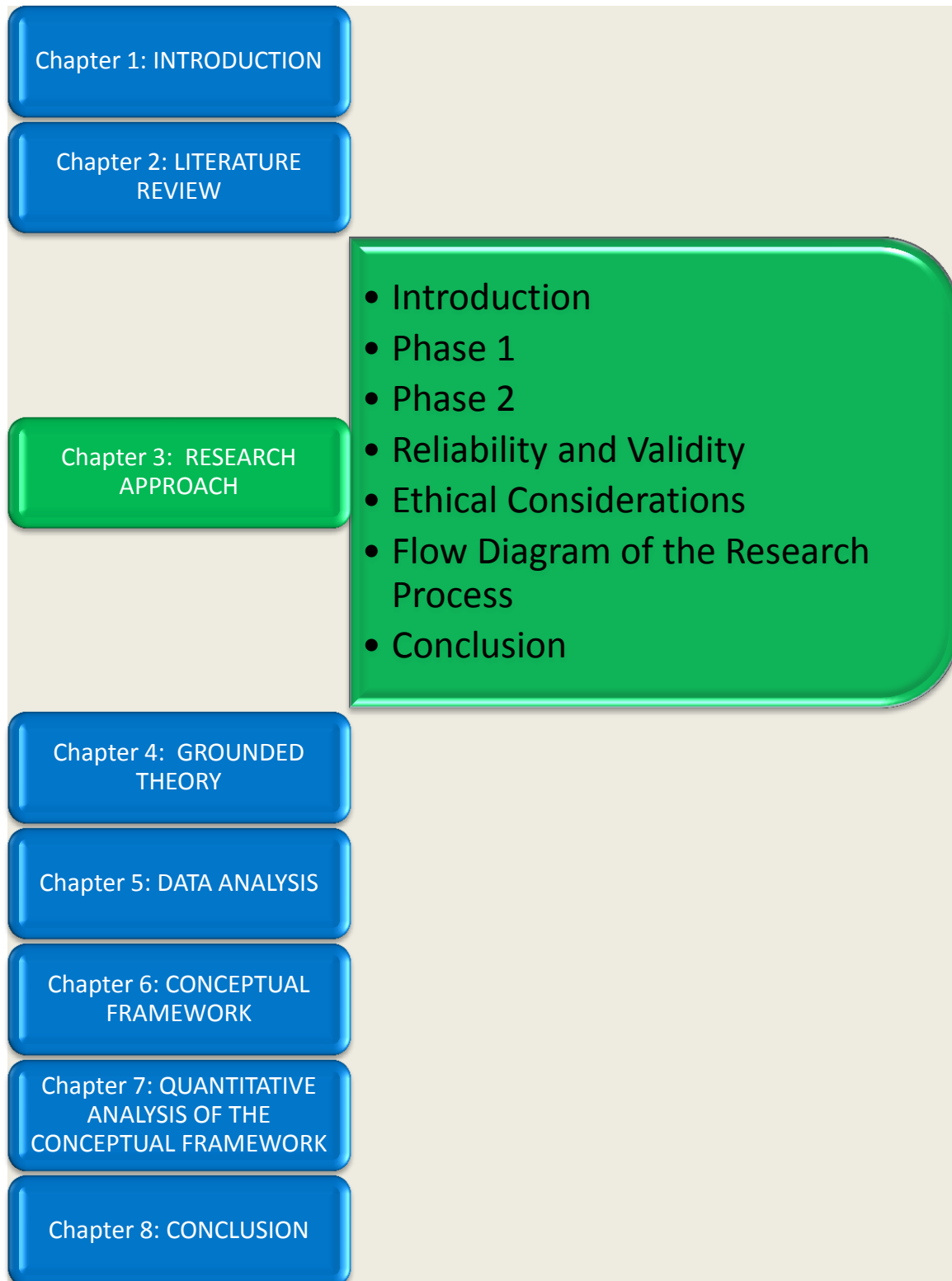
3.1. INTRODUCTION

This study used Grounded Theory methodology to develop a conceptual framework (Phase One). This was followed by a quantitative survey to evaluate this conceptual framework and investigate the relative significance of the identified factors in relation to e-services adoption (Phase Two). Grounded Theory was selected, as this method gives a fresh perspective on the factors that lead to e-service adoption (Labus and Stone, 2012).

Grounded Theory is 'systematically' obtained through social research and is grounded in data (Matavire and Brown, 2008). The basic idea of this methodology is to let the theory emerge from the data collection. It involves *building* a theory rather than *testing* a theory (Labus and Stone, 2012). This applied a mixed-methodology approach because it provides a strategic guideline to carry out the research. It also provides a fresh perspective of previous studies. It is a flexible approach and allows the researcher to be innovative. According to Egan (2002) the Grounded Theory research approach is suitable for the development of theoretical frameworks, as the methodology possesses the following characteristics: responsiveness aimed at conceptual values and not just the values of the investigator; and the ability to fit the situation being researched. Chiovitti and Piran (2003) also found Grounded Theory suitable for the development of theoretical framework due to the formation of rigorous theory that emerges from a thorough analysis of contextual data. Grounded Theory, in interpretative information systems research, is described as traceable to the data and 'fluid', which means the emphasis, is on the process and the temporal nature of the theory (Hughes and Jones, 2003). In comparison to ethnography and phenomenology, Grounded Theory has been found to have the most promising possibilities for developing a conceptual framework (Goulding, 2005).

Theoretical sampling is sampling that is directed by theory. The emerging theory dictates the properties of the sample, for example, the number of participants.

The results from the Grounded Theory methodology were used to create a quantitative survey to validate the conceptual framework, from Phase One.

3.2. PHASE ONE

3.2.1. Research design

Grounded Theory has become a popular choice of research methodology in the field of information systems (Hughes and Jones, 2003). Matavire and Brown (2008) identified the main principles of Grounded Theory as emergence, constant comparative analysis and theoretical sampling. Grounded Theory methodology was chosen in this study for its comparative process that identifies relationships between categories, and for the fact that it is known to be a flexible method that allows researchers to be innovative (Egan, 2002). These properties make it a suitable choice for gaining a fresh perspective on the factors that significantly affect customer e-service adoption.

Grounded Theory techniques were used to build the theory that shows the customers' view of using e-services. It involves the collection of data to build a theory, rather than the introduction of a hypothesis to test a theory. The effectiveness of Grounded Theory was explored as a secondary objective, as well as the describing of the selection and usage of Grounded Theory in customer satisfaction studies. Grounded Theory was also evaluated as a research methodology to understand the impact of e-services on customer satisfaction.

According to Egan (2002), Grounded Theory research comprises the following steps:
- initiation of research which involves the choosing of a topic
- data selection which involves identifying or locating sources of data that relate to the research objectives
- data collection which involves carrying out interviews, observing participants, and completing surveys
- data analysis which involves the categorisation and comparison of the data collected
- conclusion of the research involves providing the results that were uncovered during the process of Grounded Theory research

Glaser and Strauss (1987) both agree that Grounded Theory is beneficial to research in any area. This methodology offers the following benefits:

- Theory derived through data is more likely to resemble 'reality'.
- The discovery of multiple options for a single phenomenon promotes creative thinking.
- High interaction with participants leads to more accurate results.

Using this methodology ensured high levels of interaction with customers and service providers. The emerging theory contained categories and concepts that focussed on this dependency.

Memos and integrated diagrams will assist in writing up the emerging theory (Strauss and Corbin, 1989), which is flexible in terms of handling data (Goulding, 2005; Matavire and Brown, 2008). Grounded Theory is useful in gaining a fresh perspective on an area that has been researched previously (Hoda *et al.*, 2011). The data's emergent nature also makes the data traceable (Hughes and Jones, 2003). It is a useful template for researchers and offers some comfort for the uncertain nature of carrying out qualitative research (Hughes and Jones, 2003). There is difficulty in identifying whether the data item is a property, dimension, or a core category (Urquhart, 2001). It is, however, a time-consuming methodology as it requires repeated analysis for determining relationships between categories (Urquhart, 2001).

3.2.2. Research setting

The research setting describes the place where the data were collected. Participants from the IT division of an organisation, within Gauteng, were surveyed. This IT division is responsible for ensuring effective delivery of IT systems and processes to support the organisation's objectives.

3.2.3. The study population and sample

Participants were selected according to: age; employment in an IT profession; and their level of e-Service exposure. These categories were intended give an indication of the experience the participant has with online services, the participants' familiarity with technology, and how accessible e-services are to the participants. There were 75 participants in total and random sampling was used. The response rate was 80%.

The aim was to encourage interaction and discussion based on commonality amongst the participants. This allowed new data to emerge. The table below describes the classification of each group and the data collection method used.

Table 3.1: Participant groupings

Groups	Description	Method
Group 1: Age: 21-25 years	IT professionals	Interview and observation
Group 2: Age: 21-25 years	Novice users	Interview and observation
Group 3: Age: 21-25 years	IT professionals	Interview and survey
Group 4: Age: 21-25 years	Novice users	Interview and survey
Group 5: Age: 26-50 years	IT professionals	Interview and survey
Group 6: Age: 26-50 years	Novice users	Interview and survey
Group 7: 26-50 years	IT professionals	Interview and observation

3.2.4. Data collection

3.2.4.1. Data collection instrument

The following methods were used to collect data:

- Semi-structured interviews (Appendix A): These questions provided a thorough view of the users' experiences. The questions were derived froom considering the factors in the literature review.

- Observation

- Qualitative surveys which were distributed via e-mail (Appendix A). These questions aimed to provide an in-depth understanding of the participant's experiences. The questions were derived from online shopping studies by

Collier (2006) ; Park and Kim (2003); Tarafdar *et al.* (2011), and Lee and Joshi (2007). The questions were modified to relate to the study of customer e-service adoption.

The data were collected using a mixed method approach to ensure reliability and validity. The classification of participants influenced the research significantly. The different age groups and different levels of IT experience introduced variety into the research sample.

The e-services used in the study were according to the users' preferences. The interview questions were aimed at understanding the customers' perception of the use of e-services. In this study the interview consisted of structured, open-ended questions and observation.

3.2.4.2. Data collection procedure

Data was collected using the techniques listed in the table below:

Table 3.2: Techniques for data collection

Type of Technique	Description
Interviews	Usability studies may also be conducted using an interview, i.e., asking a user questions as the user interacts with an online shopping service. The interview questions are aimed at understanding the customers' perception of the use of e-services. The intent is to gather information pertaining to whether the customer was satisfied with e-services or not. In this study the interview consisted of structured and open-ended questions.
Observation	This technique involves observing the customer navigating an online purchase. The customer will be asked to talk through the steps taken and the reasoning for the sequence/preference. The interviewer will record/note the steps taken by the customer.

The interview questions in Appendix A [Table 9] were aimed at gathering information relating to the study's objectives. The questions were open-ended, which does not

restrict the participant's response in terms of the level of details provided (Bowen, 2005). A qualitative survey with open-ended questions was also used. Refer to Appendix A [Table 10] for the qualitative survey.

The participants were observed. Notes were taken regarding the observations of participants shopping online. The observations focussed on:

- the sequence of actions
- identifying the ease and comfort level of navigation
- the preferences and products purchased
- the challenges experienced and the resolutions that follow
- the finalisation of the transaction

3.2.5. Qualitative survey and analysis

An open ended and quantitative survey was used. The qualitative survey was compiled using questions and guidelines from existing studies by Collier and Bienstock (2006), Park and Kim (2003), Tarafdar *et al.* (2011), Lee and Joshi (2007) and Montoya *et al.* (2010).

This survey was directed to all those who use online shopping services. The sample size was made up of 75 users of online services. Only 60 participants responded. The probability of each factor being uncovered by using Grounded Theory method was calculated in respect to the relevance of each factor for a shopper's online experience. Refer to Appendix A [Table 10] for an example of the quantitative survey.

The results of the survey were analysed using the Nvivo tool. Nvivo is software that can easily organise and analyse unstructured information to ultimately make better decisions. Nvivo has the following capabilities:

- collecting and importing data
- organising, classifying and coding data
- adding interpretations and notes
- querying and searching data
- visualising with models, maps and graphs

- sharing findings
- reporting capabilities

The benefits of using this tool include:

- reduce time spent on administrative tasks, which allows more time for discovery and analysis;
- working systematically and identifying gaps in the data analysis phase of the study;
- interrogation of data to uncover links and connections within the data and
- rigour in data analysis.

This tool is known to be user-friendly and effective in research studies. A user guide is also available at the following link:

http://download.qsrinternational.com/Document/NVivo8/NVivo8-Help-Working-With-Your-Data.pdf

Nvivo allows data to be classified and analysed. For example, it grouped all the similar results from the surveys to determine an average of the results. Graphs can also be created from the averaged data. The higher the percentage for a category the more influence that category has on customer e-service adoption or rejection.

3.2.6. Data analysis

Data ordering involves organising the data in a chronological order according to date and time. This defines the sequence of events, which leads to the identification of categories and concepts (Urquhart, 2001).

Grounded Theory research can produce large volumes of data in the form of recorded interviews, field work, memos and jotted notes (Bringer *et al.*, 2002). Many software tools are available to assist in organising and analysing the data (Myers, 1997). Some examples are NVIVO, Atlas and QDA Miner. NVIVO is widely used to analyse data collected by means of Grounded Theory methodology (Schultheis and Sumner, 1998; Bringer *et al.*, 2002; Myers, 1997; Pope *et al.*, 2002; Welsh, 2002) and was therefore used in this study. Some of the advantages of this tool are that it has a nonlinear design which is suitable for Grounded Theory (Bringer *et al.*, 2002);

it is easy and convenient to swap between varying types of data (Saillard, 2011); there is continual oscillation between the different phases of analysis (Bringer *et al.*, 2002); and it offers a matrix search function (Bringer *et al.*, 2002). In conjunction with the use of the NVIVO software, a statistician was also consulted.

3.2.6.1. Theoretical sensitivity

'The ability to generate concepts from data and to relate them according to normal models of theory, in general, and theory development in sociology in particular, is the essence of theoretical sensitivity' (Glaser and Holton, 2004, p.15). There are two important characteristics for the development of theoretical sensitivity, as discussed by Glaser and Holton (2004, p15). Firstly, *'the researcher must have the personal and temperamental bent to maintain analytic distance, tolerate confusion and regression while remaining open, trusting to preconscious processing and to conceptual emergence.'* Secondly, *'the researcher must have the ability to conceptualize and organize, make abstract connections and visualise.'*

The following questions will ensure theoretical sensitivity (Glaser, 2002):
- What is this data study?
- What category does this incident indicate?
- What is actually happening in the data?
- What is the main concern being faced by the participants?
- What accounts for the continual resolving of this concern?

3.2.6.2. Open coding

The aim of this step is to identify concepts and categories from the data collected. The three important aspects are (Urquhart, 2001):
- description, i.e. providing a comprehensive description of the incident;
- classification, i.e. allocating an analytical concept or category to a piece of data and
- connection, i.e. identifying the relationships between the categories.

This technique was used to identify the core categories based on interviews and surveys pertaining to the online experience of a customer. Patterns in the data arose. New categories emerged and new incidents were placed into categories.

3.2.6.3. *Axial coding*

The aim of this process is to associate categories with sub-categories. The paradigm consists of conditions, context, action/interactional strategies and consequences (Mavetera and Kroeze, 2009). The researcher used axial coding to identify the commonalities, differences and trends that existed within the feedback received from the online shoppers.

3.2.6.4. *Selective coding*

In this step, core or central categories were identified. This ensured that the focus remained on the relevant categories (Strauss and Corbin, 1989). The previous two steps (open and axial coding) provided the researcher with a more focussed view of the data and the direction for the research. Only data that support the research questions were studied.

3.2.6.5. *Comparative analysis*

This process involves comparing categories and finding relationships between them. The main objective of this study was to draw relationships between the factors, which makes Grounded Theory suitable for the proposed research. This gave common meaning to various data categories. According to (Matavire and Brown, 2008), the following can be accomplished by using this technique: ensuring accuracy of data; establishing limits of empirical generalisation; specifying a concept; verifying theory; and building theory.

3.3. PHASE TWO

3.3.1. Research design

Phase Two aimed to validate the factors that make up the conceptual framework. This phase also shows the correlation relationship among the factors that influence the customer's e-service adoption.

The quantitative survey was derived using the results from Phase One. Each question and option provided represented a factor from the conceptual framework. The factors identified in Phase 1 were validated in Phase 2 by delving deeper into the customers' preferences and perceptions. The quantitative survey posed

questions relating to every factor to obtain a deeper understanding of the impact each factor had on customer e-service adoption. Each factor was investigated individually and in comparison to each other. Section 7.3 contains a further explanation of the derivation of the survey questions.

The result of this survey were also suitable to show the relevant significant of each factor on customer e-service adoption.

3.3.2. Research setting

Participants from the IT division of an organisation within Gauteng were surveyed. This IT division is responsible for ensuring effective delivery of IT systems and processes to support the organisation's objectives.

3.3.3. The study population and sample

The same criteria from Phase One was used. There were 80 participants of which all 80 responded to the questionnaire. The same organisation from Phase One was used but different participants were selected randomly. These participants were later classified according to: age; employment in an IT profession or not; and the level of e-service exposure.

3.3.4. Data collection

3.3.4.1. Data collection instrument

A quantitative survey was used to determine the significance of factors on customer e-service adoption. The chosen tool for quantitative analysis was Statistical Package for Social Sciences (SPSS). This tool allows for effective data management. There are a variety of methods to display data and trends are easily identified.

3.3.4.2. Data collection procedure and analysis

The data from the questionnaires were captured in SPSS. SPSS has functionality to cross compare results to find common links. There is the functionality to average all results relating to a particular category or factor, for example, meeting customer needs. The analysis is presented in Chapter 7.

3.4. RELIABILITY AND VALIDITY: Phase One and Phase Two

The quality of research can be established by four tests (Rowley, 2002):

- Construct validity – determining the correct operational measures for the concepts being researched. This relates to linking data collection questions and measures.
- Internal validity – identifying conditions that may lead to other conditions in the study.
- External validity – generalising the findings based on replication logic.
- Reliability – yielding the same results in repeat test cases.

The researcher followed the steps, according to Bashir *et al.* (2008), of open coding, axial coding, selective coding and comparative analysis to ensure validity. For example, construct validity was ensured by using open coding, i.e., by clearly identifying the factors that arose from the online shoppers' experience. Internal validity was linked to axial coding where relationships and links were identified based on the feedback received from online shoppers. External validity seeks to find the area to which the findings can be generalised and can be ensured by using random participants, at random times. This will create different situations in which to repeat the same test cases.

Reliability was ensured by using the chosen methodology. The researcher used comparative analysis to ensure validity and reliability. Tests were repeated at varying times with random participants. The results from these tests will be compared and analysed.

'A mixed-methods approach is defined as a procedure for collecting, analysing, and 'mixing' or integrating both quantitative and qualitative data within a single study' (Ivankova *et al*., 2006, p.3). Using mixed methods (a sequential methodology followed by a quantitative survey) contributed to a better understanding of the research problem. Integrating more than one method ensured reliability, validity, and more reliable designs. Validation is increased by the use of mixed methods by being able to identify trends.

During the data collection phase construct validity is ensured by using more than one data collection technique. During the data analysis phase, internal validity is ensured by identifying the trends in the research results. During the research design phase and data collection phase external validity is ensured by using multiple cases studies.

During the data collection phase reliability is also ensured by using more than one case study.

The validity and reliability of the Grounded Theory Methodology may be enhanced by ensuring trustworthiness (Sikolia *et al.*, 2013). Sikolia *et al.* (2013) mentioned four factors that led to trustworthiness in Grounded Theory Methodology. These factors were credibility, transferability, dependability and confirmability. Sikolaia *et al.* (2013, p. 2-3) defined these four factors as follows:

- Credibility as *'how much the data collected accurately reflects the multiple realities of the phenomenon.'* This relates to internal validity.

- Transferability as '*the applicability of one set of findings to another setting.'* This relates to external validity.

- Dependability as '*the confirmation that the data represents the changing conditions of the phenomenon.*' This relates to reliability

- Confirmability as *'if another researcher confirms the findings if presented with the same data.'* This relates to objectivity.

Peer reviews, extended engagements with participants, sharing of information and negative scenario analysis increases trustworthiness (Sikolia *et al.*, 2013).

3.5.   ETHICAL CONSIDERATIONS: Phase One and Phase Two

The process for ethical clearance was followed. Clearance to carry out research was granted by the University of South Africa. The principles of beneficence and respect for human dignity were taken into consideration during data collection. The questionnaires did not involve any physical harm. The questionnaire focussed on individual experiences. Participants were allowed to answer only those questions with which they were comfortable. The choice to participate was solely that of the participant. The purpose of the study was fully explained. Consent forms were issued. Participants also had the option to remain anonymous.

3.6. FLOW DIAGRAM OF THE RESEARCH PROCESS

The figure below is a summary of the research method:

FLOW DIAGRAM SHOWING THE RESEARCH METHOD
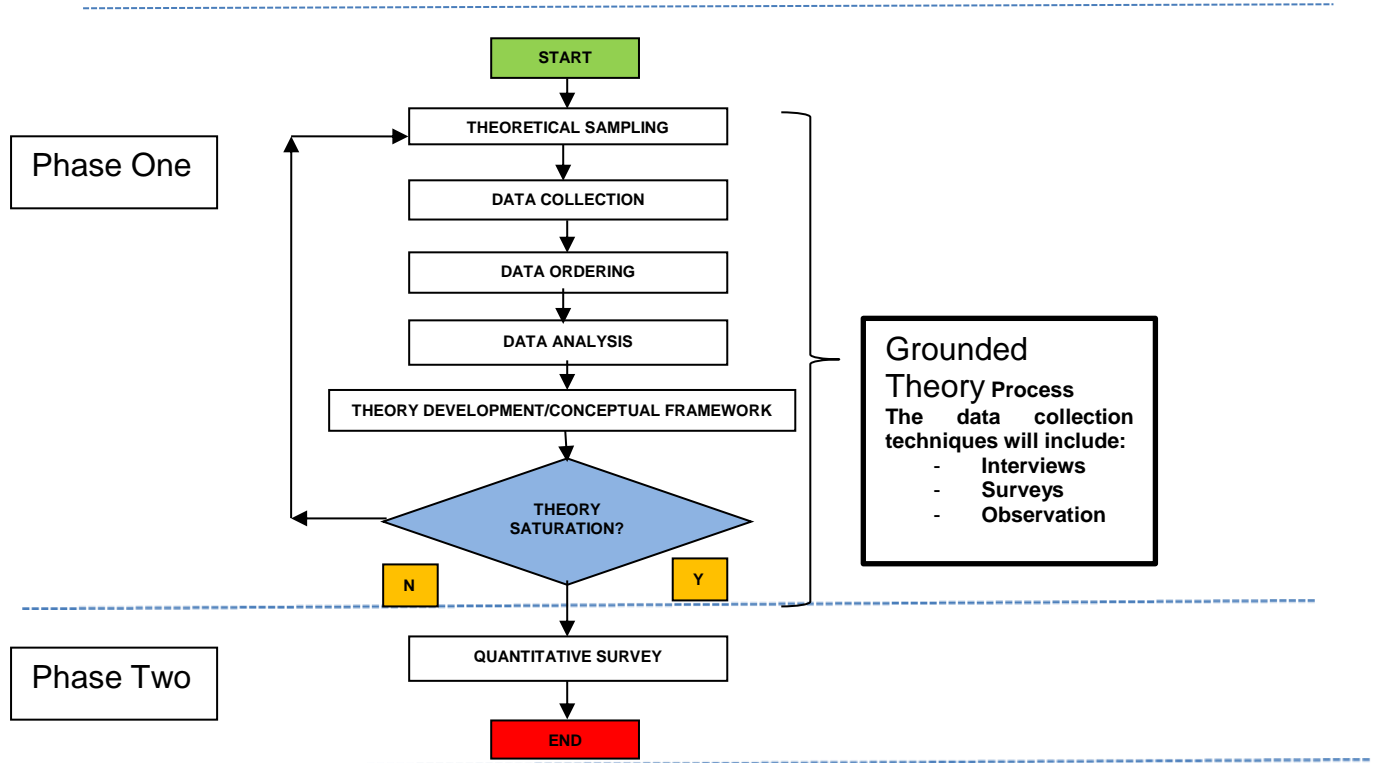
Figure 3.1: Research method

The method in the figure above shows following sequence: theoretical sampling, data collection, data ordering, data analysis, which all leads to development of a conceptual framework. These steps make up the Grounded Theory methodology. This is known as Phase One of the study.

3.7. CONCLUSION

The main objective of this study was to develop a conceptual framework to show the correlation relationships among the factors that impact e-service adoption or rejection (Phase One) and the relative significance of the factors that influence the customer's e-service adoption (Phase Two). Grounded Theory methodology was used to achieve the objective. Grounded Theory allows data to emerge and it provides a 'fresh perspective' on the adoption of customer e-services. The research focussed on online shopping.

Ethical clearance was granted to carry out the research. Participants were randomly selected to provide more accurate and realistic test results. Several data collection mechanisms were used to ensure accuracy and identify trends.

CHAPTER 4: GROUNDED THEORY

A navigation map of the chapter is as follows.

Chapter 1: INTRODUCTION	
Chapter 2: LITERATURE REVIEW	
Chapter 3: RESEARCH APPROACH	
Chapter 4: GROUNDED THEORY	• Introduction: Background on Grounded Theory • Philosophical Assumptions • Conclusion
Chapter 5: DATA ANALYSIS	
Chapter 6: CONCEPTUAL FRAMEWORK	
Chapter 7: QUANTITATIVE ANALYSIS OF THE CONCEPTUAL FRAMEWORK	
Chapter 8: CONCLUSION	
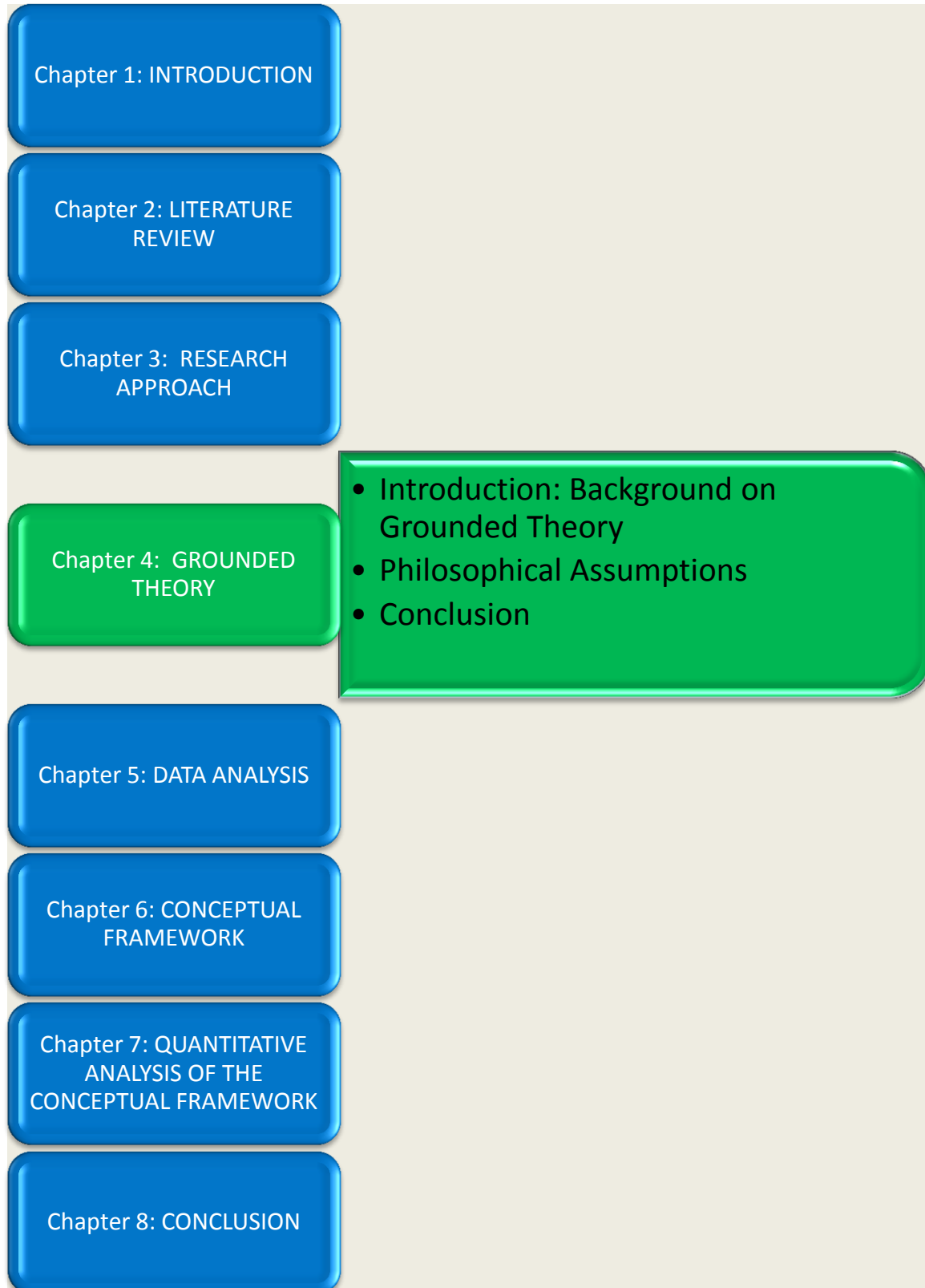
4.1. INTRODUCTION: BACKGROUND ON GROUNDED THEORY

'The main advantages of GT are its intuitive appeal, ability to foster creativity, its conceptualization potential, and its systematic approach to data analysis, and the fact that researchers using it can gather rich data.' (Hussein *et al.*, 2014, p.2). Urquhart (2001) describes Grounded Theory as a meaningful method to analyse data. Hughes and Jones (2003) described Grounded Theory as interpretive studies as compared to critical research. Grounded Theory may be used in complex environments. These benefits encourage the use of Grounded Theory as a method of enquiry and data analysis for research.

Grounded Theory is made up of the following process: open coding; axial coding; selective coding; and comparative analysis.

- The role of open coding is to identify concepts and categories from the data collection process.
- The role of axial coding is to link categories to sub-categories.
- In selective coding, core or main categories are identified. This will ensure that the focus is on the relevant categories.
- The role of comparative analysis is the comparing of categories and concepts (Glaser and Strauss, 1967).

The Grounded Theory research approach is suitable for the development of theoretical frameworks as the methodology possesses the following characteristics (Egan, 2002, p.278): *'responsiveness aimed at conceptual values and not just the values of the investigator; the ability to fit the situation being researched; and the formation of rigorous theory that emerges from a thorough analysis of contextual data.'* Grounded Theory in interpretative information systems research is described as traceable to the data and as 'fluid', which means that the focus is on the process and nature of the theory (Hughes and Jones, 2003). In comparison to ethnography and phenomenology, Grounded Theory has been found to have the most promising possibilities for developing a conceptual framework (Goulding, 2005).

According to Pandit (1996) the three main characteristics of Grounded Theory are concepts, categories, and propositions and are explained as follows:

- Concepts are the incidents that take place when collecting data.
- Categories represent concepts.
- Propositions show the relationships between categories and concepts.

These are the five phases of Grounded Theory that were identified by Pandit (1996):

- research design
- data collection
- data ordering
- data analysis
- literature comparison

The four quality criteria that were found by Pandit (1996) were:

- construct validity
- internal validity
- external validity
- and reliability

Mavetera and Kroeze (2009) used Grounded Theory in the study of identifying general software practices in South Africa. A prime focus was on quality and validity of data. Grounded Theory is a process of cyclic and repetitive analysis, hence this nature increased the quality and validity of the data. Mavetera and Kroeze (2009) found that Grounded Theory's repetitive comparison is also a good measure of internal consistency of the research findings.

Hughes and Jones (2003) provided the following guidelines for using Grounded Theory methodology. Grounded Theory provides a useful template for researchers and can guide in the stressful and uncertain nature of conducting qualitative research. This study was not conducted in a South African context previously. The template was a helpful foundation and set of principles on which to commence the research. Grounded Theory provides confidence in original and rich research findings and theory because of its close link to data and rigour in the method. This

was a useful guideline in ensuring validity in the study of the factors that impact customer e-service adoption. Grounded Theory can explicitly seek to discover the underlying assumptions, the context and the experiences of those involved in the study. This study also aimed to discover the underlying relationship between a customer's perception of an e-service and the enablers and inhibitors of e-service adoption. Grounded Theory enables and facilitates creativity and innovation for the researcher. There are many studies on Grounded Theory but the aim of this study was to gain a "fresh" perspective on the topic and to view the research in a South African context.

4.2.   PHILOSOPHICAL ASSUMPTIONS

'Grounded Theory is one of the most popular research methods in the world' (Mills *et al.*, 2008, p25). There are thousands of studies that use Grounded Theory to ensure rigour and flexibility in research. Selecting a methodology and philosophical view is determined by 'fitness for purpose' (Fekedi, 2010). This involves the following: the researcher must understand the purpose of the study and the type of knowledge that can be produced; the researcher's individual experiences and views must be considered; and the audience to whom the research is directed must be considered. Strauss and Glaser (1970) introduced the idea of creating new theory from data, as compared to testing an existing theory. The researcher will determine a philosophical stance from taking into consideration the literature available. For example, there is the Glaserian approach (Bravo *et al.*, 2010), the evolved Straussian approach (Strauss and Corbin, 1989), and the Constructivist approach (Charmaz, 2003).

Understanding the difference between method and methodology is helpful in selecting a methodology and making a philosophical stand. A method is a set of ideas that guides the research process (Mavetera and Kroeze, 2009). Methods are practical procedures used to create and analyse data (Mavetera and Kroeze, 2009). There is an overlap in study between methodology and methods. Depending on the researchers' philosophical beliefs and chosen methodology, researchers take either a stance of distance or acknowledge inclusion in both the field research and the final results.

According to Fekedi (2010), preference to selecting a methodology is dependent on philosophical issues related to the question of ontology (the nature of reality) and epistemology (the nature of knowledge). Epistemology is the theory of knowledge, and determines the participant–researcher relationship, for example, measures of research quality and representation in analysis and writing (Carter and Little, 2007). Epistemology positions may be Positivistic or Constructivistic. These two positions are described later in this chapter. Ontology also forms the foundation for qualitative research (Carter and Little, 2007). Ontological questions are questions about reality, which can be classified as physical, for example, an article on paper, or as social, for example, a company that recruits employees. Ontology positions may be objectivistic (there is an independent reality) and Constructivist (reality is the product of social interaction and patterns) (Fekedi, 2010). Methodology is the research strategy that translates ontological and epistemological properties into steps that describe the way in which research is conducted (Fekedi, 2010). There were questions raised as to whether Grounded Theory was being used primarily as a technique for data analysis, or as a research philosophy. It was found that researchers can use Grounded Theory methodology to analyse qualitative data irrespective of the research design used, that is, whether Constructivist or Glaserian paradigm is chosen.

The table below provides a summary of influence, on philosophical views, over the ages.

Table 4.1: Philosophical views over the ages

Year	Event	Reference
Second World War to 1970	Glaser and Strauss developed Grounded Theory. Post-positivism was the focus.	(Denzin and Lincoln, 2005)
1970-1986	Constructivist thinking became influential.	(Charmaz, 2005)
1986-1995	The relevance of constructivism became more prevalent. Focus was on communication with participants and in generating a final result that stayed grounded in the data collected.	(Charmaz, 2005)
1995 and onwards	Splitting research into Glaserian or Straussian methods was not sufficient. Constructivism continued to provide flexibility in research.	(Birks and Mills, 2011)

Glaser contributed greatly to the evolution of Grounded Theory (Walker and Myrick, 2006). From the study of Devdas *et al.* (2011) and Walker and Myrick (2006) several differences were found between the Straussian and Glasserian approaches. A synthesis of these differences follows:

- Paradigmatic differences: Glaserian perspective favours post-positivism. This approach relates to critical realism ontologically, modified objectivist's epistemology, and verification through sequential studies. Strauss's interest was towards the relationship between the researcher and the participant. This led to relativist ontology, subjectivist epistemology, and focus on the interactive nature of inquiry between the researcher and the participant. This led to a Constructivist view.

- Formulation of research questions: Glaser's approach did not require starting the research with questions while Strauss preferred to enter the field of research with questions.

- Use of literature: In both approaches literature plays an important role in discovering new theory. Glaser objected to using literature at the beginning of

the research. He believed that the emerging data would be manipulated by the researcher's pre-conceptions if literature was used at the beginning of the research. Strauss believed that the use of literature could be implemented at any phase in the research.

- Sampling procedures: Both approaches use theoretical sampling. Glaser commented on Strauss's sampling, stating that Straus used 'model sampling' which did not allow data to emerge, which is the essence of Grounded Theory.

- Analysis procedures: Both approaches focus on coding and constant comparative methods. Glaser believed that selective coding should only be done once the core categories emerge, whereas, Strauss argued that this should be done at the beginning and should aid in identifying the core categories.

- Procedures for validating the resulting Theory: Glaser's main focus was on the following factors: fit; relevance; work; and modifiability. Strauss's focus was more varied as follows: validity; reliability; credibility; plausibility and value of the theory; adequacy of the research process; and the empirical grounding of the research process.

The above differences show that Glaser believes in 'true reality' while Strauss preferred 'constructive reality'.

Bravo *et al.* (2010) discussed the following guidelines in view of the Glasserian approach:

- Tolerate confusion: there is no need to know establish a hypothesis or force the data.

- Tolerate regression: researchers may go off track, before finding the right way in the study.

- Trust emerging data without worrying about justification: the end result will be just if the methods are adhered to.

- Have someone to talk to – consultation and discussion will enhance the Grounded Theory methods.

- Be open to emerging evidence that may re-direct the researcher's thoughts.

- Be able to conceptualise to derive theory from data.
- Be creative and innovative in handling data to bring about new evidence and results.

Strauss has been criticised by Glaser (1992) and Gasson (2003) for commencing the research with questions. The fundamental rule for Grounded Theory is to allow data to emerge (Mavetera and Kroeze, 2009). Glaser (1992) and Gasson (2003) believed that Strauss method went against the fundamental rule.

Glaser (2002) disagreed with many statements made by Charmaz (2000) regarding constructivism. Glaser (2002) stated that Charmaz (2000) described Grounded Theory as Quality Data Analysis (QDA). These are two very different and unrelated processes. Glaser (2002) explained that interviews form a small portion of Grounded Theory, whereas Charmaz (2002) described the interview process as playing a major role in data construction. Glaser (2002) explained that peoples' perceptions change over time which increases the complexity of the analysis while Charmaz (2000) focussed on static data. Glaser criticised Charmaz (2000) for not focussing on conceptualisation of patterns when Grounded Theory is based on concepts.

In 1998, Strauss and Corbin used constructivism in the study of Reflective Coding. The conclusions, relating to constructivism, was that it addressed the participants' ecology and real world, data could be viewed from the participants' perspectives known as emic rather than from the researcher's perspective, which is known as etic (Scott and Howell, 2008).

The following table lists the differences between Positivists and Constructivists.

Table 4.2: The differences between Constructivist and Positivist adapted from Fekedi (2010):

Positivist	Constructivist
Use of validity, reliability, objectivity, precision, and generalizability to determine the rigor of quantitative research.	Constructivists use trustworthiness and credibility to determine rigour of the study. Methodologies differ in terms of judging rigor.
Research usually includes quantitative methodology. The methodology is objective. The aim is to measure variables and test hypotheses related to general explanations.	Constructivists research usually includes qualitative methodology. A deeper understanding is gained by observing the participants' behaviour and social interaction.
Positivists see the nature of social reality as empirical facts that exist apart from personal ideas or thoughts. The framework developed by researchers, maintain that reliable knowledge depends on direct observation or manipulation of natural phenomena through empirical or experimental means.	Constructivists see the nature of social reality as constructed, interpreted, and experienced by people interacting with each other. Researchers focus on real-world situations. They tend to be non-manipulative, unobtrusive, and non-controlling

The following table is a summary of the properties of the Glaserian approach, the Straussian approach, and the Constructivist approach.

Table 4.3: A summary of the properties for Straussian, Glaserian and Constructivist approaches

PROPERTY	STRAUSS	GLASER	CONSTRUCTIVIST	REFERENCE
Paradigmatic	Focus on participant-researcher relationship	Post Positivists – scientists put aside their individual beliefs to evaluate data as it is	Focus on participant-researcher relationship	(Devdas et. al., 2011); (Walker and Myrick, 2006); (Charmaz, 2005)
Formulation of research questions	Start research with questions	Do not start research with questions	Allows one to begin with or without high level questions	(Devdas et. al., 2011); (Walker and Myrick, 2006); (Ultanir,

				2012)
Use of literature	Include literature at any phase of the research	Do not use literature at the beginning of the research	Prior knowledge is considered and compared to new interpreted knowledge	(Devdas et. al., 2011); (Walker and Myrick, 2006); (Charmaz, 2005)
Sampling procedures	Theoretical sampling	Theoretical sampling	Theoretical sampling	(Devdas et. al., 2011); (Walker and Myrick, 2006); (Ultanir, 2012)
Analysis procedures	Coding to be done at the beginning	Coding to be done after core categories have been identified	Core categories will emerge from data collection and constant comparative process	(Devdas et. Al., 2011); (Walker and Myrick, 2006); (Ultanir, 2012)
Procedures for validating the resulting theory	Validity; reliability; credibility; plausibility and value of the theory; adequacy of the research process; and the empirical	Fit, relevance, work, modifiability	Fit, relevance, work, modifiability, validity; reliability; credibility; plausibility and value of the theory; adequacy of the research process; and the empirical grounding of the research process.	(Devdas et. Al., 2011); (Walker and Myrick, 2006); (Ultanir, 2012)

	grounding of the research process.			
Flexibility in research	Medium	Medium	High	(Devdas et. Al., 2011); (Walker and Myrick, 2006); (Urquhart, 2010)

4.3.   RATIONALE FOR SELECTING CONSTRUCTIVISM

Constructivism involves assuming the relativism of multiple realities, recognises the mutual creation of knowledge by the viewer and the viewed, and aims towards interpretive understanding of the study (Glaser, 2002). This approach allows participants to be studied in their natural settings. Constructivists believe that individuals construe information on their own, consolidating what is learned from others. This means that people learn together while viewing the habits of other people. This study places focus on the customer's perception, that is, how the customer interprets the use of e-services in the light of knowledge gained through online shopping.

Constructivism refers to individuals constructing knowledge and ideas based on their own experiences. A Constructivist approach is feasible for the following reasons: data can be allowed to emerge rather than be forced; the inductive approach will allow a fresh perspective on the study, and the coding methods and repetitive comparison lead to more accurate results.

4.4. CONCLUSION

Grounded Theory is not limited to a specific field of research. Grounded Theory enhances creativity and development of new ideas by allowing categories and themes to emerge from the data collection process.

The researcher favoured the Constructivist approach for the study of the factors that impact customer e-service adoption. The researcher was confident in the flexibility of this approach for the following reasons:

- Grounded Theory approach does not have to be rigid (Urquhart, 2001).
- Focussing on meaning enhances interpretive perceptions (Carroll and Swartman, 2000).
- A Grounded Theory strategy can be easily adopted without involvement of the Positivist research findings of prior Grounded Theory studies (Charmaz, 2003).
- Larger data sets can be used to ensure rigour in the study (McMillan 2010). Data can be considered from the researcher's own life experience, from beliefs of theoretical perspectives (for example, Positivism, Interpretivism, Constructivism), and from literature. Also, the relationship between literature and analysis is often iterative in qualitative research.

The next chapter describes the techniques used to collect data and the analysis of the data. The next chapter focussed on the objectives of Phase One of the study.

CHAPTER 5: DATA ANALYSIS

A navigation map of the chapter is below:

Chapter 1: INTRODUCTION	
Chapter 2: LITERATURE REVIEW	
Chapter 3: RESEARCH APPROACH	
Chapter 4: GROUNDED THEORY	
Chapter 5: DATA ANALYSIS	• Introduction • Data Collection • Sampling Method • Profile of Participants • The Results • New Categories • Discussion of Findings • Conclusion
Chapter 6: CONCEPTUAL FRAMEWORK	
Chapter 7: QUANTITATIVE ANALYSIS OF THE CONCEPTUAL FRAMEWORK	
Chapter 8: CONCLUSION	

5.1. INTRODUCTION

This study aimed to identify the factors that influence customer e-service adoption. These factors constitute a conceptual framework. This chapter describes the groups of participants, the methods used to interact with the participants to obtain data and the result of the data after implementing the Grounded Theory principles. This is also referred to as Phase One of the study. Phase Two includes quantitative analysis.

The following research questions are addressed in this Chapter:

1.   What are the factors that enable e-service adoption?
2.   What are the factors that inhibit e-service adoption?
3.   How does perceived risk affect e-service adoption by the customer?
4.   What is relationship between a customer's perception of an e-service and the enablers and inhibitors of e-service adoption?

The discussion will also link to the factors identified during the literature review.

5.2. DATA COLLECTION

The following methods were used to collect data.

Semi-structured interviews (Appendix A): These questions provided a high-level view of the users' experiences. The questions were derived by considering the factors in the literature review. The questions focussed on obtaining data relating to factors that increase or decrease customer satisfaction. Risk was highlighted as a key contributor to acceptance or rejection of online services. The semi-structured interview aimed at understanding the customer's reaction and perception of risk. These questions were structured with the following objectives in mind:

1. To identify the factors which have a positive impact on customers' online shopping experience by using Grounded Theory research.
2. To identify the factors which have a negative impact on customers' online shopping experience by using Grounded Theory research.

3. To assess the effect of perceived risk on e-service adoption in South Africa by identifying the most prevalent factors that influence customer e-service adoption.

<u>Surveys:</u> Phase One uses an open ended questionnaire and a structured qualitative survey. Phase Two uses a quantitative survey. Mixed methods proved to have more effective results. The structured questions for the qualitative survey were derived from online shopping studies by Collier (2006); Park and Kim (2003); Tarafdar (2011) and Lee and Joshi (2007). The questions were modified to relate to the study of customer e-service adoption. The purpose of this survey was to obtain more detailed answers to the research questions mentioned above. The quantitative survey aimed to address the objectives below:

4. To explore the customer's preference of e-services compared to face-to-face interaction. (A customer's perception of an e-service determines the level of customer service satisfaction, which will result in the adoption or rejection of the e-service.)

5. To determine the significance of and relationship with the factors which have been identified as influencing customer e-service adoption.

<u>Observation:</u>

Participants were also observed during completion of the qualitative survey. All 75 were not observed. Ten participants were observed. A small sample was chosen for in-depth analysis. The aim of observations is to record the steps followed by participants and the accompanying results of the sequence of steps. The sequence of activities differed from one participant to another. The consequences of the sequence of steps led to different results or in some cases error messages. It also showed the difference in time taken from one participant to another as some navigated the e-service with ease while others used help options. The e-service chosen for the study was not prescribed. Participants had the option of selecting the e-service.

The e-services used in the study were according to the users' preferences. This was to allow a level of familiarity. It also provided a realistic view of the e-services used

by participants for online shopping. The interview questions were aimed at understanding the customers' perception of the use of e-services. In this study the interview consisted of structured, open-ended questions and observation. The observation involved viewing the customer navigating an online purchase. This gave an in depth view of trends, preferred sequence of activities, comfort and confidence of using e-services and errors encountered due to sequence of actions chosen. The observations focussed on the following:

- the sequence of actions

- identifying the ease and comfort level of navigation

- the preferences and products purchased

- the challenges experienced and the resolutions that followed

- the finalisation of the transaction.

The data noted from the observations are found at the following link:

[Observation Notes](https://sites.google.com/site/keshneepadayachee/Research-Projects/kamisha-persad) OR

[https://sites.google.com/site/keshneepadayachee/Research-Projects/kamisha-persad]

Memos and diagrams were also used to record and compare ideas and concepts. By writing memos, the relationships between codes and theory were identified. Diagrams help in the visualisation of the relationships between categories.

5.3. SAMPLING METHOD

Participants from the IT division of an organisation within Gauteng were surveyed. Participants were selected according to: age; employment in an IT profession; and their level of e-Service exposure. This IT department is responsible for ensuring effective delivery of IT systems and processes to support the organisation's objectives. The choice to use only one organisation was due to the large size of the organisation, the varying use of e-services and the different age groups. The organisation consists of 45 000 employees. Participants were randomly selected from the IT division which consisted of 2 000 employees. The sample was representative of the larger population. Access was allowed to collect data at multiple times and at multiple sites. Participants were chosen from different locations of the same organisation. Depending on the participants' profession and shopping needs, the use of online services varied. The various age groups provided a view

into the diverse preferences of online shopping. All these factors increased the effectiveness of random sampling.

These categories were intended to give an indication of the experience the participant has with online services, the participants' familiarity with technology, and how accessible e-services are to the participants. There were 75 participants (n=75) in total and random sampling was used. The response rate was at 80% (n=60). Random sampling was chosen as this is known to be an unbiased process. This provides a true view of the participant's shopping experience and preferences.

5.4. PROFILE OF PARTICIPANTS

Participants were classified into groups depending on age, experience using technology and available access to e-services. The aim was to encourage interaction and discussion based on commonality amongst the participants. This allowed new data to emerge. The table below describes the classification of the groups of participants and the methods used.

Table 5.1: Participant Groupings

Groups	Description	Method
Group 1: Age: 21-25 years	IT professionals	Interview and observation
Group 2: Age: 21-25 years	Novice users	Interview and observation
Group 3: Age: 21-25 years	IT professionals	Interview and survey
Group 4: Age: 21-25 years	Novice users	Interview and survey
Group 5: Age: 26-50 years	IT professionals	Interview and survey
Group 6: Age: 26-50 years	Novice users	Interview and survey
Group 7: 26-50 years	IT professionals	Interview and observation

The following figure shows the percentage classification of participants per group.

PERCENTAGE CLASSIFICATION OF PARTICIPANTS
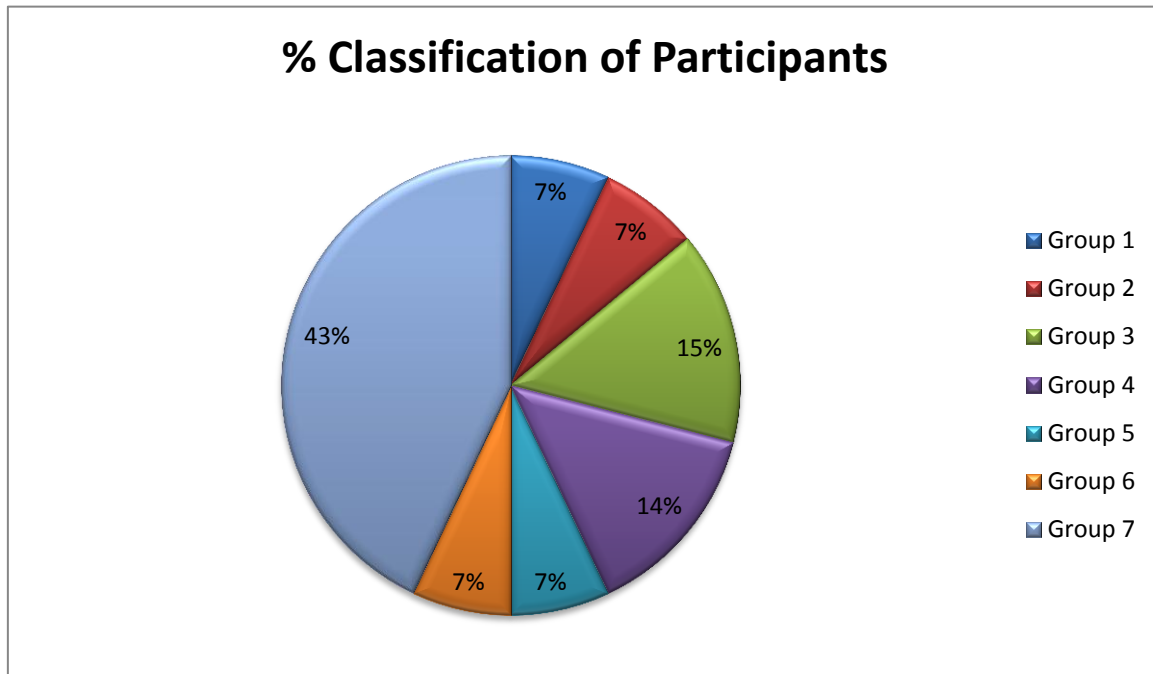
Figure 5.1: Percentage classification of participants

5.5. THE RESULTS

The data collected from the surveys are found at the following link:

Qualitative Survey – Phase 1

OR

[https://sites.google.com/site/keshneepadayachee/Research-Projects/kamisha-persad]

The results of the survey were analysed using the Nvivo tool. Pope *et al.* (2002) described qualitative research as the on-going process of collecting data and iterative analysis of that data. This sequence allows researchers to go back to refine questions, develop hypotheses and identify emerging data. The process of Grounded Theory also allows this sequence. The analysis involved considering each category identified and the interrelationships that were discovered between these categories. The observation for each factor is described in the sub-sections that follow.

Open coding is the first level of data extraction. In this process, key words, concepts and ideas were extracted from the interviews, surveys and observations. The researcher manually recorded these key words, concepts and ideas. For example, refer to a few of the notes below:

Intention and purpose **Needs** **Customer satisfaction**	**User-friendly** **Ease** **Navigation** **Search** **Layout**	**Buttons** **Current information** **Language** **Familiarity and comfort**	**Techno-stress** **Frustration** **Errors** **Online help** **Call centres**
Loss of money **Misuse of information** **Quality** **Satisfaction**	**Delivery options** **Payment options** **Security** **Save time and money**	**Convenience** **Efficiency** **Accuracy** **Customise** **Advanced technology**	**Geographical barriers** **Trust** **Social views** **Self-service**
Password protection **Infrastructure speed** **Face-to-face assist**	**Return policies** **Discounts and rewards** **Response to queries**	**Speed** **Variety** **Price comparison** **Access to E-services**	**Popular and well known websites** **Recording and prompting customer trends and preferences**

Four main categories were identified. These categories included the need for purpose, system functionality, customer attitude and risk. The process of axial coding grouped all similar ideas together as seen in the table below.

Table 5.2: Categories identified during axial coding

Category	Sub Category	Ideas from Open Coding
System functionality	Delivery performance	• Infrastructure speed • Speed
	Time factor	• Speed
	Recover from system failure	• Speed • Errors
Need for purpose	Customisation	• Customise
	Relevant content	• Layout

		• Current information • Language • Price comparison
	Meeting customer needs	• Customer satisfaction • Quality • Satisfaction • Security • Save time and money • Convenience • Efficiency • Accuracy • Self-service
Customer Attitude	Elimination of barriers	• Geographical barriers • Variety
	Trust, loyalty and social influence	• Trust • Social views
	User-friendly system and familiarity	• User-friendly • Ease • Navigation • Search • Buttons • Familiarity and comfort • Delivery options • Payment options • Recording and prompting customer trends and preferences
	Online customer support	• Online help • Call centres • Response to queries
	Foreign exchange	• Variety
	Spontaneous delight	• Discounts and rewards
	Preference to popular e-service	• Popular and well known websites
	Techno-stress	• Techno-stress • Frustration • Errors • Advanced technology
	Risk	• Loss of money • Misuse of information • Security • Password protection • Return policies
	Use of e-services	• Intention and purpose • Needs • Face-to-face assist • Access to e-services

Selective coding is when only the groups that are relevant to the study are chosen. Categories identified in the literature review were also compared to Table 5.2. Comparative coding was also used to reduce redundancies and find relationships amongst the categories. Sections 5.6.1 - 5.7.2 discuss the relevant groups/factors that were investigated in the study of customer online shopping acceptance. The following sections indicate the survey questions that were posed, the corresponding feedback from the participants and the impact on customer e-service adoption.

5.5.1. Delivery performance

Responses to survey questions 7 and 8 below led to the results that follow.

Table 5.3: Questions 7 and 8 extraction from Qualitative Survey (APPENDIX A)

Category addressed	No.	Questions
Delivery performance	7	Please comment on the waiting time between your action and the website's response time.
Delivery performance Recovery from failure	8	Has the website ever crashed in the midst of your purchase?

All participants indicated that delivery performance was a major factor in using online services. All participants valued services that saved them time. Delivery performance was directly linked to the following categories: customer trust, loyalty and social influence, techno-stress, recovery from system failure, time factor, and risk. Customer trust: Shorter system response times led to greater customer trust with 15% of participants stating that they would return to an e-service because they had saved time due to excellent system response time. A further description of the impact of delivery performance on other factors is below:

- Techno-stress: Shorter system response times led to a decrease in techno-stress. High e-service response times showed that participants were glad to have saved time and there were less/no frustrations. Participant #3 responded to question 7: '*I enjoyed my shopping experience as the response to every button was immediate. This was pleasing and less frustrating.*'

- Recovery from system failure: Shorter system response times led to shorter times for the system to recover from failure. Participants were satisfied in instances where errors were resolved within a few minutes. Participant #10 responded to question 8: *'The error I came across was resolved efficiently which made me complete my shopping with hardly any hassle.'*

- Time factor: Shorter system response times led to decreases in the time taken to complete a purchase.

- Risk: Shorter system response times led to a decrease in the performance risk perception. Participants found that the shorter the time period spent online meant the lesser a chance of risk existed.

5.5.2. Elimination of barriers

Responses to survey questions 12 and 20 led to the results that follow.

Table 5.4: Questions 12 and 20 extraction from Qualitative Survey (APPENDIX A)

Category addressed	No.	Questions
Customisation Relevant content Satisfying customer needs Elimination of barriers Customer trust and loyalty	12	Was it easy to make comparisons with other products and prices in order to reach your decision?
Satisfying customer needs Elimination of barriers Customisation	20	Is there a specific line of products that you prefer purchasing online rather than in a physical store?

Elimination of barriers accounted for 10% of the research population indicating that they preferred online services as they did not have to leave their homes or offices to make a purchase. They also expressed that the preference for shopping online is linked to the availability of a variety of products. That is, products not otherwise

available in South Africa can be purchased. This also leads to an inflow of foreign exchange as people not living in South Africa can purchase South African products using e-services. Elimination of barriers was directly linked to the following categories: the time factor, satisfying customer requirements, and risk. The elimination of barriers factor was correlated with the following factors that foster customer e-service adoption:

- Time factor: The time taken to complete the purchase online and the delivery time was acceptable to 70% of the participants. Participant #5 responded to question 14: *'saving time is very important to my busy lifestyle.'*
- Satisfying customer requirements: Eliminating geographical barriers increased the variety of products available. Participant #2 responded to question 12: *'I do not have to spend money on an overseas holiday to find the brand I like.'*

However, elimination of barriers was negatively correlated with the financial risk factor, which inhibits customer e-services adoption. Participants were more cautious when using international e-services and expressed more concern regarding their financial details. Participant #4 responded to question 17: *'I'm not too confident about shopping in other currencies and having things delivered to me from other countries.'*

5.5.3. Customer trust, loyalty and social influence

Responses to survey questions 12 and 23 led to the results that follow.

Table 5.5: Questions 12 and 23 extraction from Qualitative Survey (APPENDIX A)

Category addressed	No.	Questions
Customisation Relevant content Satisfying customer needs Elimination of barriers Customer trust and loyalty	12	Was it easy to make comparisons with other products and prices in order to reach your decision?
Customer	23	Are you confident to refer this e-service to

trust, loyalty and social influence		others?

Customers will trust an e-service and return to it if their experience was satisfactory (Montoya *et al.*, 2010).The analysis showed that 70% of the research population trusted e-services and would return to the e-service chosen. The remaining 30% indicated that fraud, identity theft and financial loss contributed to their mistrust of e-services.

Customer trust, loyalty and social influence were directly linked to the following categories: delivery performance, customisation, techno-stress, user-friendly systems and customer familiarity, relevant content, customer support, satisfying of customer requirements, and risk. This factor was correlated with the following factors, which foster customer e-service adoption:

- Delivery performance: Shorter system response times led to greater customer trust. Participants felt safer online where the e-service was quick and accurate.

- Customisation: E-services that take users' considerations and suggestions into account increased customer trust. Participant #1 responded to question 12: *'Any service that cares about what I need is a good service provider. I will continue shopping online.'*

- Techno-stress: A decrease in techno-stress led to an increase in customer trust. Participants' were satisfied where no errors occurred or where online help options were available. Participant #32 responded to question 13: *'Even though I had to re-log in because of Internet problems, I was still able to buy my goodies with ease'*

- User-friendly systems: User-friendly systems increased customer trust. Participant showed more confidence and comfort in cases where the content was easy to understand, relevant and uncluttered.

- Relevant content allowed the users to make good decisions regarding their purchases. This increased customer trust.

- Customer support: All participants in the research population preferred call centre support. Users who received efficient online support became loyal

customers of that e-service. Efficient customer support increased customer trust and loyalty.

- Satisfying of customer requirements: Participants were satisfied if the product they intended to purchase was available.

The customer trust, loyalty and social influence factor negatively correlated with the privacy risk factor which inhibits customer e-service adoption. Participants were comfortable with e-services that requested more than one password, additional access details, and provided safe transacting methods. A decrease in privacy risk led to an increase in customer trust and loyalty. Participant #53 responded to question 23: *'I don't shop on the Internet because I do not know how strong the security methods are.'*

5.5.4. Customisation

Responses to survey question 12 led to the results that follow.

Table 5.6: Question 12 extraction from Qualitative Survey (APPENDIX A)

Category Addressed	No.	Questions
Customisation Relevant content Satisfying customer needs Elimination of barriers Customer trust and loyalty	12	Was it easy to make comparisons with other products and prices in order to reach your decision?

All participants agreed that an e-service that heeds the requests of customers was an e-service that they would use. Customisation was directly linked to the following categories: customer trust, loyalty and social influence, techno-stress, the time factor, user-friendly systems and customer familiarity, relevant content, satisfying of customer requirements, and risk. The customisation factor was correlated with the following factors that foster customer e-service adoption:

- Customisation increased customer trust, loyalty and social influence. Participants preferred e-services that took into consideration their needs and suggestions.

- Techno-stress: Participants who suggested ways to make an e-service user-friendly explained that their intent was to reduce techno-stress. An increase in customisation led to a decrease in techno-stress because the e-service aimed at meeting the needs of the customer.

- Time factor: Customisation provides the customer with exactly the right tools to assist with his or her purchase online. This reduces the time taken to make a purchase.

- User-friendly systems and customer familiarity: Participants explained that customisation requirements were to improve the e-service from a customer's perspective. The intent was to increase the ease of using the e-service. Participant #6 responded to question 2: *'English is not my first language so I use this site because the language is simple and to the point.'*

- Relevant content: Participants suggested the type of content that should be available online. By allowing this sort of customisation, the e-service added more value to the participant's shopping experience. As a result, the participant was not overwhelmed by unnecessary or too much information. Participant #8 responded to question 6: *'I don't have to battle with last year's prices vs this year's inflated costs.'*

- Satisfying of customer requirements: Customisation requests aim to provide customers with exactly what they need and/or want.

However, the customisation factor negatively correlated with the financial risk factor, which inhibits customer e-services adoption. Participants perceived customisation as being costly. There was concern that the prices of products would increase to cater for the customisation cost.

5.5.5. Techno-stress

Responses to survey questions 2, 3 and 23 led to the results that follow.

Table 5.7: Questions 2,3, and 23 extraction from Qualitative Survey (APPENDIX A)

Category addressed	No.	Questions
User-friendly system Techno-stress Customer familiarity	2	Was it easy to navigate the website?
User-friendly system Techno-stress	3	Were you allowed to return to previous actions in the case of a mistake?
Customer trust, loyalty and social influence	23	Are you confident to refer this e-service to others?

Techno-stress occurs when customers cannot cope with the fast-changing technology (Tarafdar *et al.*, 2011). This was experienced mostly in groups 6 and 7. These groups included participants' who did not have experience with technology neither did they have easy access to the Internet. Techno-stress was directly linked to the following categories: delivery performance, customer trust, loyalty and social influence, customisation, recovery from system failure, the time factor, user-friendly systems and customer familiarity, relevant content, customer support, satisfying of customer requirements, and risk. The techno-stress factor was correlated with the following factors that foster customer e-service adoption

- Delivery performance: Shorter system response times led to a decrease in techno-stress. Participant #7 responded to question 7: *'I don't want to spend more time than I have to. I don't want to give hackers time to work their misdeeds.'*

- Customer trust, loyalty, and social influence: A decrease in techno-stress led to an increase in customer trust.

- Customisation: Participants who suggested ways to make an e-service user-friendly explained that their intent was to reduce techno-stress. An increase in customisation led to a decrease in techno-stress.

- User-friendly systems and customer familiarity: 75% of participants selected online services that they were familiar with and that were easy to use. The more user-friendly a system was, the less techno-stress was experienced.

- Relevant content: Participants indicated that relevant content decreased techno-stress.

- Customer support: Participants preferred shopping on websites that had valid contact details, for example, a valid telephone number for inquiries or product/system problems. The more options there were for customer support, the less techno-stress was experienced.

- Satisfying customer requirements: Participants stated that reducing techno-stress should be a requirement for all e-services. If this requirement is satisfied, there will be more online shoppers. A decrease in techno-stress implied to participants that customer requirements were being met.

The techno-stress factor correlated with the following factors which inhibit customer e-service adoption: recovery from system failure; time and; financial risk. Errors and system failures created confusion, frustration and dissatisfaction within participants. There were errors where clicking on objects did not give the intended result or where there was no response from the system. The longer the system took to return to a functional state, the more techno-stress was experienced. Techno-stress in respect of the risk of fraud was experienced by 25% of participants when the e-service crashed. Under these circumstances, there was an increase in frustration levels due to participants not knowing if the purchase was complete or not. Passwords and confirmation messages decreased techno-stress and also decreased concerns about privacy risk. Techno-stress was experienced by 25% of the participants when time was wasted on trying to decipher errors and find online help.

5.5.6. Recovery from system failure

Responses to survey question 8 led to the results that follow.

Table 5.8: Question 8 extraction from Qualitative Survey (APPENDIX A)

Category addressed	No.	Questions
Delivery performance Recovery from failure	8	Has the website ever crashed in the midst of your purchase?

Recovery from system failure is necessary when an e-services system crashes or suffers errors that prevent the participant from completing his or her purchase. This was experienced by 25% of the participants. Recovery from system failure was directly linked to the following categories: delivery performance, techno-stress, the time factor, user-friendly systems and familiarity, customer support, and risk. This factor was correlated with the following factors that foster customer e-service adoption:

- Delivery performance: Shorter system response times led to shorter times being needed for the system to recover from failure.

- Time factor: All participants agreed that the purpose of e-services is to save time and cost. The shorter the time taken by the system to recover, the more satisfied participants were.

- User-friendly system and familiarity: User-friendly systems allowed participants to resolve problems very quickly and complete their purchases. Participants who were familiar with the e-service chosen were also able to identify the problem very quickly and obtain customer support. Recovery from system failure takes less time where the system is easy to use, that is, user friendly.

- Customer support: An increase in efficient customer support led to a decrease in system recovery time. Participant #9 responded to question 16: *‘When I go into a shop I can literally speak to a person but this is not possible on the websites. I depend on the online help links to replace the person that I would usually deal with. I have no complains [sic] about the help that I got online.’*

The recovery from failure factor was correlated with the techno-stress and financial risk factors, both of which inhibit customer e-service adoption. The longer a system took to return to its functional state, the more techno-stress was experienced. Participants expressed concern regarding the risk of capturing financial details online where this might be followed by a system fault. Novice participants often indicated that they were uncomfortable because they were unsure whether the details were saved online or not. It was discovered that the shorter the time taken to recover from a system fault, the more comfortable participants felt about transacting online and this favoured e-service adoption.

5.5.7. Time factor

Responses to survey questions 14, 15 and 16 led to the results that follow.

Table 5.9: Questions 14, 15 and 16 extraction from Qualitative Survey (APPENDIX A)

Category addressed	No.	Questions
Self-service The time factor	14	Do you think you would have saved more time by face-to-face interaction?
Self-service The time factor	15	Do you think your problem would have been resolved faster with face-to-face interaction?
Self-service The time factor Customer support	16	Did you receive efficient online assistance? In what form was there assistance: documents, videos, call centre? Which form of assistance is most effective in your opinion?

The time factor was directly linked to the following categories: delivery performance, customisation, techno-stress, recovery from system failure, user-friendly system and familiarity, relevant content, customer support, satisfying of customer requirements, and risk. Of the research population 70% indicated that time was saved by shopping online. The time factor was correlated with the following factors that foster customer e-service adoption:

- Delivery performance: Shorter system response times led to a decrease in the time taken to complete a purchase.

- Customisation: Customisation led to a decrease in the time taken to complete a purchase.

- Recovery from system failure: All participants agreed that the purpose of e-services is to save time and cost. The shorter the time taken by the system to recover, the more satisfied participants were.

- User-friendly system and familiarity: It was discovered that the more user-friendly the system and the more familiar it is to the participant, the less time it takes to complete a purchase.

- Relevant content: Relevant content allowed for decisiveness in the completing of purchases and also reduced the time factor. Participant #56 responded to question 12: *'I cannot do without the search option. This saves me so much time because I can put in my requirements I[sic] the advanced search option to bypass information that I have no interest for.'*

- Customer support: It was discovered that efficient customer support decreased the time factor.

- Customer requirements: In 70% of the participants, the customer was satisfied because his or her requirements had been met. The participant could complete his or her purchase within an acceptable timeframe. Meeting all the customers' requirements led to a decrease in online shopping time.

- Techno-stress: Of the participants, 25% spent more time trying to decipher errors and find online help compared to participants who were familiar with using e-services. This increased techno-stress. E-service adoption is favoured where there is a decrease in techno-stress which, in turn, decreases the time taken to complete a purchase.

- Risk: Time risk is decreased in e-service adoption because the participant's perception is that the purpose of e-services is to save time.

5.5.8. User-friendly systems and customer familiarity

Responses to survey questions 2, 3 and 13 led to the results that follow.

Table 5.10: Questions 2, 3, and 13 extraction from Qualitative Survey (APPENDIX A)

Category addressed	No.	Questions
User-friendly system Techno-stress Customer familiarity	2	Was it easy to navigate the website?
User-friendly system Techno-stress	3	Were you allowed to return to previous actions in the case of a mistake?
Techno-stress User-friendly system Customer familiarity	13	Did you easily understand what the icons represented?

Customers who use e-services have varying levels of knowledge of technology. It was discovered that colours, pictures chosen for icons, confirmation messages, text size, menu content, and online documents and videos all contributed to making a system user-friendly. Only 1% of the research population chose a service that they were not familiar with. User-friendly systems and customer familiarity were directly linked to the following categories: customer trust, loyalty and social influence, customisation, techno-stress, recovery from system failure, time factor, customer support, satisfying of customer requirements and risk. The user-friendliness factor was correlated with the following factors that foster customer e-service adoption:

- Customer trust, loyalty and social influence: User-friendly systems increased customer trust
- Customisation: Taking the participants' suggestions for improvement into consideration led to customisation. This led to user-friendly systems.
- Techno-stress: 99% of participants selected online services that they were familiar with and that were easy to use. The more user-friendly a system was, the less techno-stress was experienced.

- Recovery from system failure: User-friendly systems allowed participants to resolve problems and complete their purchases very quickly. Participants who were familiar with the e-service chosen were also able to identify the problem and obtain customer support very quickly.

- Time factor: It was discovered that the more user-friendly the system and the more familiar it was to the participant, the less time was taken to complete a purchase.

- Customer support: One of the factors that participants used to measure the level of user-friendliness of a system was the efficiency and availability of customer support. An increase in efficient and available customer support led to an increase in the perceived user-friendliness of the system.

- Satisfying of customer requirements: A system classified as user-friendly implied to participants that user requirements were being met. An increase in user-friendly functionality also led to an increase in customer requirements being satisfied. Participant #51 responded to question 1: *'If the site can provide for my needs and purpose then I will definitely shop on the Internet.'*

The user-friendliness factor was correlated with the financial risk and privacy risk factors that inhibit customer e-service adoption. With respect to financial risk, 11% of the research population stated that risk of fraud and identity theft (i.e. privacy risk) was low in popular websites. The same 11% also felt safer using the e-service knowing that thousands of other people preferred that particular e-service.

5.5.9. Relevant content

Responses to survey questions 12 and 6 led to the results that follow.

Table 5.11: Questions 12 and 6 extraction from Qualitative Survey (APPENDIX A)

Category addressed	No.	Questions
Relevant content	6	Were the item details you were interested in available? Price? Delivery options? Payment options?
Customisation Relevant content Satisfying customer needs Elimination of barriers Customer trust and loyalty	12	Was it easy to make comparisons with other products and prices in order to reach your decision?

The importance of relevant content is to allow customers to make the correct choice when shopping online. Relevant content was directly linked to the following categories: customer trust, loyalty and social influence, customisation, techno-stress, the time factor; customer support; satisfying of customer requirements; and risk. The relevant content factor was correlated with the following factors that foster customer e-service adoption:

- Customer trust, loyalty and social influence: Relevant content allowed the users to make good decisions regarding their purchases. This increased customer trust.

- Customisation: Participants suggested the type of content that should be available online. By allowing them to do so, the e-service added more value to the participant's shopping experience. The participant was not overwhelmed by unnecessary information.

- Time factor: Relevant content allowed decisiveness in completing purchases. Relevant content reduces the time factor. Participant #47 responded to question 12: *'If the service provider can save me time by showing me only the information I need, then I will use that e-service.'*

- Customer support: Participants stated that customer support is dependent on relevant and accurate contact details. Relevant content increased the quality of customer support.

- Satisfying of customer requirements: 78% of the research population experienced customer satisfaction due to relevant content. Participants indicated that relevant content is a factor that satisfies customer requirements.

- Risk: 22% of the research population experienced the psychological risk of not receiving the correct product or bill. This was related to irrelevant, incorrect and outdated content. Relevant content may reduce the risk of receiving the incorrect products.

- Techno-stress: Participants indicated that relevant content decreased techno-stress.

5.5.10. Customer support

Responses to survey question 16 led to the results that follow.

Table 5.12: Question 16 extraction from Qualitative Survey (APPENDIX A)

Category addressed	No.	Questions
Self-service The time factor Customer support	16	Did you receive efficient online assistance? In what form was there assistance: documents, videos, call centre? Which form of assistance is most effective in your opinion?

Customer support was directly linked to the following categories: customer trust, loyalty and social influence, techno-stress, recovery from system failure, the time factor, user-friendly systems and familiarity, relevant content, satisfying of customer requirements, and risk. The customer support factor was correlated with the following factors that foster customer e-service adoption:

- Customer trust, loyalty and social influence: 100% of the research population preferred call centre support. Users who received efficient online support became loyal customers to that e-service. Efficient customer support

increased customer trust and loyalty. Participant #45 responded to question 23: *'Telephone help is more effective than emails. The sites I use have given me efficient help telephonically. This is as good as physically assistance over the counter.'*

- Recovery from system failure: An increase in efficient customer support led to a decrease in system recovery time.

- Time factor: It was discovered that efficient customer support decreased the time factor.

- User-friendly systems and familiarity: One of the factors that participants used to measure the level of user-friendliness of a system was the efficiency and availability of customer support. An increase in efficient and available customer support led to an increase in the user-friendliness of the system.

- Relevant content: Participants stated that customer support is dependent on relevant and accurate contact details. Relevant content increased the quality of customer support.

- Satisfying of customer requirements: All participants agreed that online customer support is mandatory. 75% of the research population indicated that their requirements were met due to efficient online customer support. E-service adoption is favoured where efficient customer service that satisfies customer requirements for online shopping is available.

The customer support factor was negatively correlated with the risk and techno stress factors, which inhibit customer e-service adoption. With regard to risk, 25% of the research population expressed concerns regarding the risk of no online support. Without online support customers would rather drive to a physical shopping centre. Risk is decreased where efficient online support is available. This relationship favours e-service adoption. Participants preferred shopping on websites that had valid contact details, for example, a valid telephone number for enquiries or product/system problems. The more options that were available for customer support, the lower the level of techno-stress that was experienced.

5.5.11.   Satisfying of customer requirements

Responses to survey questions 1, 10, 11, 12, 18, 20 and 22 led to the results that follow.

Table 5.13: Questions 1, 10, 11, 12, 18, 20 and 22 extraction from Qualitative Survey (APPENDIX A)

Category addressed	No.	Questions
Satisfying customer needs	1	What is your intention for using the e-service?
Satisfying customer needs	10	Were your items delivered on time?
Satisfying customer needs	11	Did you receive the correct order in terms of quantity and billing?
Customisation Relevant content Satisfying customer needs Elimination of barriers Customer trust and loyalty	12	Was it easy to make comparisons with other products and prices in order to reach your decision?
Satisfying customer needs	18	Do you feel that you saved money by shopping online?
Satisfying customer needs Elimination of barriers Customisation	20	Is there a specific line of products that you prefer purchasing online rather than in a physical store?
Satisfying customer needs	22	Please comment on your overall online shopping experience.

In satisfying customer requirements, time is saved, loyal customers are retained, and customer satisfaction is increased (McFarlan, 2010). Satisfying of customer requirements was directly linked to the following categories: elimination of barriers, customer trust, loyalty and social influence, customisation, techno-stress, the time factor, user-friendly systems and familiarity, relevant content, customer support, and

risk. The satisfying customer requirements factor was correlated with the following factors thst foster customer e-service adoption:

- Elimination of barriers: Eliminating geographical barriers increased the variety of products. Participant #44 responded to question 12: *'I want variety and unlimited options from the comfort of my home.'*

- Customer trust, loyalty and social influence: Participants were satisfied if the product they intended to purchase was available.

- Customisation: Allowing for customisation requests is aimed at providing customers with exactly what they need/want.

- Time factor: In 70% of the participants the customer was satisfied because his or her requirements had been met. The participant could complete his or her purchase within an acceptable time. Meeting all the customer's requirements led to a decrease in online shopping time.

- User-friendly systems and familiarity: A system classified as user-friendly implied to participants that user requirements were being met. An increase in user-friendly functionality led to an increase in satisfying of customer requirements.

- Relevant content: 78% of the research population experienced customer satisfaction due to relevant content. E-service adoption was favoured where relevant content existed to satisfy the customers' shopping requirements.

- Customer support: All participants agreed that online customer support is mandatory. Of the research population, 75% indicated that their requirements were met due to efficient online customer support. E-service adoption is favoured where efficient customer service is available and where it satisfies customer requirements for online shopping.

The satisfying customer requirements factor was negatively correlated with techno-stress, which inhibits customer e-service adoption. Participants stated that reducing techno-stress should be a requirement for all e-services. If this requirement is satisfied then there will be more online shoppers. A decrease in techno-stress implied to participants that customer requirements were being met. The satisfying customer requirements factor was negatively correlated with risk and this inhibits customer e-service adoption. Participants agreed that e-services that cannot satisfy basic requirements such as strong and reliable options for secure transacting,

providing a variety of products, offering efficient online support and user-friendly functionality are at risk (i.e. social risk) of losing both credibility and customers. Satisfying customer needs leads to less risk of losing customer trust and loyalty which, in turn, increases e-service adoption.

5.5.12. Risk

Responses to survey questions 4, 5, 17 and 21 led to the results that follow.

Table 5.14: Questions 4, 5 and 21 extraction from Qualitative Survey (APPENDIX A)

Category addressed	No.	Questions
Risk	4	Does it concern you that this site may misuse your personal information?
Risk	5	Does this site use your contact details to send you spam or unwanted advertisements?
Risk	17	In your view, how significant is the contribution that online shopping makes to fraud and identity theft?
Risk	21	Was the confirmation process satisfying/comforting to you?

Security risks occur when personal data is misused (Rust and Kannan, 2003). Perceived risk is measured according to the following categories: performance, financial, time, psychological, social, and privacy risk (Featherman and Pavlou, 2003). Risk affects customer satisfaction and this, in turn, has an impact on the increase/decrease in customer e-service adoption. All research participants, i.e. 100%, mentioned risk. Risk was directly linked to all categories, that is: delivery performance, elimination of barriers, customer trust, loyalty and social influence, customisation, techno-stress, recovery from system failure, time factor, user-friendly systems and familiarity, relevant content, customer support, and satisfying of customer requirements. The risk factor was positively correlated with the following factors that foster customer e-service adoption:

- Delivery performance: Shorter system response times lead to a decrease in the risk of having the system fail while personal and financial details are being entered. This relates to time risk.

- Customer trust, loyalty and social influence: Participants were comfortable with e-services that requested more than one password, additional access details, and provided safe transacting methods. A decrease in risk led to an increase in customer trust and loyalty. This relates to privacy risk.

- Recovery from system failure: It was discovered that the shorter the time taken to recover from a system fault, the more comfortable participants felt about transacting online. This relates to time risk.

- User-friendly systems and familiarity: 11% of the research population stated that risk of fraud and identity theft was low in popular websites. The same 11% also felt safer using the e-service knowing that thousands of other people preferred the same e-service. This relates to social and privacy risk.

The risk factor was correlated with the following factors that inhibit customer e-service adoption:

- Customer support: 25% of the research population expressed concerns regarding the risk of no online support. This relates to time, financial and psychological risk.

- Customer requirements: Participants agreed that e-services that cannot satisfy basic requirements – such as strong and reliable options for secure transacting, variety of products, efficient online support and user-friendly functionality – are at risk of losing both credibility and customers. This relates to psychological risk.

- Relevant content: 22% of the research population experienced the risk of receiving irrelevant, incorrect and outdated content. This relates to performance and financial risk.

- Time factor: An increase in the time factor led to a decrease in new and existing e-service users. This relates to time risk.

- Elimination of barriers: Participants were more cautious when using international e-services. There was more concern regarding financial details. This relates to privacy risk.

- Customisation: Participants perceived customisation as being costly. This relates to financial risk.

- Techno-stress: 25% of participants experienced techno-stress relating to risk of fraud when the e-service crashed. Participants were concerned that their banking details would be misused. There was an increased level of frustration regarding not knowing if the purchase had been completed complete or not. This relates to privacy and psychological risk. Participant #37 responded to question 21: *'I will not shop on the Internet. There are too many opportunities for risk and loss of money and personal information.'*

The table below is a summary of the percentage of users who had a positive or negative experience in relation to each category. For example, for the category Delivery performance, the table reads that 70% of participants had accessed an online shopping website that was fast and efficient; 30% of participants had problems with the speed of the e-service.

Table 5.15: Summary of user experience

Category name	Positive	Negative
Delivery performance	70%	30%
Elimination of barriers	90%	10%
Customer trust, loyalty and social influence	70%	30%
Customisation	100%	0%
Techno-stress	75%	25%
Recovery from system failure	75%	25%
Time factor	70%	30%
User- friendly system and customer familiarity	99%	1%
Relevant content	78%	22%
Customer support	100%	0%
Satisfying of customer requirements	70%	30%
Risk	70%	30%

5.6. NEW CATEGORIES

During the analysis, new categories emerged from the data. This is a characteristic of Grounded Theory methodology. These new categories are discussed below.

5.6.1. Foreign exchange

Business is not only about creating a product that can be sold. It is also about customer satisfaction related to the product and creating a competitive advantage (Matzle and Hinterhuber, 1998). Evidently, 10% of participants stated that e-services attract the inflow of foreign exchange into South Africa by making South African products available abroad. An increase in the use and improvement of e-services leads to an increase in foreign investment. Foreign investment links to the category elimination of barriers.

5.6.2. Spontaneous delight

Spontaneous delight is where a customer is offered a surprise reward (Meuter *et al.*, 2000). Participants who received surprise gifts or unexpected discounted prices expressed customer satisfaction. Evidently, 10% of the research population experienced customer satisfaction due to spontaneous delight. Spontaneous delight is linked to customer loyalty as participants were willing to return to the e-services that provided the surprise reward. An increase in spontaneous delight led to an increase in customer satisfaction and loyalty, which led to e-service adoption.

5.6.3. Preference to popular/well known e-services

Results reveal that users trusted popular e-services that attracted large numbers of customers. This was the view of 11% of the research population. It was discovered that the more popular the e-service, the greater the acceptance of that e-service. The overall analysis of the data showed that 70% of the research population preferred using e-services, while 30% of the population preferred face-to-face services. These results include all the above-mentioned categories. The aim of the study was to determine the factors that contribute to e-service adoption. The intention was to develop a conceptual framework that represents the interrelationships between the factors that contribute to e-service adoption/rejection.

The table below indicates the percentage of users who commented on the new/uncovered categories.

Table 5.16: Summary of user experience to new categories uncovered

Category Name	Percentage	Comments
Foreign exchange	10%	Of the participants, 10% made mention of purchasing branded items not easily available in South Africa. Hence, these participants enjoy shopping online.
Spontaneous delight	10%	Of the participants, 10% made mention of reward points and gift vouchers. These participants found that spontaneous delight encouraged online shopping.
Preference to popular e-services	11%	Of the participants, 11% took into consideration the websites that friends use. These participants also preferred to use websites that were well known to others.

5.7. DISCUSSION OF FINDINGS

The data were collected using a mixed method approach to ensure reliability and validity. The classification of participants influenced the research significantly. For example, the valuation of the data showed the following:

- A larger percentage of participants between the ages of 21 and 25 preferred e-services. A reason for this observation is that this age group is more technology proficient than other groups, and is known as the technology generation.
- The fear of risk was evident across the research population, showing that age, level of IT experience and easy access to e-services was an in dependent factor. The older generation feared risk the most. This was also the generation that was greatly impacted by techno-stress. This showed that advancement in technology is not widely accepted by the older generation. Online trust issues also arose in the older generation who prefer face-to-face interaction.

- More techno-stress was experienced in the age groups of 26-50 where participants had little technology experience.

The aim of the data collection and analysis was to discover the factors that impact customer e-service adoption. The literature review provided a view of the existing factors. The results of the analysis above are in line with the discoveries made in previous studies. New categories were also discovered from this study. Answers to the following research questions were derived from this study.

1. <u>What are the factors that enable e-service adoption?</u>

   The factors that encourage customers to use e-services are: increased e-service delivery performance, reduced time to complete a purchase, elimination of barriers, increased trust, loyalty and social influence, increased customisation, minimal time to recover from system failure, user-friendly system, relevant content, online customer support, foreign exchange, spontaneous delight, preference to popular e-services, and meeting customer needs.

2. <u>What are the factors that inhibit e-service adoption?</u>

   The factors that lead to the rejection of e-services are: techno-stress and perceived risk.

3. <u>How does perceived risk affect e-service adoption by the customer?</u>

   There are different types of risks including: performance, financial, time, psychological, social, and privacy risks. Perceived risk refers to the overall risk. All surveys indicate that risk is a concern to customers. Risks discourage customers from shopping online.

4. <u>What is the relationship between a customer's perception of an e-service and the enablers and inhibitors of e-service adoption?</u>

   The survey responses showed that the enabling factors motivate customers to take advantage of the efficiency and convenience of e-services. However, the inhibiting factors discourage the acceptance of e-services. Customers are afraid of losing money and time and of purchasing poor quality products.

Collier and Bienstock (2006) studied the importance of customer satisfaction in e-retailing. The results showed that the customer's perception of e-services determines

whether a customer will return to a particular e-service. This is similar to the results above regarding customer trust and loyalty. Both studies also focus on the importance of meeting the customer's needs in order to ensure customer e-service adoption.

Tarafdar (2011) studied the impact of techno-stress, risk and customer familiarity on customer e-service adoption. The aforementioned results are in line with Tarafdar's discoveries. That is, techno-stress and risk must be avoided to ensure customer e-service adoption. Customer familiarity promotes customer e-service adoption as the customer feels comfortable and confident to use the e-service.

5.8. RELIABILITY AND VALIDITY

Reliability is '*the extent to which results are consistent over time and an accurate representation of the total population under study is referred to as reliability and if the results of a study can be reproduced under a similar methodology, then the research instrument is considered to be reliable*' (Bashir *et al.*, 2008, p36). The researcher discovered that participants in the same age groups had similar responses to the survey. For example, refer to survey #1 and survey #6. These 2 respondents belonged to the same age group. The same questions were posed to both participants. The same website was also used by both participants. Both participants enjoyed and preferred shopping online. This comparison shows reliability as the results were consistent.

Validity in quantitative research is 'the extent to which the data is plausible, credible and trustworthy; and thus can be defended when challenged' (Bashir *et al.*, 2008, p36). Bashir (2008) described methods to increase validity. These methods were comparative analysis, multi-method strategies and member checking. This study used Grounded Theory which involves comparative analysis. Both quantitative and qualitative surveys were used to validate the results which are in line with multi-method strategies. Member checking refers to asking the participant to confirm his/her results. This formed part of the observation technique used in this research.

5.9. CONCLUSION

This chapter concludes the analysis for Phase One of the study. The objective for Phase One was to identify the factors that impact e-service adoption/rejection using Grounded Theory methodology. The factors that impact e-service adoption or rejection are: increased e-service delivery performance, reduced time to complete a purchase, elimination of barriers, increased trust, loyalty and social influence, increased customisation, minimal time to recover from system failure, user-friendly system, relevant content, online customer support, foreign exchange, spontaneous delight, preference to popular e-services, meeting customer needs, techno-stress and all types of risks. The risk factor was an overall concern throughout the research process. The following chapter shows how these factors were incorporated into the conceptual framework.

Phase Two of the research focusses on the significance of these factors on customer e-service adoption. The relationship between the factors will also be analysed and discussed.

CHAPTER 6: CONCEPTUAL FRAMEWORK

A navigation map of the chapter is as follows:

Chapter 1: INTRODUCTION

Chapter 2: LITERATURE REVIEW

Chapter 3: RESEARCH APPROACH

Chapter 4: GROUNDED THEORY

Chapter 5: DATA ANALYSIS

Chapter 6: CONCEPTUAL FRAMEWORK

- Introduction
- Derivation of Framework
- The Conceptual Framework
- Significance of the Conceptual Framework
- Limitations of the Conceptual Framework
- Conclusion

Chapter 7: QUANTITATIVE ANALYSIS OF THE CONCEPTUAL FRAMEWORK

Chapter 8: CONCLUSION
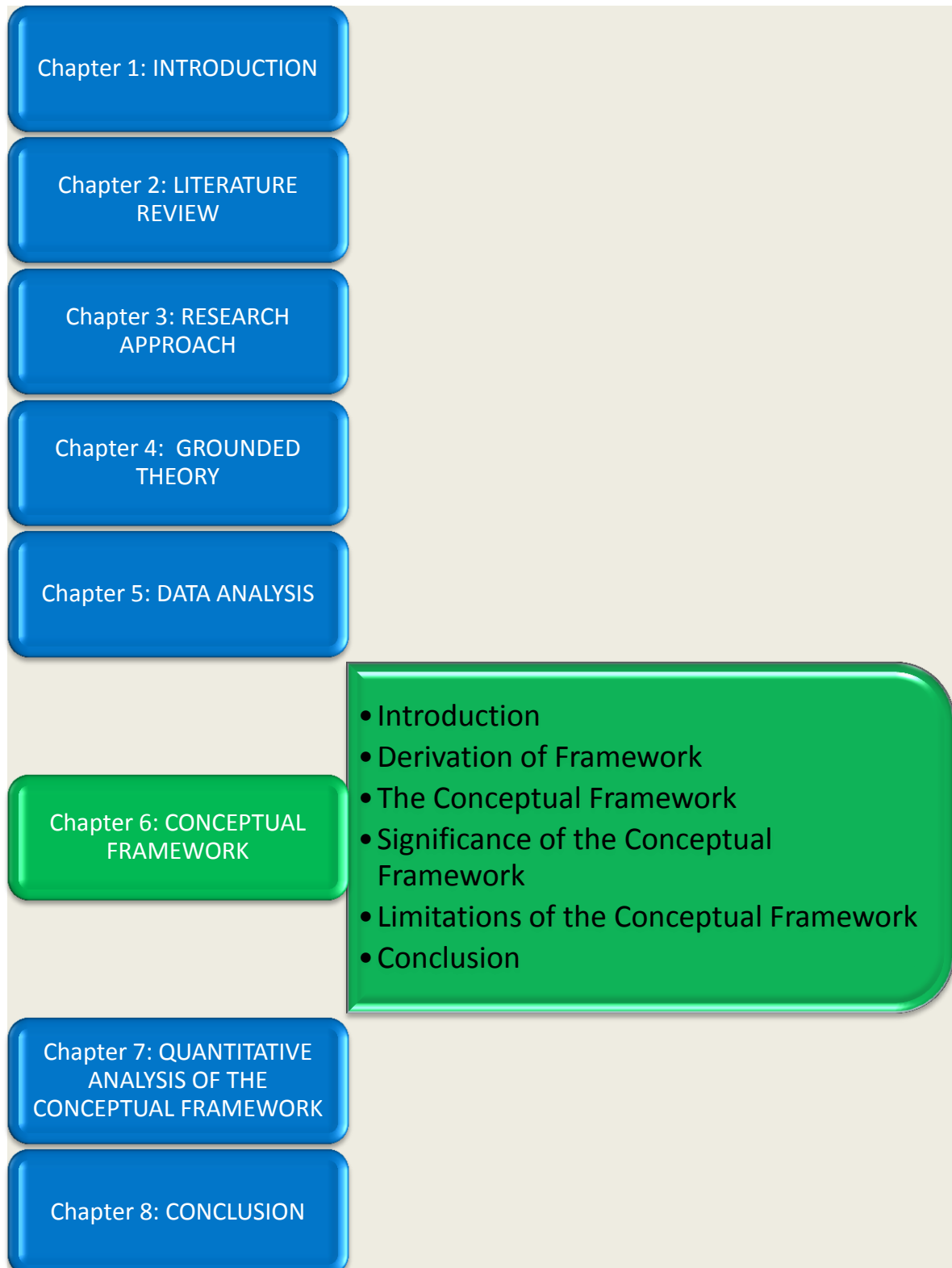
6.1.   INTRODUCTION

A conceptual framework represents the relationships between various concepts (Bowen, 2006). It is used to organise ideas and concepts, and also serves as a data model. The conceptual framework will be used to further analyse the data from Phase One of this study. The factors identified in chapter 5 were further analysed to determine the relative significance of each factor with regard to the customer's acceptance of e-services. The categories that make up the conceptual model fed into the research model that was used to determine the correlation and significance of the factors that affect customer adoption. The aim was to develop a conceptual model that will determine the interrelationships between the factors that influence customer adoption of e-services.

6.2.   DERIVATION OF THE FRAMEWORK

Grounded Theory consists of four steps to evaluate raw data. These steps are open coding, axial coding, selective coding and comparative analysis. These four steps combined with memo writing and the use of NVIVO analysis tool transformed raw data into meaningful information.

6.2.1. Open coding

Open coding involved capturing memos manually on paper and on NVIVO. These were ideas, focal points, or responses on which participants placed emphasis. The focal points from the survey were: speed of the online service, being able to shop from home, customer trust, modifications to suite the customer's needs, fewer frustrations, fewer system errors, easy to use site, important information, online help, customer satisfaction and loss. These focal points were re-phrased and grouped as follows: delivery performance, elimination of barriers, customer trust, customisation, techno-stress, recovery from system failure, time factor, user-friendly, relevant content, customer support, satisfying of customer requirements and risk.
Also refer to Section 5.5.

6.2.2. Axial coding

During axial coding, it became clear that the participants focussed on four specific areas. These areas were human emotions, perception of the physical web sites, the need to shop online and the risk of online shopping. Four main categories were identified. These categories were *need for purpose, system functionality, customer attitude* and *risk*. The factors identified in open coding were grouped within these categories. Also refer to Section 5.5.

6.2.3. Selective coding

The process of selective coding is to eliminate categories that are not relevant to the research. The evaluation tool has a cross-examination function which searches all participants' responses. It then creates a list of common responses verses the exceptions. It also displays the trends in the data collected. Three exceptions were identified. These were *foreign exchange, spontaneous delight* and *preference to popular e-services*. All factors, categories and exceptions proved to be relevant to the research. All factors from the literature review were also cross-examined by the tool.

6.2.4. Comparative Coding

During comparative analysis, the memos and graphs created by the evaluation tool were extensively used. The graphs showed the impact of each factor on another. These are explained in figures 6.2, 6.3 and 6.4 below. Each category represented a parent node. Each factor represented a child node. Each connecting line represented a positive or negative impact on online shopping, in accordance with the participants' responses. The evaluation tool highlighted the duplicate links or common paths between parent and child nodes, parent and parent nodes, and child and child nodes. This functionality led to the discovery of the common links amongst the factors, as explained in figures 6.2, 6.3 and 6.4 below.

6.3. THE CONCEPTUAL FRAMEWORK

The observation of participants provided more insight into their feelings and attitudes towards e-services. This combined with the iterative comparative nature of Grounded Theory showed factors that were related to each other. The categories are defined as follows:

1. *Customer attitude* relates to the personal aspect, that is, the users' preference and feelings towards the online system.
2. *System functionality* refers to the technical aspects of the online system, for example, the system performance.
3. *Need for purpose* and use is associated with determining if there is value added from using the online system.

HIGH LEVEL FACTORS THAT INFLUENCE CUSTOMER E-SERVICE ADOPTION

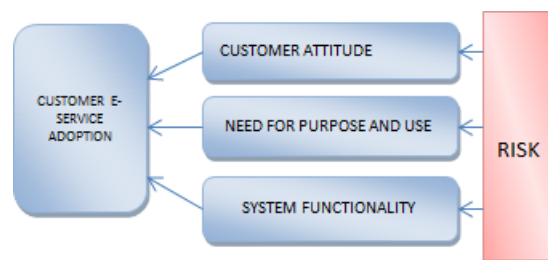**Figure 6.1: First order overview of the factors that influence customer e-services adoption**

The research results showed that the risk factor was prevalent over all categories. All participants mentioned the *risk* factor. They feared identity theft and financial loss due to fraud. This impacts the customer's perception of an e-service which directly impacts customer e-service adoption/rejection.

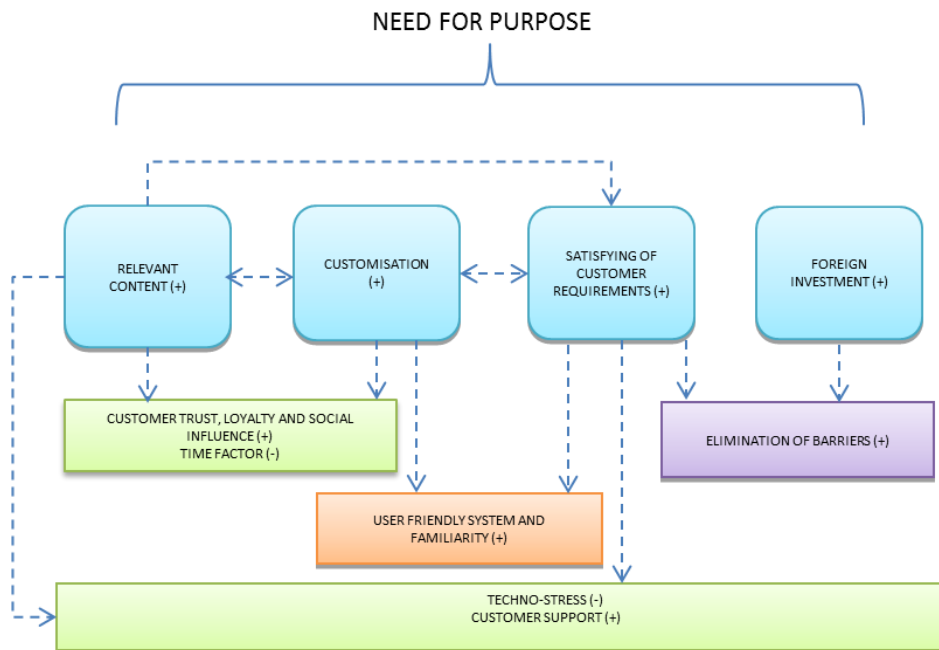*FACTORS IMPACTED IN THE CATEGORY OF NEED FOR PURPOSE*

Figure 6.2: Second order overview of the relationships for the category 'need for purpose'

Figure 6.2 illustrates the common factors and relationships for the category '*need for purpose*'. *Relevant content* has an impact on: s*atisfying of customer requirements, techno-stress, customer trust, loyalty and social influence, customer support, customisation,* and *the time factor*. Accurate and up-to-date content reduces frustration which in turn reduces *techno-stress*. *Relevant content* leads to satisfied customers which in turn lead to customers returning to the e-service. *Relevant content* also reduces the time taken to complete a purchase as the customer will spend little time on searching for the required information. *Customisation* has an impact on: *customer trust, loyalty and social influence, the time factor, relevant content, satisfying of customer requirements,* and *user friendly-system and familiarity*. *Customisation* is where customers' suggestions are taken into consideration regarding the e-service content. This reduces the time required to complete a purchase because the customer's requirements are met. A common link was identified where *customisation* and *relevant content* both impact on: *customer trust, loyalty and social influence,* and the *time factor*. *Customisation* refers to satisfying the customer's needs in terms of the content and functionality of the e-

service. Customers return to an e-service that contains relevant information because this reduces the shopping time. *Satisfying of customer requirements* has an impact on: *user friendliness of the system and familiarity, techno-stress, elimination of barriers, customisation* and *customer support*. Systems that are easy to navigate and that have online support available lead to e-service adoption. Online support, for example call centres, increased customer satisfaction immediately. Inflow of foreign exchange impacts elimination of barriers – that is, an increase in international shoppers will lead to an increase in inflow of foreign exchange.

Figure 6.3 illustrates the common factors and relationships for the category *'system functionality'*. A common link was identified where the *time factor* impacts: *customisation, relevant content, and satisfying of customer requirements*. *Customisation* refers to making changes depending on the customer's suggestions. This leads to familiarity of use, which saves time in completing a purchase. The research results showed that relevant content allowed participants to make decisions easily and that this saved time in completing a purchase. Many participants indicated that saving time led to customer satisfaction. Another common link was where *recovery from system failure* and *the time factor impacted*: *user-friendly system and familiarity,* and c*ustomer support*. The research showed that participants could easily navigate user-friendly systems, which saved time. Available online assistance made it possible to efficiently and speedily resolve system failures, for example, where icons where not responsive. *Delivery performance* has an impact on: *customer trust, loyalty and social influence, techno-stress, time to recover from system failure,* and *the time factor*. *Techno-stress* is where participants experience difficulties due to very little IT knowledge or experience, or due to complicated systems. These difficulties created a negative perception of the e-service and led to delays in concluding online purchases. Poor *delivery performance* was seen to create a negative customer perception of e-services. For example, an e-service that has technical failures encouraged participants to rather shop in a physical store.

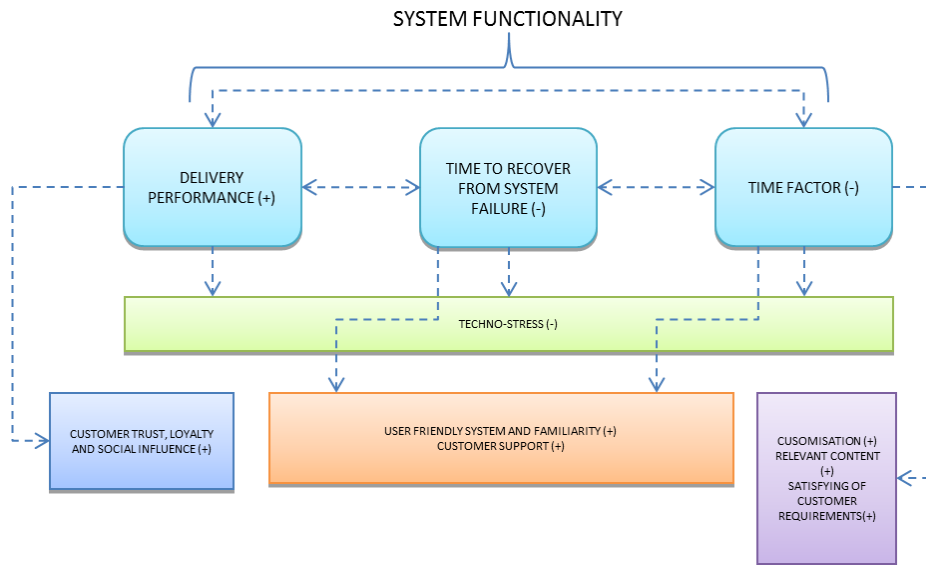## *FACTORS IMPACTED IN THE CATEGORY OF "SYSTEM FUNCTIONALITY"*

Figure 6.3: Second order overview of the relationships for the categories of 'system functionality'

Figure 6.4 illustrates the common factors and relationships for the category *'customer attitude'. Elimination of barriers* impacts: The *time factor,* and *satisfying of customer requirements.* This refers to how easily and quickly an online purchase may be concluded. *Customer trust, loyalty and social influence* impact*: spontaneous delight, satisfying of customer requirements, relevant content, customisation, delivery performance, preference for a popular e-service, customer support,* and *techno-stress.* These factors influenced the participant's perception of the e-service. A positive perception will increase e-service adoption. *Techno-stress* impacts*: customer trust, loyalty and social influence, delivery performance, time to recover from system failure, relevant content, customisation, the time factor; satisfying of customer requirements, customer support,* and *user-friendly system and familiarity.* A decrease in techno-stress leads to e-service adoption. *User-friendly system and familiarity* impacts*: techno-stress, the time factor, satisfying of customer requirements, time to recover from system failure, customisation, customer support, and customer trust, loyalty and social influence. Customer support* impacts*: user-friendly system and familiarity, techno-stress, customer trust, loyalty and social influence, satisfying of customer needs, time to recover from system failure, relevant content, and the time factor.* Online customer support took place in the form of email, telephonic conversation, online documentation, online videos, and online chat. The research indicated that participants favoured e-services where online support was easily accessible and where the response time for queries was within 24 hours. Resolving customer issues online eases the frustration of system faults. *Relevant content* resulted in customers returning to a particular e-service. Research showed that where customers' suggestions were incorporated into the e-service, those customers returned to the e-service, there were fewer technical issues, and there was ease in completing a purchase. It was discovered that customers would return to an e-service where they have experienced no technical challenges. *Customer trust, loyalty and social influence* impact *both: spontaneous delight and preference for a popular e-service.* Research showed that spontaneous delight in the form of discounts, increased customer satisfaction as compared to no surprise offers. E-services that are utilised more than others gain the customer's trust. Interrelated relationships between individual factors were also discovered. As presented in the diagram, the following factors impact each other: *customer trust, loyalty, and social influence, techno-stress, user-friendly system and familiarity, and customer support.* That is, any change in any factor in the grouping above will impact all the factors in the group.

FACTORS IMPACTED IN THE CATEGORY OF "CUSTOMER ATTITUDE"
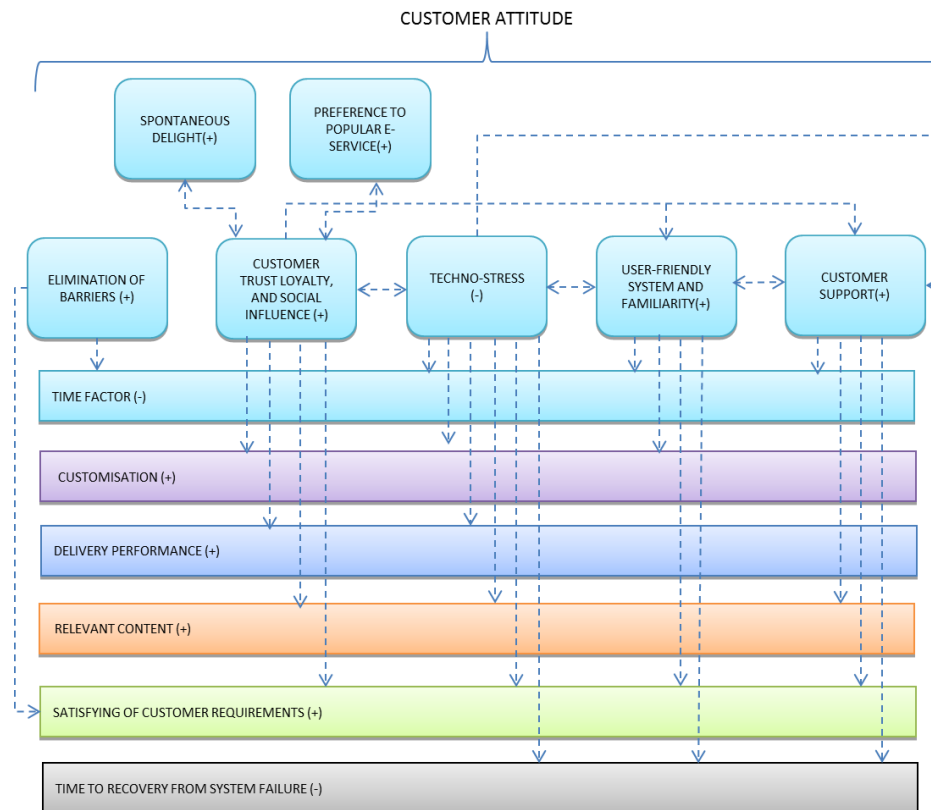
Figure 6.4: Second-order overview of the relationships for the categories of 'customer attitude'

6.4.   SIGNIFICANCE OF THE CONCEPTUAL FRAMEWORK

This framework aims to bridge the gap between organisations and customers using e-services by highlighting key considerations for meeting customer needs. The proposed framework attempts to resolve flaws and gaps that exist in previous studies.

According the Matzler and Hinterhuber (1998) businesses are now placing more emphasis on customer satisfaction. This will also lead to improved service delivery within South Africa. Understanding customer needs leads to loyal customers. It is less costly to maintain loyal customers than to attract new customers. This framework will help to identify customer trends and preferences. Promoting the automation of manual service delivery processes creates innovation and new challenges within the information society. Innovative ideas can lead to job creation in South Africa. Job creation will result in a better quality of life. Fewer

barriers will exist within the e-business world. According to Cenfetelli *et al.* (2005) technology opens a world of opportunities for online business. This creates more product and service variety for customers. E-services also reduce the administrative tasks and paper work associated with providing a service or product.

6.5. LIMITATIONS OF THE CONCEPTUAL FRAMEWORK

This research model does not focus on the e-service infrastructure set-up. The literature review mentions the beneficial impacts on e-service performance in relation to infrastructure configurations. This research does not include the infrastructure component. The focus remains on the customer's attitude and behavioural patterns towards e-services.

The framework was built using data collected randomly from a singular organisation. However it is a large organisation and a representation of the larger population. Grounded Theory is the chosen methodology; therefore the proposal does not specify a hypothesis to be tested. Grounded Theory is an explicitly emergent process. This means that data will be collected in such a way that the theory will eventually fit to the situation.

6.6. CONCLUSION

The conceptual framework served as a research model and evaluation tool. The framework included categories related to system functionality, need for purpose and customer attitude and behaviour. The framework also shows the relationships amongst factors. This framework is essential in understanding the customer needs, which would help businesses to improve e-service strategy and retain customers. The framework is the ground work for Phase Two of the research. Phase Two evaluates the significance of each factor on customer e-service adoption.

CHAPTER 7: PHASE2: QUANTITATIVE ANALYSIS OF THE CONCEPTUAL FRAMEWORK

A navigation map of the chapter is as follows:

Chapter 1: INTRODUCTION	
Chapter 2: LITERATURE REVIEW	
Chapter 3: RESEARCH APPROACH	
Chapter 4: GROUNDED THEORY	
Chapter 5: DATA ANALYSIS	
Chapter 6: CONCEPTUAL FRAMEWORK	
Chapter 7: QUANTITATIVE ANALYSIS OF THE CONCEPTUAL FRAMEWORK	• Introduction • Data Collection • Survey Instrument • Sampling Method • Profile of Participants • The Results • Discussion of Findings • Validity • Conclusion
Chapter 8: CONCLUSION	
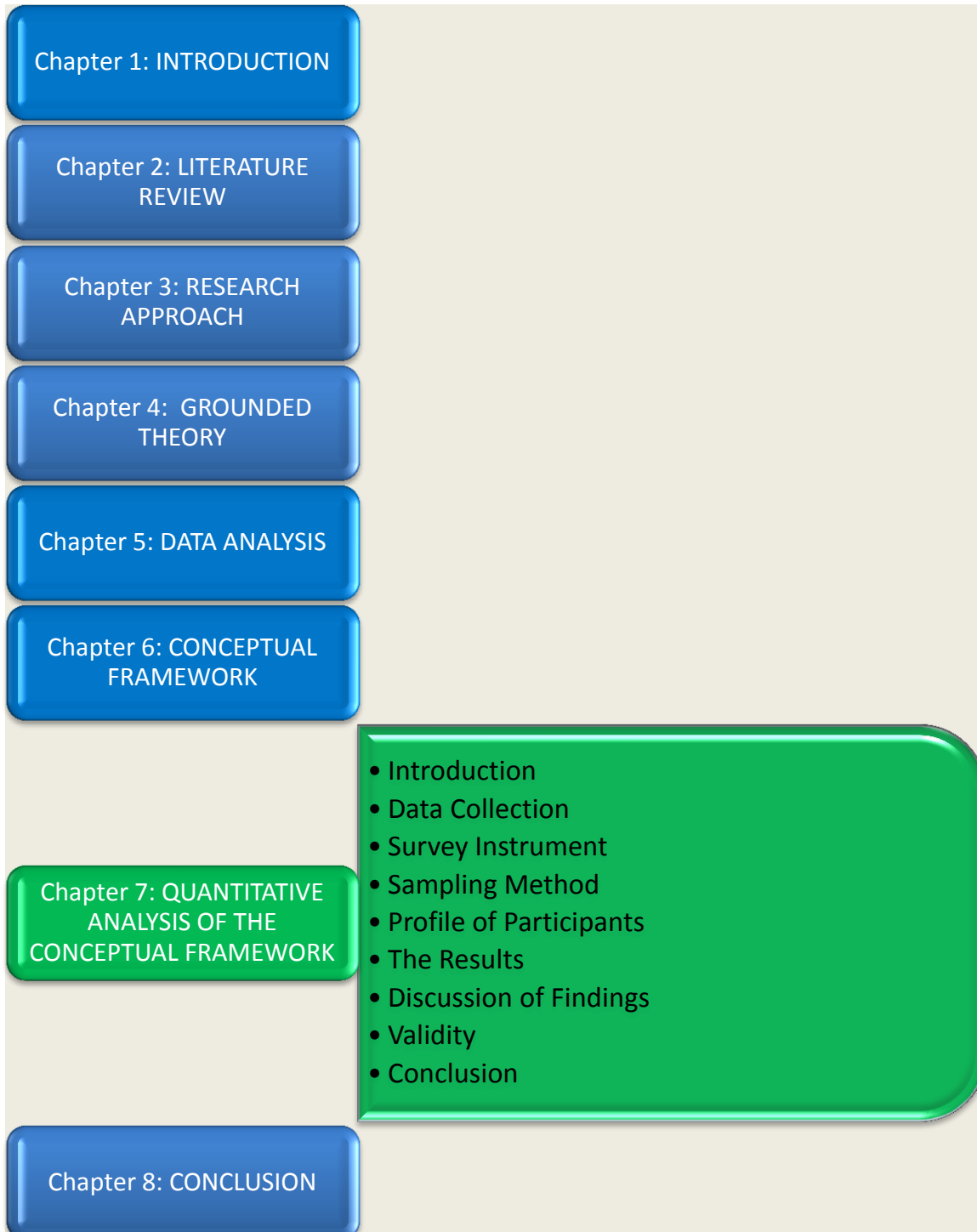
7.1. INTRODUCTION

Phase One of the study aimed to identify the factors that influence customer e-service adoption. These factors constituted a conceptual framework. This chapter describes Phase Two of the study which involves using results of a quantitative survey to validate the conceptual framework.

The following research questions will be addressed in this chapter:

1. What is the relationship between a customer's perception of an e-service and the enablers and inhibitors of e-service adoption?

2. What is the relationship and relative significance of these factors with regard to the customer's e-service adoption?

7.2. DATA COLLECTION

A quantitative survey was used to collect data. Appendix B describes the intent and purpose of each question in the survey. The questions aimed to gain a further understanding of the perception and attitude of customers using online shopping sites. The benefits of using the quantitative survey in this study were:

- Large sizes of data and samples can be used. Data were collected from 80 (n=80) participants for this study.

- The result is usually numerical (quantifiable) and hence considered more 'objective'. Deductions from the survey are easily made given the percentage values.

The survey data were captured within Statistical Package for Social Sciences (SPSS). This tool organised the data according to the participants' responses.

7.3. SURVEY INSTRUMENT

A conceptual framework was developed in Phase One of the study. The questionnaire for Phase Two was compiled using the results of Phase One.

Each question focussed on a factor from the conceptual model. The question was phrased in such a way to obtain the significance of that factor to e-service adoption. The options given for each question were representative of a factor on the conceptual model. The purpose of this was to investigate the interlinking relationships that existed amongst the factors. For example, refer to the sample question below:

Quantitative Analysis of the Conceptual Framework

1. **Relevant content refers to the information that is available on the e-service, for example, details describing the product and the price of the product. Rate how important the items below are with respect to ensuring relevant content.**

	Very Important	4	3	2	Not important at all
I must be able to successfully complete my purchase. (Satisfying customer needs)					
Using the technology/e-service should not cause any frustration. (Techno-stress)					
Social proof content should be available in the form of reviews or testimonials from other customers. (Customer trust, loyalty and social influence)					
Customer support should be available online in the form of documents, videos and call centre contact details. (Customer support)					
Functions should be customised specifically to meet my needs. (Customisation)					
The risk of using an e-service that is difficult to navigate and understand must be reduced. (Psychological Risk)					

The focus is on the relevant content from the conceptual model.

Option 1 represents the factor of satisfying of customer needs.

Option 2 represents the factor of techno-stress.

Option 3 represents the factor of customer trust, loyalty and social influence.

Option 4 represents the factor of customer support.

Option 5 represents the factor of customisation.

Option 6 represents the factor of psychological risk.

The options above were compiled according to the discovery of which factors were impacted by Relevant content. This was shown in Phase One of the study.

The Likert scale was used, as shown in the sample question above. This ranking was suitable for the survey tool called Statistical Package for Social Sciences (SPSS). The tool calculates the percentage average for each question and each option to determine the most and least significant factors for customer e-service adoption.

7.4. SAMPLING METHOD

All participants belonged to the same organisation which consisted of 45 000 employees. Participants were randomly selected from the IT division which consisted of 2 000 employees. Participants were classified into groups depending on location, age and familiarity to information technology. Three regions were considered: Gauteng (Midrand), KwaZulu-Natal (Durban) and Cape Town (Koeberg).

The groups and regions above were selected in order to reach a greater audience and to uncover varying views on online shopping. A larger selection allows greater validity and accuracy.

7.5. PROFILE OF PARTICIPANTS

The following table describes the characteristics of the samples/groups.

Table 7.1: Characteristics of samples

Groups	Description	Location
Group 1: Age: 21-25 years	IT professionals	Gauteng
Group 2: Age: 21-25 years	Novice users	Gauteng
Group 3: Age: 21-25 years	IT professionals	KwaZulu-Natal
Group 4: Age: 21-25 years	Novice users	KwaZulu-Natal
Group 5: Age: 26-50 years	IT professionals	Cape Town
Group 6: Age: 26-50 years	Novice users	Cape Town

Users from different regions were chosen to reach a wider audience of online shoppers.

The figure below shows the percentage classification of participants.

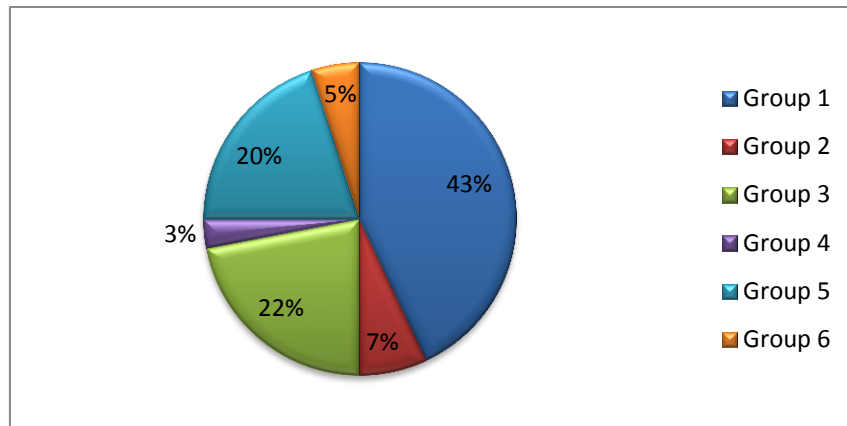*GRAPH OF PERCENTAGE CLASSIFICATION OF PARTICIPANTS*

Figure 7.1: Percentage classification of participants

7.6.   THE RESULTS

The purpose of the quantitative survey was to identify the level of significance each factor had on customer e-service adoption. The survey data were captured within Statistical Package for Social Sciences (SPSS).

SPSS allows different levels of measurement. For example, scale, nominal and ordinal. Ordinal measurement was the most suitable for the data as this allows meaningful order of categories. A 5-level Likert scale was used for each option. Each factor was captured as a variable within the tool. A percentage value was allocated to each variable according to the data collected for each option per question. Thereafter, a comparison was made among all factors, not isolated to a particular survey question.

The summary functionality in SPSS allowed a clear view of the participant's responses in a percentage format.

The evaluation tool also flagged each factor depending on whether the participant referred to the factor as having improved his/her shopping experience or not. Green represented a positive contributor to online shopping. Red indicated a negative contributor to online

shopping. The green and red indicators were converted into a percentage format, eventually showing that 70% of the participants enjoyed shopping online. Of the participants, 30% preferred face-to-face interaction.
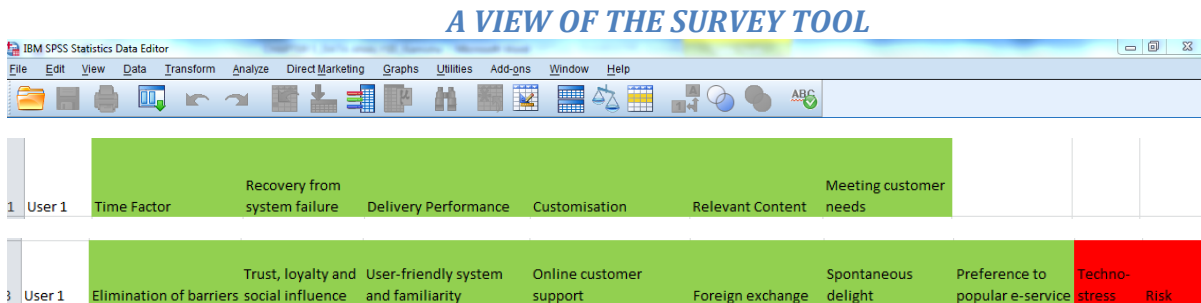
A VIEW OF THE SURVEY TOOL

Figure 7.2: Survey results for participant 1

The figure above shows the factors in green that motivated participant 1 to shop online. The factors highlighted in red are the concerns that discouraged participant 1 from shopping online. Each factor has an average percentage linked to it. The evaluation tool allows the researcher to view results in different views.

7.6.1. Relevant Content

Question 1 of the survey focussed on relevant content. The question and percentage results are provided below. The factor mentioned in brackets refers to the aim of that particular option.

Table 7.2: Question 1 extraction from Quantitative Survey (APPENDIX B)

2. **Relevant content refers to the information that is available on the e-service, for example, details describing the product and the price of the product. Rate how important the items below are with respect to ensuring relevant content.**

	Very important	4	3	2	Not important at all
I must be able to successfully complete my purchase. **(Satisfying customer needs)**	**100%**				
Using the technology/e-service should not cause any frustration.	**80%**	**20%**			

(Techno-stress)					
Social proof content should be available in the form of reviews or testimonials from other customers. **(Customer trust, loyalty and social influence)**	60%	25%	15%		
Customer support should be available online in the form of documents, videos and call centre contact details. **(Customer support)**	100%				
Functions should be customised specifically to meet my needs. **(Customisation)**	70%	15%	15%		
The risk of using an e-service that is difficult to navigate and understand must be reduced. **(Psychological risk)**	100%				

From the qualitative study, it was indicated that relevant content had an impact on the following factors: satisfying customer requirements, techno-stress, customer trust, loyalty and social influence, customer support, customisation and psychological risk. The results showed the following:

- 100% of participants classified satisfying of customer requirements as very significant. This shows that age, location and IT experience do not make a difference in terms of customer services. All customers expect shopping needs to be met.

- 80% of participants classified avoidance of techno-stress as very significant. This shows that techno-stress is a concern among online shopping customers.
- 60% of participants classified customer trust, and loyalty and social influence as very significant. Customers want to feel safe when shopping online.
- 100% of participants classified customer support as very significant.
- 70% of participants classified customisation as very significant and 15% of the participants remained neutral.
- 100% of participants classified avoidance of psychological risk as very significant.

These results show that the factors with the highest significance, in relation to relevant content, are satisfying customer needs, customer support and avoidance of psychological risk. Customisation had the lowest significance in relation to relevant content. This shows that customers are not looking for complicated functionalities. The functions and information online must be relevant rather than complex.

7.6.2. Customisation

Question 2 of the survey focussed on customisation.

Table 7.3: Question 2 extraction from Quantitative Survey (APPENDIX B)

3. **Customisation occurs when a specific requirement is built into the e-service for a customer. For example, a customer requests that the e-service must have a function to compare product prices of a specific store with those of other stores. The service provider makes this comparison function available to the customer. Rate how important the items below are with respect to customisation.**

	Very important	4	3	2	Not important at all
I must experience a sense of safety and security in using the e-service repeatedly. (Customer trust, loyalty and social influence)	**40%**	**60%**			
It should take	**100%**				

very little time to complete my purchase online. (Time factor)				
Accurate details should be available about the product that I need. (Relevant content)	100%			
I must be able to successfully complete my purchase. (Satisfying customer needs)	100%			
I should experience a high level of ease in using and understanding the e-service. (User-friendly system)	90%	5%	5%	
The risk of losing money by purchasing a product and not receiving it should be reduced. (Financial risk)	100%			

The qualitative study showed that customisation had an impact on the following factors: customer trust, loyalty and social influence, time factor, relevant content, satisfying customer requirements and financial risk. The results showed the following:

- 40% of participants classified customer trust, loyalty and social influence as very significant.

- 100% of participants classified the time factor as very significant. This showed that all groups of participants expect to save time using e-services.

- 100% of participants classified relevant content as very significant. This is a clear indication of customers' expectation of availability of accurate information in order to complete a purchase.

- 100% of participants classified satisfying of customer needs as very significant.

- 90% of participants classified user-friendly systems as very significant. 5% of the participants remained neutral. It is interesting to note that the 5% of participants that remained neutral belonged to group 1. These participants are in the IT profession and are between the ages of 21 to 25. This is the younger generation that is confident to use technology. The cross-tabulation functionality of SPSS allowed a view of the results according to the groupings of the participants.

- 100% of participants classified avoidance of financial risk as very significant. This shows that the idea of loss of money is feared by all participants.

These results show that the factors with the highest significance in relation to customisation are the time factor, relevant content, satisfying of customer needs and avoidance of financial risk. The least significance was seen for user-friendly systems in relation to customisation. This indicates that customers would rather save time, have needs met and ensure high security in comparison to the e-service being user-friendly.

7.6.3. Satisfying of customer needs

Question 3 of the survey focussed on satisfying of customer needs.

Table 7.4: Question 3 extraction from Quantitative Survey (APPENDIX B)

4. **Shopping websites aim to satisfy the customers' needs. Rate how important the items below are with respect to ensuring that customer needs are met.**

	Very important	4	3	2	Not important at all
I should experience a high level of ease in using and understanding the e-service. (User-friendly system)	60%	20%	20%		
It should take very little time to complete my purchase online. (Time factor)	80%	20%			
Accurate details should be available about the product that I need. (Relevant content)	100%				
I must be able to purchase an item online from any location, that is, my home or office. (Elimination of barriers)	60%		30%		10%
Functions should be customised specifically to meet my needs. (Customisation)	70%	15%	15%		
I must experience a sense of safety and security in using the e-service repeatedly. (Customer trust, loyalty and social influence)	100%				

Customer support should be available online in the form of documents, videos and call centre contact details. (Customer support)	100%				
The risk of losing social status by using a website that is not efficient or trustworthy must be reduced. (Social risk)	60%		30%		10%
The risk of my personal information and banking details being misused should be reduced. (Privacy risk)	100%				

The qualitative study revealed that satisfying of customer needs had an impact on the following factors: user-friendly systems, the time factor, relevant content, elimination of barriers, customisation, customer trust, loyalty and social influence, customer support, social risk and privacy risk. The results showed the following:

- 60% of participants classified user-friendly systems as very significant; 20% of the participants remained neutral. Again, the younger generation, who are more exposed to IT, remained neutral.

- 80% of participants classified the time factor as very significant.

- 100% of participants classified relevant content as very significant.

- 60% of participants classified elimination of barriers as very significant; 30% of participants remained neutral; 10% of participants chose the option of 'not significant at all'. This shows that there is not a great concern among the participants regarding shopping from international stores.

- 70% of participants classified customisation as very significant; 15% of participants remained neutral.

- 100% of participants classified customer trust, loyalty and social influence as very significant. This shows that satisfying of customer needs leads to customer trust and loyalty.
- 100% of participants classified customer support as very significant.
- 60% of participants classified social risk as very significant; 30% of participants remained neutral; 10% of participants chose the option of 'not important at all'.
- 100% of participants classified privacy risk as very significant. Participants were very aware of the risk of personal information being misused.

These results show that the factors with the highest significance, in relation to satisfying of customer needs, customer trust, loyalty and social influence, customer support and avoidance of privacy risk. The factors with the least significance, in relation to satisfying of customer needs, are elimination of barriers and social risk. This proves that the factors that impact customer satisfaction are customer trust, loyalty and social influence, customer support and avoidance of privacy risk in comparison to elimination of barriers and social risk.

7.6.4. Time factor

Question 4 of the survey focussed on the factor of time.

Table 7.5: Question 4 extraction from Quantitative Survey (APPENDIX B)

5. **How important are the items below with respect to concluding your purchase in the least time possible?**

	Very important	4	3	2	Not important at all
Functions should be customised specifically to meet my needs. **(Customisation)**	70%	15%	15%		
The response from the e-service must be fast and efficient. **(Delivery performance)**	90%	10%			

An e-service should take very little time to recover from an error. **(Recovery from system failure)**	80%	10%	10%		
I should experience a high level of ease in using and understanding the e-service. **(User-friendly systems)**	90%	10%			
Accurate details should be available about the product that I need. **(Relevant content)**	100%				
Customer support should be available online in the form of documents, videos and call centre contact details. **(Customer support)**	75%	15%	15%		
I must be able to successfully complete my purchase. **(Satisfying customer needs)**	100%				
Using the technology/e-service should not cause any	100%				

frustration. **(Techno-stress)**					
The risk of having to perform time-consuming activities online in order to complete a purchase must be reduced. **(Time risk)**	**100%**				

The qualitative study revealed that the time factor had an impact on the following: customisation, delivery performance, recovery from system failure, user-friendly systems, relevant content, customer support, satisfying customer requirements, techno-stress and time risk. The results showed the following:

- 70% of participants classified customisation as very significant; 15% of the participants remained neutral. These results are almost similar in relation to other factors or survey questions. This indicates that customisation does not significantly impact customer e-service adoption as compared to other factors.

- 90% of participants classified delivery performance as very significant. This shows that customers expect a high performing system that works.

- 80% of participants classified recovery from system failure as very significant; 10% of participants remained neutral.

- 90% of participants classified user-friendly systems as very significant.

- 100% of participants classified relevant content as very significant.

- 75% of participants classified customer support as very significant; 15% of participants remained neutral. A trend was identified in that groups containing participants between the ages of 21 to 25 and in IT professions were not concerned about availability of online customer support.

- 100% of participants classified satisfying of customer needs as very significant.

- 100% of participants classified avoidance of techno-stress as very significant.

- 100% of participants classified avoidance of time risk as very significant.

These results show that the factors with the highest significance, in relation to saving time, are relevant content, satisfying customer needs, avoidance of techno-stress and avoidance

of time risk. The factors with the least significance, in relation to the time factor, are recovery from system failure and user-friendly systems.

7.6.5. Recovery from system failure

Question 5 of the survey focussed on recovery from system failure.

Table 7.6: Question 5 extraction from Quantitative Survey (APPENDIX B)

6. **Recovery from system failure refers to how quickly a shopping website is restored after an error has occurred. How important are the items below with regard to recovery from system failure?**

	Very important	4	3	2	Not important at all
I should experience a high level of ease in using and understanding the e-service. (User friendly system)	**100%**				
It should take very little time to complete my purchase online. (Time factor)	**100%**				
Customer support should be available online in the form of documents, videos and call centre contact details. (Customer support)	**80%**	**10%**	**10%**		
The response from the e-service must be fast and	**100%**				

efficient. (Delivery performance)				
The risk of losing money by purchasing a product and not receiving it should be reduced. (Financial risk)	**100%**			

The qualitative study indicated that recovery from system failure had an impact on the following factors: user-friendly systems, the time factor, customer support, delivery performance and financial risk. The results showed the following:

- 100% of participants classified user-friendly systems as very significant.
- 100% of participants classified the time factor as very significant.
- 80% of participants classified customer support as very significant; 10% of the participants remained neutral.
- 100% of participants classified delivery performance as very significant.
- 100% of participants classified avoidance of financial risk as very significant.

These results show that the factors with the highest significance, in relation to recovery from system failure, are user-friendly systems, time factor, delivery performance and avoidance of financial risk. The least significant factor was customer support in relation to recovery from system failure.

7.6.6. Delivery performance

Question 6 of the survey focussed on delivery performance.

Table 7.7: Question 6 extraction from Quantitative Survey (APPENDIX B)

7. **Delivery performance relates to the technical aspects that allow you to complete your purchase timeously and concerns the speed at which a function executes. How important are the items below with regard to increasing delivery performance?**

	Very important	4	3	2	Not important at all
I need to trust that the e-service will deliver as expected. (Customer, trust, loyalty and social influence)	**100%**				
Using the technology/e-service should not cause any frustration. (Techno-stress)	**85%**	**10%**	**5%**		
An e-service should take very little time to recover from an error. (Recovery from system failure)	**80%**	**10%**	**10%**		
It should take very little time to complete my purchase online. (Time factor)	**100%**				
The risk of having to perform time-consuming activities online in order to complete a purchase must be reduced. (Time risk)	**100%**				

The qualitative study showed that delivery performance had an impact on the following factors: customer trust, loyalty and social influence, techno-stress, recovery from system failure, time factor and time risk. The results showed the following:

- 100% of participants classified customer trust, loyalty and social influence as very significant.
- 85% of participants classified avoidance of techno-stress as very significant; 5% of participants remained neutral.
- 80% of participants classified recovery from system failure as very significant; 10% of participants remained neutral. The 10% of participants belonged to groups of young IT professionals.
- 100% of participants classified the time factor as very significant.
- 100% of participants classified avoidance of time risk as very significant.

These results show that the factors with the highest significance in relation to delivery performance are customer trust, loyalty and social influence, the time factor, and avoidance of risk. The factors with the least significance were techno-stress and recovery from system failure in relation to delivery performance.

7.6.7. Foreign exchange or elimination of barriers

Questions 7 and 14 of the survey focussed on foreign exchange or elimination of barriers.

Table 7.8: Question 7 extraction from Quantitative Survey (APPENDIX B)

8. **The Internet makes it possible to eliminate geographic barriers, that is, to shop from home in stores internationally. How important are the items below with respect to the elimination of barriers or foreign exchange?**

	Very important	4	3	2	Not important at all
I must be able to successfully complete my purchase. (Satisfying customer needs)	**100%**				
It should take very little time to complete my	**100%**				

purchase online. **(Time factor)**					
The risk of losing money by purchasing a product and not receiving it should be reduced. (Financial risk)	**100%**				

The qualitative study revealed that foreign exchange or elimination of barriers had an impact on the following factors: satisfying customer requirements, the time factor, and financial risk. The results showed the following:

- 100% of participants classified satisfying of customer requirements as very significant.
- 100% of participants classified the time factor as very significant.
- 100% of participants classified avoidance of financial risk as very significant.

All factors were equally significant in relation to foreign exchange or elimination of barriers.

Table 7.9: Question 14 extraction from Quantitative Survey (APPENDIX B)

14. The Internet makes it possible to eliminate geographical barriers, that is, to shop from home in stores internationally. Rate your shopping experience according to the statement below.

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Concluding the purchase online should take very little time, compared to my physically entering a store. (Elimination of barriers)	**80%**	**10%**	**5%**		**5%**

With regards to time saved by shopping online, 80% of participants strongly agreed that online shopping saves time as compared to physically entering a store. Of the participants, 10% agreed that online shopping saves time; 5% of the participants remained neutral; and 5% of participants strongly disagreed with the statement that online shopping saves time.

7.6.8. Customer trust, loyalty and social influence

Question 8 of the survey focussed on customer trust, loyalty and social influence.

Table 7.10: Question 8 extraction from Quantitative Survey (APPENDIX B)

9. **Customer trust, loyalty and social influence lead to customers returning to an e-service. How important are the items below with regard to ensuring customer trust, loyalty and social influence?**

	Very important	4	3	2	Not important at all
The customer should receive discounts and free gifts. **(Spontaneous delight)**	**100%**				
Using the technology/e-service should not cause any frustration. **(Techno-stress)**	**90%**	**10%**			
Accurate details should be available about the product that I need. **(Relevant content)**	**100%**				
Functions should be customised specifically to meet my needs. **(Customisation)**	**60**		**30%**		**10%**
The response from the e-service must be fast and	**100%**				

efficient. (Delivery performance)					
I prefer to use shopping websites that my friends suggest. (Preference to popular e-service)	**50%**	**10%**	**10%**	**20%**	**10%**
Customer support should be available online in the form of documents, videos and call centre contact details. (Customer support)	**50%**	**30%**	**20%**		
I should experience a high level of ease in using and understanding the e-service. (User-friendly system)	**100%**				
The risk of my personal information and banking details being misused should be reduced. (Privacy risk)	**100%**				

The qualitative study indicated that customer trust, loyalty and social influence had an impact on the following factors: spontaneous delight, techno-stress, relevant content, customisation, delivery performance, preference to popular e-service, customer support, user-friendly systems and privacy risk. The results showed the following:

- 100% of participants classified spontaneous delight as very significant. This shows that customers are excited by rewards and discounts. This encourages online shopping.
- 90% of participants classified avoidance of techno-stress as very significant.
- 100% of participants classified relevant content as very significant.
- 60% of participants classified customisation as very significant; 30% of participants remained neutral; and 10% of participants chose the option of 'not at all significant'.
- 100% of participants classified delivery performance as very significant.
- 50% of participants classified preference to popular e-service as very significant. 10% of participants remained neutral; 10% of the participants chose option of 'not at all significant'. The percentage distribution of these ratings shows that there is not a great concern regarding popular e-services.
- 50% of participants classified customer support as very significant; and 20% of participants remained neutral.
- 100% of participants classified user-friendly systems as very significant.
- 100% of participants classified avoidance of privacy risk as very significant.

These results show that the factors with the highest significance in relation to customer trust, loyalty and social influence, are spontaneous delight, relevant content, delivery performance, user-friendly systems and avoidance of privacy risk. The factors with the least significance in relation to customer trust, loyalty and social influence are customisation and preference to popular e-services.

7.6.9. Techno-stress

Question 9 of the survey focussed on techno-stress.

Table 7.11: Question e Extraction from Quantitative Survey (APPENDIX B)

10. Techno-stress refers to the technology-related difficulties that users face when they shop online. How important are the items below with respect to reducing techno-stress?

	Very important	4	3	2	Not important at all
I must experience a sense of safety and security in using the e-service	**100%**				

repeatedly. (Customer trust, loyalty and social influence)					
The response from the e-service must be fast and efficient. (Delivery performance)	100%				
Functions should be customised specifically to meet my needs. (Customisation)	80%		20%		
It should take very little time to complete my purchase online. (Time factor)	100%				
Accurate details must be available about the product that I need. (Relevant content)	100%				
Customer support should be available online in the form of documents, videos and call centre contact details. (Customer support)	75%		15%		10%
I should experience a high level of	100%				

ease in using and understanding the e-service. (User-friendly system)					
I must be able to successfully complete my purchase. (Satisfying customer needs)	100%				
The risk of my personal information and banking details being misused should be reduced. (Privacy risk)	100%				
The risk of having to perform time-consuming activities online in order to complete a purchase must be reduced. (Time risk)	100%				

The qualitative study revealed that techno-stress had an impact on the following factors: customer trust, loyalty and social influence, delivery performance, customisation, the time factor, relevant content, customer support, user-friendly systems, satisfying customer requirements, privacy risk and time risk. The results showed the following:

- 100% of participants classified customer trust, loyalty and social influence as very significant.
- 100% of participants classified delivery performance as very significant.
- 80% of participants classified customisation as very significant. 20% of participants remained neutral.

- 100% of participants classified the time factor as very significant.
- 100% of participants classified relevant content as very significant.
- 75% of participants classified customer support as very significant; 15% of the participants remained neutral; and 10% of participants chose the option of 'not important at all'.
- 100% of participants classified user-friendly systems as very significant.
- 100% of participants classified satisfying of customer requirements as very significant.
- 100% of participants classified avoidance of privacy risk as very significant.
- 100% of participants classified avoidance of time risk as very significant.

These results show that the factors with the highest significance in relation to techno-stress are customer trust, loyalty and social influence, delivery performance, the time factor, relevant content, user-friendly systems, satisfying of customer requirements and avoidance of privacy and time risk. The least significant, in relation to techno-stress, is customer support. Again, the 10% that chose the option of 'not important at all' were from the younger age group, who worked in IT jobs. This group felt that a purchase could be made successfully without online support.

7.6.10. User-friendly systems

Question 10 of the survey focussed on user-friendly system.

Table 7.12: Question 10 extraction from Quantitative Survey (APPENDIX B)

11. A shopping website is called user–friendly when it is easy to use. How important are the items below with respect to a shopping website being considered user-friendly?

	Very important	4	3	2	Not important at all
It should take very little time to complete my purchase online. (Time factor)	**100%**				
I must be able to successfully complete my purchase.	**100%**				

(Satisfying customer needs)					
An e-service should take very little time to recover from an error. **(Recovery from system failure)**	**100%**				
Using the technology/e-service should not cause any frustration. **(Techno-stress)**	**100%**				
Functions should be customised specifically to meet my needs. **(Customisation)**	**75%**		**25%**		
Customer support should be available online in the form of documents, videos and call centre contact details. **(Customer support)**	**70%**		**30%**		
I should feel confident in using the e-service repeatedly. **(Customer trust, loyalty and social influence)**	**100%**				
The risk of losing money by purchasing a	**100%**				

product and not receiving it should be reduced. **(Financial risk)**					
The risk of my personal information and banking details being misused should be reduced. **(Privacy risk)**	100%				

The qualitative study showed that user-friendly system had an impact on the following factors: time factor, satisfying customer requirements, recovery from system failure, techno-stress, customisation, customer support, customer trust, loyalty and social influence, financial risk and privacy risk. The results showed the following:

- 100% of participants classified the time factor as very significant.
- 100% of participants classified satisfying of customer requirements as very significant.
- 100% of participants classified recovery from system failure as very significant.
- 100% of participants classified avoidance of techno-stress as very significant.
- 75% of participants classified customisation as very significant; 25% of participants remained neutral.
- 70% of participants classified customer support as very significant; 30% of participants remained neutral.
- 100% of participants classified customer trust, loyalty and social influence as very significant.
- 100% of participants classified avoidance of financial risk as very significant.
- 100% of participants classified avoidance of privacy risk as very significant.

These results show that the factors with the highest significance in relation to user friendly systems are the time factor, satisfying customer requirements, recovery from system failure, avoidance of techno-stress, customer trust, loyalty and social influence and avoidance of

financial and privacy risk. It was not very clear to identify the factor with the least significance as many participants remained neutral.

7.6.11. Customer support

Question 11 of the survey focussed on customer support.

Table 7.13: Question 11 extraction from Quantitative Survey (APPENDIX B)

12. **Customer support refers to help desk centres, online documents and online videos that can assist a user if a problem occurs on the website. How important are the items below with respect to increasing customer support?**

	Very important	4	3	2	Not important at all
I should experience a high level of ease in using and understanding the e-service. (User-friendly system)	**100%**				
I must be able to successfully complete my purchase. (Satisfying customer needs)	**100%**				
I must experience a sense of safety and security in using the e-service repeatedly. (Customer trust, loyalty and social influence)	**100%**				
Accurate details should be available	**100%**				

about the product that I need. **(Relevant content)**				
An e-service should take very little time to recover from an error. **(Recovery from system failure)**	100%			
It should take very little time to complete my purchase online. **(Time factor)**	100%			
The risk of losing money by purchasing a product and not receiving it should be reduced. **(Financial risk)**	100%			
The risk of losing social status by using a website that is not efficient or trustworthy must be reduced. **(Social risk)**	70%	20%		10%
The risk of my personal information and banking	100%			

details being misused should be reduced. (Privacy risk)					

The qualitative study indicated that customer support had an impact on the following factors: user-friendly systems, satisfying of customer requirements, customer trust, loyalty and social influence, relevant content, recovery from system failure, the time factor, financial risk, social risk and privacy risk. The results showed the following:

- 100% of participants classified user-friendly systems as very significant.
- 100% of participants classified satisfying of customer requirements as very significant.
- 100% of participants classified customer trust, loyalty and social influence as very significant.
- 100% of participants classified relevant content as very significant.
- 100% of participants classified recovery from system failure as very significant.
- 100% of participants classified the time factor as very significant.
- 100% of participants classified avoidance of financial risk as very significant.
- 70% of participants classified avoidance of social risk as very significant; 20% of the participants remained neutral; 10% of participants chose the option of 'not important at all'.
- 100% of participants classified avoidance of privacy risk as very significant.

These results show that the factors with the highest significance in relation to customer support are user-friendly systems, satisfying of customer requirements, customer trust, loyalty and social influence, relevant content, recovery from system failure, time factor, avoidance of financial and privacy risk. The least significant factor in relation to customer support was social risk.

7.6.12.   Spontaneous delight

Question 12 of the survey focussed on spontaneous delight.

Table 7.14: Question 12 extraction from Quantitative Survey (APPENDIX B)

13. Spontaneous delight refers to an unexpected reward, for example, a discount or a gift. Rate your shopping experience according to the statements below regarding spontaneous delight.

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
I will continue to shop online to receive discounts and rewards. (Spontaneous delight)	**100%**				
I will continue to shop online because I was compensated for the problems that occurred. (Spontaneous delight)	**70%**		**30%**		
I will not shop online because the risk of losing money and time, as well as the risk of identity theft is too high. (Overall risk)			**30%**		**70%**

The results showed the following:

- 100% of participants strongly agreed that discounts and rewards encourage online shopping.

- 70% of participants agreed to continue shopping online due to compensation when problems occurred. 30% of participants remained neutral.

- 70% of participants remained neutral when asked if they would continue shopping online even though risk exists. Only 30% of participants stated that they would

definitely not shop online due to risk. This is very similar to the results of Phase One of the study, that is, Grounded Theory and the use of a qualitative survey. Phase One of the study showed that 70% of participants preferred to shop online, while 30% of participants preferred face-to-face interaction.

These results show that the factor with the highest significance in relation to spontaneous delight is receiving discounts and rewards.

7.6.13.   Risk

Question 13 of the survey focussed on the different types of risk. These are listed in brackets in the survey question.

Table 7.15: Question 13 extraction from Quantitative Survey (APPENDIX B)

14. **Online shopping poses many forms of risk, such as financial, time, performance, social, psychological, and privacy risks. Examples of these risks involve loss of money; loss of time, purchased products that do not work, judgement due to personal preferences, frustration and impatience experienced, and personal details being misused. Which risk item below do you fear the most?**

	Most feared	4	3	2	Least feared
I fear losing money by purchasing a product and not receiving it. (Financial risk)	**100%**				
I fear having to perform time-consuming activities online in order to complete a purchase. (Time risk)	**70%**	**30%**			
I fear purchasing and receiving a product with faults. (Performance	**100%**				

risk)					
I fear losing social status by using a website that is not efficient or trustworthy. (Social risk)	60%		30%		10%
I fear using an e-service that is difficult to navigate and understand. (Psychological risk)	80%	10%	10%		
I fear the misuse of my personal information and banking details. (Privacy risk)	100%				

The qualitative study showed that risk had an impact on all factors. The results showed the following:

- 100% of participants classified avoidance of financial risk as very significant.
- 70% of participants classified avoidance of time risk as very significant.
- 100% of participants classified avoidance of performance risk as very significant.
- 60% of participants classified avoidance of social risk as very significant. 30% of participants remained neutral. 10% of participants chose the option of 'Least feared'.
- 80% of participants classified avoidance of psychological risk as very significant. 10% of participants remained neutral.
- 100% of participants classified avoidance of privacy risk as very significant.

These results show that the factors with the highest significance in relation to the different types of risk are financial, performance and privacy risk. The factor with the least significance in relation to overall risk is social risk.

7.7. DISCUSSION OF FINDINGS

The graph below shows the percentage significance that each variable or factor has on customer e-service adoption.

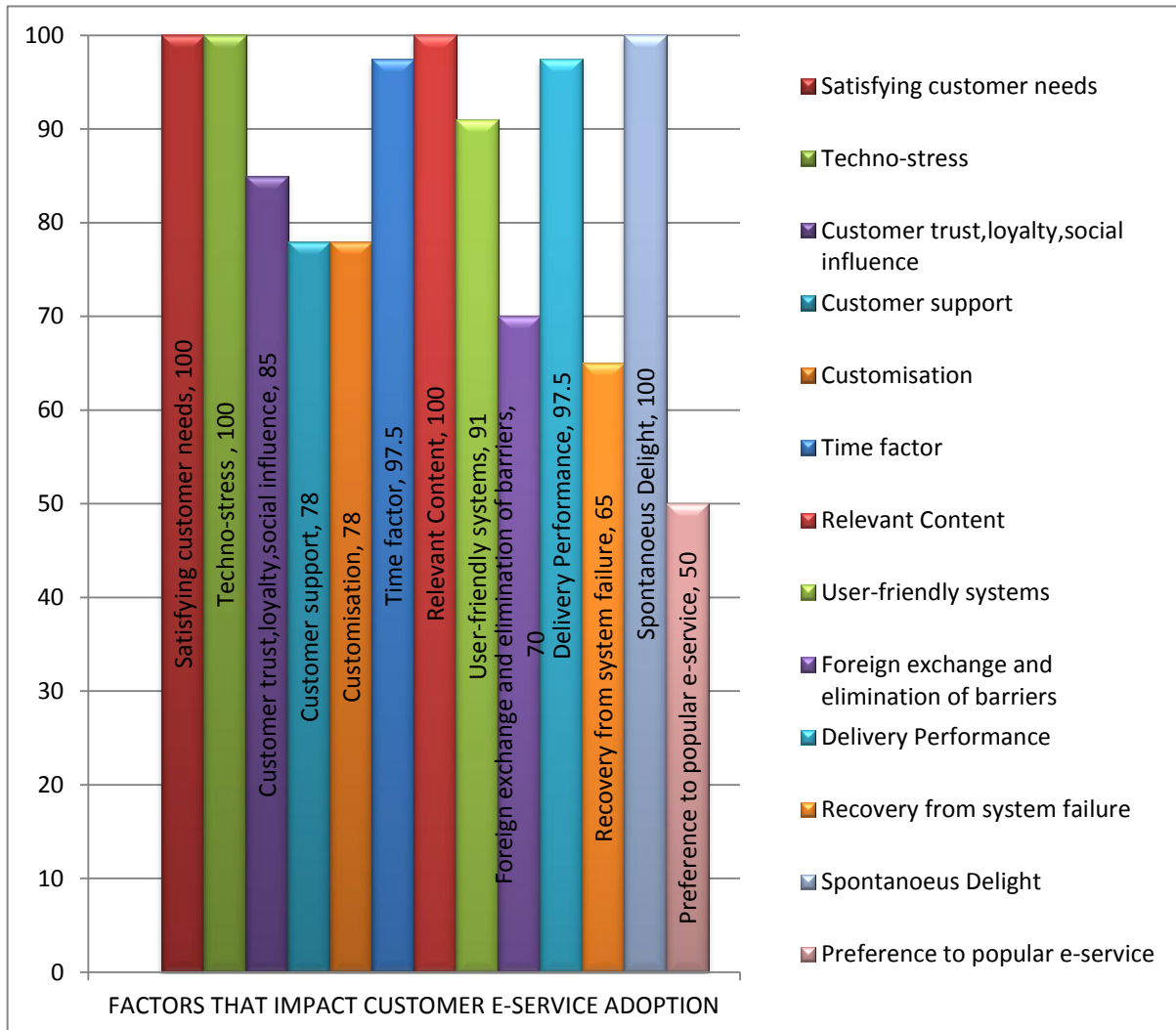**GRAPH OF PERCENTAGE CLASSIFICATION OF EACH FACTOR**

Figure 7.3: Percentage significance of each factor

Factors that have equally the most significant impact on customer e-service adoption are below. The variance is zero as all factors are identical or equal:

- satisfying customer needs
- avoidance of techno-stress
- relevant content
- spontaneous delight

The factors that follow in level of most to least significance are below. These factors are listed in order of descending variance. For example, Time factor influences customer e-service adoption more significantly than Preference to popular e-service factor. Time factor is closer to the average rate of impacting customer e-service adoption as compared to Preference to popular e-service factor.

- time factor
- delivery performance
- user-friendly system
- customer trust, loyalty and social influence
- customer support
- customisation
- foreign exchange or elimination of barriers
- recovery from system failure
- preference to popular e-service

Risk impacted all factors. The responses for prevention of all types of risk were rated very high, i.e., very significant. Participants considered the risk in terms of all the factors or variables. The figure below shows the summary of the results for risk. Risk was also identified as a factor with high significance in customer e-service adoption.

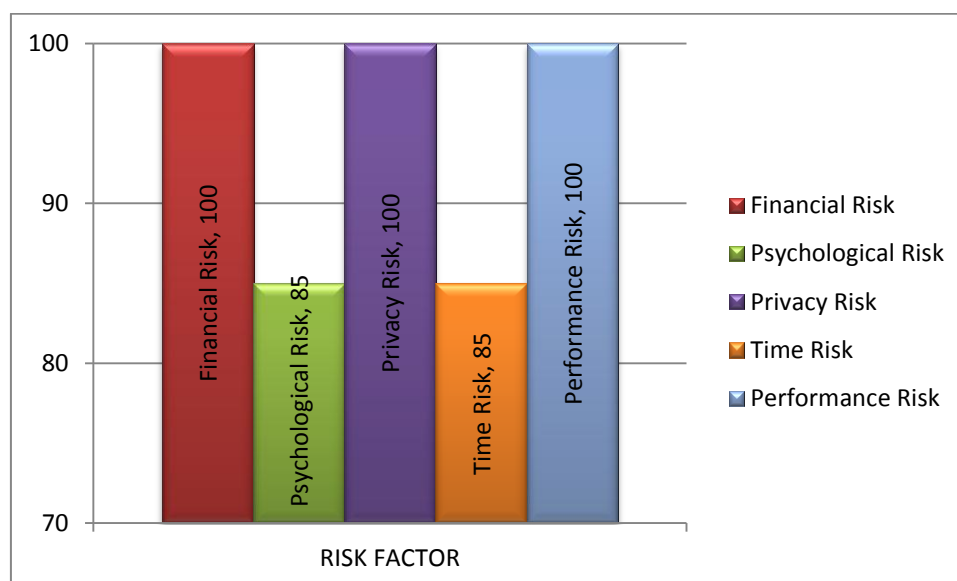*GRAPH OF PERCENTAGE CLASSIFICATION FOR RISK*

Figure 7.4: Percentage significance for risk

These results are in line with the literature review. That is, studies conducted by Ward (2006) showing the importance of customer satisfaction, Tarafdar *et al.*. (2011) describing the negative impact on customer perception due to techno-stress, Lee and Joshi (2007) on relevant content that encourages customer e-service adoption, and Featherman and Pavlou (2003) on the negative impact of perceived risk on customer satisfaction.

The conceptual model proved to be valid. All factors that made up the conceptual framework in Phase One of the study were shown to have an impact on customer e-service adoption in Phase Two of the study. Some factors were more significant than others. But all factors that made up the conceptual model impacted the customer's perception of e-services.

7.8.   VALIDITY

The conceptual framework was validated by the quantitative analysis. It was seen that all factors that appear on the conceptual model impacted customer e-service adoption significantly. No factors were excluded from the conceptual framework for Phase Two as Phase Two results showed that all factors were relevant in the study of e-service adoption.
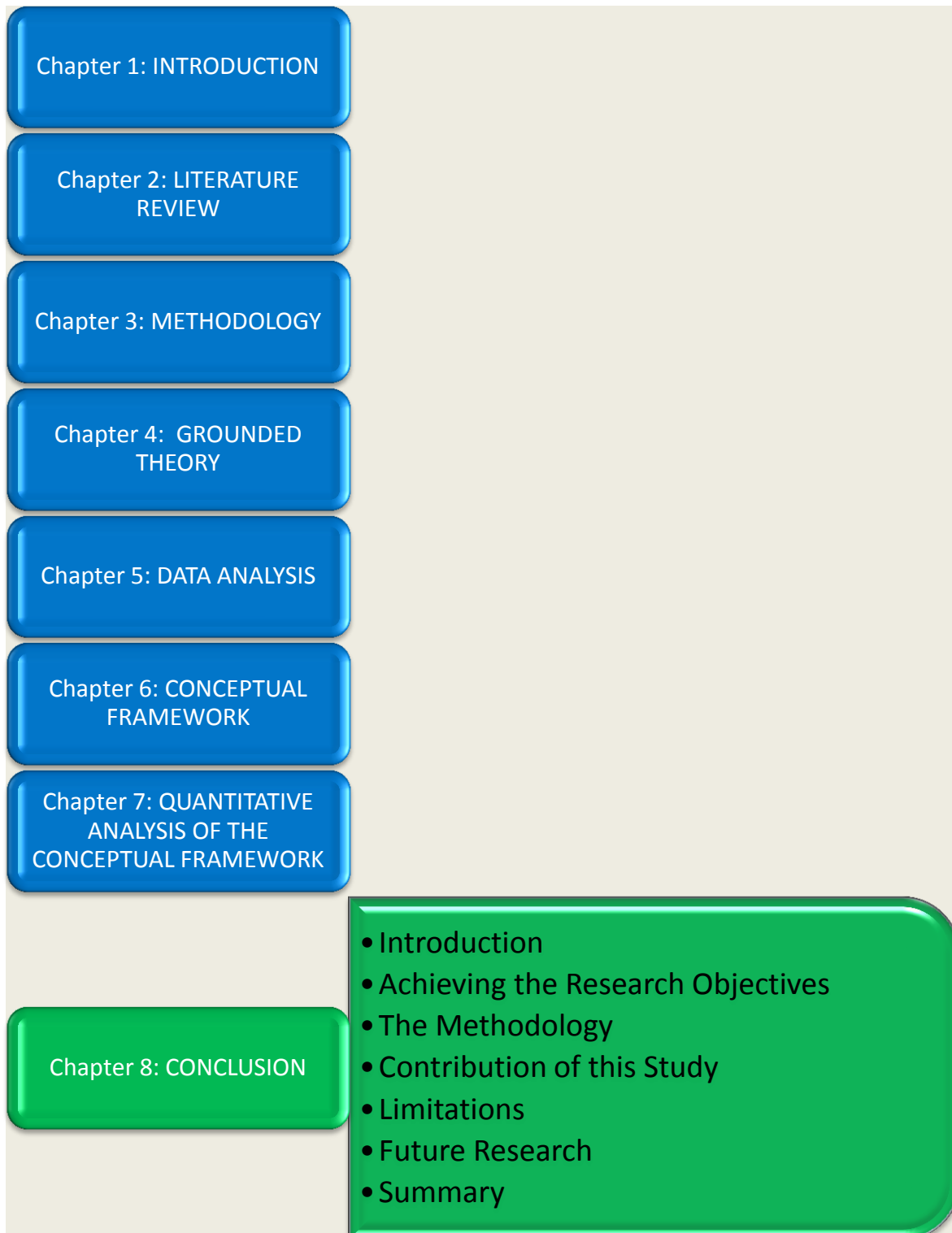
7.9.   CONCLUSION

In conclusion, satisfying customer needs, avoidance of techno-stress, relevant content, and spontaneous delight and risk are very significant in e-service strategies. This study has shown that these factors greatly impact the customers' attitude towards acceptance of e-services. Risk must be avoided at all costs. Risk was prevalent throughout the research process.

The conceptual framework was validated. All the factors that made up the conceptual framework in Phase One were relevant in Phase Two. The results of the quantitative research proved that the factors that made up the conceptual framework significantly impacted customer e-service adoption. Some factors more than others.

CHAPTER 8: CONCLUSION

A navigation map of the chapter is as follows:

Chapter 1: INTRODUCTION

Chapter 2: LITERATURE REVIEW

Chapter 3: METHODOLOGY

Chapter 4: GROUNDED THEORY

Chapter 5: DATA ANALYSIS

Chapter 6: CONCEPTUAL FRAMEWORK

Chapter 7: QUANTITATIVE ANALYSIS OF THE CONCEPTUAL FRAMEWORK

Chapter 8: CONCLUSION

- Introduction
- Achieving the Research Objectives
- The Methodology
- Contribution of this Study
- Limitations
- Future Research
- Summary

8.1. INTRODUCTION

Web-based transacting is growing rapidly in the form of self-services and e-commerce. It is imperative to understand the factors that encourage and discourage shoppers to use an e-service as compared to face-to-face shopping. Organisations that have a view of the customer's perception have the advantage of creating effective e-service strategies. The customer's perception is the key to the adoption and rejection of the use of e-services. This study aimed to uncover the factors that impact the customer's perception. This will lead to understanding the significance of these factors on customer e-service adoption.

The main objective of this study was to develop a conceptual framework to show the correlation relationships among the factors that impact e-service adoption and rejection (Phase One) and the relative significance of the factors that influence the customer's e-service adoption (Phase Two). Grounded Theory methodology was used to achieve the objective. This was followed by a quantitative survey to evaluate the conceptual framework.

8.2. ACHIEVING THE RESEARCH OBJECTIVES

The following sub-objectives were addressed in order to achieve the main objective:

1. <u>To identify the factors that enable impact on customers' online shopping experience by using Grounded Theory research.</u>

   Many factors were identified from the literature review. These factors that had a positive impact are known as enablers of customer e-service adoption. This means that these factors encourage customers to shop online. Grounded Theory allowed additional factors to emerge. The conceptual model was developed using these factors. A quantitative survey was carried out to validate the significance of each factor on customer e-service adoption. The significant factors were: delivery performance, the time factor, elimination of barriers, customer trust, loyalty and social influence, customisation, customer support, recovery from system failure, user-friendly system and satisfying customer needs.

2. <u>To identify the factors that inhibit impact on customers' online shopping experience by using Grounded Theory research.</u>

   Many factors were identified from the literature review. The factors that had a negative impact are known as inhibitors of customer e-service adoption. This means

that these factors discourage customers to shop online. Grounded Theory allowed additional factors to emerge. The conceptual model was developed using these factors. A quantitative survey was carried out to validate the significance of each factor on customer e-service adoption. The significant factors were: techno-stress and perceived risk.

3. <u>To assess the effect of perceived risk on e-service adoption in South Africa by identifying the most prevalent factors that influence customer e-service adoption.</u>
Perceived risk is the overall risk experienced by a customer. This study showed that risk impacted all other factors of the conceptual framework. The Grounded Theory process and steps uncovered that 100% of customers had concerns regarding risk. For example, the loss of money and time, buying a product that was not viewed before payment and the misuse of personal information. This was confirmed by the results of the quantitative survey in Phase Two of the study. Some risks were ranked relatively less than others.

4. <u>To explore the customer's preference of e-services compared to face-to-face interaction.</u>
A customer's perception of an e-service determines the level of customer service satisfaction, which will result in the adoption or rejection of the e-service. The three main categories identified were: customer attitude, system functionality, and need for purpose. The use of surveys, interviews and observations uncovered that 70% of the participants preferred online shopping. These participants belonged to the younger generation of the sample. The participants that preferred face-to-face shopping were those that experienced frustrations due to techno-stress, for example, errors and slow system response time.

5. <u>To determine the significance of and relationship between the factors that have been identified as influencing customer e-service adoption.</u>
Knowing the factors that impact customer e-service adoption and rejection is not sufficient to build an e-service strategy. It is also helpful to organisations to understand the links that exist amongst these factors. For example, the research showed that risk impacts all other factors. The common interrelationships are

described in Chapter 6. A common link was identified where customisation and relevant content both impact: customer trust, loyalty and social influence, and the time factor. A common link was identified where the time factor impacts: customisation, relevant content, and satisfying of customer requirements. Another common link was where recovery from system failure and the time factor impact both user-friendly system and familiarity, and customer support.

8.3. THE METHODOLOGY

The methodology chosen was Grounded Theory. This method allows data to emerge rather than stating a hypothesis. Grounded Theory was used to give a 'fresh' perspective on the topic.

Grounded Theory was used successfully in many studies by Glaser and Staruss (1967), Larsson *et al.* (2009), Mavetera (2009) and others, as discussed in Chapter 4. The advantage of using Grounded Theory for this study was the clearly defined steps in the process. Also, all data must be grounded which makes the research more rigorous, reliable, valid and flexible. Grounded Theory was suitable in building the conceptual framework as it provided the researcher a foundation to build on and enhance the study of e-service adoption. The step-by-step process gave the researcher an ordered approach to analyse the data. This structure led to accuracy and validity, making Grounded Theory suitable for studies in the Information Technology field. Other methods did not allow flexibility for this type of research. The researcher preferred the flexibility in this approach of study since it allowed for new data to emerge. The use of mixed methods, that is, Grounded Theory and Qualitative Analysis enhanced the research in respect to accuracy, validity and reliability. The mixed methods allowed for data to be collected by various methods, that is, surveys, observations and interviews. The various methods provided a wider range of data in order to reach a valid and realistic result.

The only issue experienced was that Grounded Theory and Mixed Methods require more time. This is due to the comparative and data emergent characteristics of the methodology.

8.4. CONTRIBUTION OF THE STUDY

There should be a mind shift about the way in which business is conducted. Business is not only about creating a product that can be sold; it is about customer satisfaction related to the product and creating a competitive advantage (Matzle and Hinterhuber, 1998). Customer satisfaction is a key concern in any business strategy. The customer's perception impacts customer satisfaction, that is, a positive perception of e-service use increases e-service adoption (Caruana, 2002).

This study delivered and validated a conceptual model. This conceptual model is the key to understanding customers, which will lead to building stronger e-service strategies. A solid strategy will retain customers and improve customer services within South Africa. The conceptual model lists the factors that organisations should place emphasis on, especially those that are of high significance, for example, satisfying customer needs, avoidance of techno-stress, relevant content and spontaneous delight. The conceptual model also served as a useful research model. The ordered and structured nature of the model allowed for in-depth and systematic analysis. The conceptual framework provided a clear view of the focus areas.

Managers within organisations can use this study to understand customers better. When the organisation proves that it understands the needs of its customers, loyal customers are created. It is less costly to any organisation to maintain loyal customers than to attract new customers. This will improve customer services within South Africa. It will contribute to uplifting South Africa from a Newly Industrialised Country (NIC) to a developed country. The factors and interrelationships identified in this study can be included in business strategies as focal point to improve customer satisfaction and increase profit margins.

8.5. LIMITATIONS

The limitation of Grounded Theory was that it is very time consuming. The participants were from the IT division of a single organisation that consisted of 2 000 employees. Sample sizes could have been larger with the availability of more time. Although participants were from a single organisation, they were randomly chosen from three different regions, i.e., Gauteng, KwaZulu-Natal and Cape Town.

8.6. FUTURE RESEARCH

Data were collected from one organisation only. Research including more than one organisation will contribute to a more diverse sample, i.e, various age groups, cultural beliefs and experience in using online shopping. Future studies would involve conducting research in an alternative setting to verify the validity of the results.

Shopping online is rapidly growing due to the Internet and mobile technology. Service providers of all types are increasing product offerings, free delivery and using social media to reach consumers.

There are three aspects that require further investigation and that will add value to the consumers' shopping experiences. These aspects are:

1. Online shopping policies – Many consumers bypass reading the terms and conditions and other shopping policies online. Most of these policies contain information to protect the consumer and service provider. It will be beneficial for consumers to understand the policies that protect online shoppers.

2. Online shopping mobile applications – The use of mobile technology is increasing. This study did not focus on the online shopping mobile applications that are available and the consumers' attitude towards these applications.

3. Cloud technology – This relates to the sharing of resources that enable an e-service to function at high performance.

8.7. SUMMARY

The main aim of the study was to determine the factors that influence customer's adoption of e-services, and their relationship with and relative significance towards e-service customer adoption. The study delivered a conceptual model using the Grounded Theory methodology. The conceptual model listed the enablers and inhibitors of e-service adoption. The conceptual model was validated by the analysis of a quantitative survey.

The three main categories identified were: customer attitude, system functionality, and need for purpose. It was discovered that the risk factor was highly significant towards the adoption of e-services.

The purpose of the quantitative analysis was to identify the level of significance that each factor had on customer e-service adoption. The quantitative analysis also validated the results from the Grounded Theory process. This refers to the analysis showing that 70% of participants preferred shopping online. This was true for Phase One and Phase Two of the research. The factors with the highest level of significance were satisfying customer needs, customer support, customer trust, loyalty and social influence, the time factor, relevant content, avoidance of techno-stress, user-friendly systems, delivery performance, spontaneous delight, avoidance of financial, performance and privacy risk. The factors that were considered neutral by participants were social risk and customisation. The least significant factor was preference to popular e-services.

REFERENCES

1. ABUBAKAR, A. and TASMIN, R. (2012) The Impact of Information and Communication Technology on Banks' Performance and Customer Service Delivery in the Banking Industry. *International Journal of Latest Trendsin Finance and Economic Sciences.* 2 (1). p.80-90

2. AGHEKYAN-SIMONIAN, M., FORSYTHE, S., KWON, W.S. and CHATTARAMAN, V. (2012) The role of product brand image and online store image on perceived risks and online purchase intentions for apparel. *Journal of Retailing and Computer Services.* 19 (3). p.325–331.

3. AHN, T., RYU, S. and HAN, I. (2004) The impact of the online and offline features on the user acceptance of Internet shopping malls. *Electronic Commerce Research and Applications.* 3 (4). p.405-420.

4. ANDAM, Z.R. (2003) *E-Commerce and e-Business. Asia*: Wikibooks.

5. AXELSSON, K., MELIN, U. and LINDGREN, I. (2013) Public e-services for agency efficiency and citizen benefit — Findings from a stakeholder centered analysis. *Government Information Quarterly.* 30 (1) p.10–22.

6. BACHELET, C. and CANSFIELD, M. (2010) *Enterprise APPS Today*. [Online] Available from: http://www.crm2day.com/experts/50256.php [Accessed: 22nd March 2011].

7. BASHIR, M., AFZAL, M.T. and AZEEM, M. (2008) Reliability and Validity of Qualitative and Operational Research Paradigm. *Pakistan Journal of Statistics and Operation Research.* 4 (1). p.35-45.

8. BASK, A., MERISALO-RANTANEN, H., TINNILA, M. and LAURAEUS, T. (2011) Towards e-banking: the evolution of business models in financial services. *International Journal of Electronic Finance.* 5 (4). p.333-356.

9. BAYUS, B.L. (2010) *Kano Model of Customer Satisfaction.* 5th edn. USA: John Wiley & Sons.

10. BELANCHE, D., CASALO, V. and GUINALIU, M. (2012) Website usability, consumer satisfaction and the intention to use a website: The moderating effect of perceived risk. *Journal of Retailing and Consumer Services.* 19 (1). p.124–132.

11. BETTENCOURT, L.A. and GWINNER, K. (1996) Customization of the service experience: the role of the frontline employee. *International Journal of Service Industry Management.* 7 (2). p.3-20.

12. BIRKS, M. and MILLS, J. (2011) *Grounded Theory: A practical Guide.* London: Sage.

13. BITNER, M.J., BROWN, S.W. and MEUTER, M. (2000) Technology Infusion in Service Encounters. *Journal of the Academy of Marketing Science.* 28 (1). p.138-149.

14. BOWEN, G.A. (2006) Grounded Theory and Sensitizing Concepts. *International Journal of Qualitative Methods.* 5 (3). p.12-23.

15. BOWEN, G.A. (2005) Preparing a Qualitative Research-Based Dissertation: Lessons Learnt. *The Qualitative Report.* 10 (2). p.208-222.

16. BRAVO, E., ENACHE, M. and FERNANDEZ, V. (2010) An Innovative Teaching Practice Based on Online Channels: A qualitative Approach. *World Journal on Educational Technology.* 2 (2). P.113-123

17. BRINGER, J.D., JOHNSTON, L.H. and BRAKENRIDGE, C.H. (2002) Using Computer-Assisted Qualitative Data Analysis Software (CAQDAS) to Develop a Grounded Theory Project. *SAGE Journals.* 18 (3). P.245-266.

18. BROWN, I.T.J., CAJEE, Z., DAVIES, D. and STROEBEL, S. (2003) Cell phone banking: Predictors of adoption in South Africa - an exploratory study. International Journal of Information Management. 23 (5). p.381-394.

19. BROWN, I., LETSIDIDI, B. and NAZEER, M. (2009) Internet Access in South African Homes: A Preliminary Study on Factors Influencing Consumer Choice. *The Electronic Journal on Information Systems in Developing Countries.* 38 (2). P.1-13.

20. CARROLL, J. and SWARTMAN, P. (2000) Structured Case: A Methodological Framework for Building Theory in Information Systems Research. *European Journal of Information Systems.* 9 (4). p.235-242.

21. CARTER, S.M. and AND LITTLE, M. (2007) Justifying Knowledge, Justifying Method, Taking Action: Epistemologies, Methodologies and Methods in Qualitative Research. *Qualitative Health Research.* 17 (10). p.1316-1328.

22. CARUANA, A. (2002) Service Loyalty: The Effects of Service Quality and the Mediating Role of Customer Satisfaction. *European Journal of marketing.* 36 (7/8). p.811-828.

23. CENFETELLI, R.T. (2004) Inhibitors and Enablers as Dual Factor Concepts in Technology Usage. *Journal of the Association for Information Systems.* 5 (11-12). p.472-492.

24. CENFETELLI, R.T., BENBASAT, I. and AL-NATOUR, S. (2005) *AIS Electronic Library*. [Online] Available from: http://aisel.aisnet.org/icis2005/58/. [Accessed: 18th February 2015].

25. CHARMAZ, C. (2003) *Strategies of Qualitative Enquiry.* 2nd edn. California: Sage.

26. CHIOVITTI, R.F. and PIRAN, N. (2003) Rigour and Grounded Theory Research. *Journal of Advanced Nursing.* 44 (4). p.427-435.

27. CHIU, C., WANG, E., FANG, Y. and HUANG, H. (2012) Understanding customers' repeat purchase intentions in B2C e-commerce: the roles of utilitarian value, hedonic value and perceived risk. *Information Systems Journal.* 24 (1). p.85-114.

28. CLAES, F., ROLAND, T.R. and MARNIK, G.D. (2010) The Effect of Customer Satisfaction on Consumer Spending Growth. *Journal of Marketing Research.* 47 (1). p.28-35.

29. CLOETE, E. and COURTNEY, S. (2002) Small Businesses' Acceptance and Adoption of e-Commerce in the Western Cape Province of South Africa. *The Electronic Journal on Information Systems in Developing Countries.* 10 (4). p.1-13.

30. COLLIER, J.E. and BIENSTOCK, C.C. (2006) Measuring Service Quality in e-Retailing. *Journal of service research.* 8 (3). p.260-275.

31. CONNAWAY, L.S., DICKEY, T.J. and RADFORD, M.L. (2011) "If it is too inconvenient I'm not going after it:" Convenience as a critical factor in information-seeking behaviors. *Library & Information Science Research.* 33 (3), p.179-190.

32. CURRAN, J.M., MEUTER, M. and SURPRENANT, C.F. (2009) Intention to use self-service technologies: A Confluence of Multiple Attitudes. *Journal of Service Research.* 5 (3). p.209-224.

33. RUYTER, K., WETZELS, M., KLEIJINEN, M. (2001) Customer Adoption of e-service. *International Journal of Service Industry Management.* 12 (2). p.184-207.

34. DEVDAS, U.M., SILONG, A.D. and ISMAIL, A.I. (2011) The Relevance of Glaserian and Straussian Grounded Theory Approaches in Researching Human Resource Development. *Financial Management and Economics.* Research Gate. [Online] Research Gate 1 (1). p.348-352. Available from: http://www.researchgate.net/publication/265534533_The_Relevance_of_Glaserian

_and_Straussian_Grounded_Theory_Approaches_in_Researching_Human_Reso urce_Development. [Accessed: 18th February 2015].

35. EGAN, T.M. (2002) Grounded Theory Research and Theory Building. *Advances in developing human resources.* 4 (3). p.277-295.

36. EID, I.M. (2011) Determinants of e-commerce customer satisfaction, trust, and loyalty in Saudi Arabia. *Journal of Electronic Commerce Research.* 12 (1). p.78-93.

37. ERIKSSON, K. and NILSSON, D. (2007) Determinants of the continued use of self-service technology: The case of internet banking. *Technovation.* 27 (4). P.159-167.

38. FEATHERMAN, M.S. and PAVLOU, P.A. (2003) Predicting e-Services Adoption: A Perceived Risk Facets Perspective. *International Journal of Human-Computer Studies.* 59 (4). p.451-474.

39. FEATHERMAN, M.S. and WELLS, J.D. (2010) The intangibility of e-services: effects on perceived risk and acceptance. *Management Information Systems.* 41 (2). P.110-131.

40. FEKEDI, T. (2010) The Basis of Distinction Between Qualitative and Quantitative Research in Social Science: Reflection on Ontological, Epistemological and Methodological Perspectives. *Ethiopia Journal of Education & Science.* 6 (1). p.97-108.

41. GHANE, S., FATHIAN, M. and GHOLAMIAN, M.R. (2011) Full Relationship Among e-Satisfaction, e-Trust, e-Service quality, and e-Loyalty: The case of Iran e-banking. *Journal of Theoretical and Applied Information Technology.* 3 3(1). p.1-6.

42. GLASER, B.G. (2002) Conceptualization: On Theory and Theorizing Using Grounded Theory. *International Journal of Qualitative Methods.* 1 (2). p.23-38.

43. GLASER, B.G. (2002) Constructivist Grounded Theory. *Quantitative social research.* 3 (3). p.1-20.

44. GLASER, B.G. (1978) *Theoretical sensitivity: Advances in the methodology of grounded theory*. United States of America: Sociology Press (Mill Valley, Calif.).

45. GLASER, B.G. and STRAUSS, A.L. (1967) *The Discovery of Grounded Theory: Strategies for Qualitative Research.* Chicago: Aldine Publishing Company.

46. GLASER, B.G. and HOLTON, J. (2004) Remodeling Grounded Theory. *Qualitative Social Research.* 5 (2). p.1-20.

47. GOULDING, C. (2005) Grounded Theory, Ethnography, and Phenomenology: A Comparative Analysis of Three Qualitative Strategies for Marketing Research. *European Journal of Marketing.* 39 (3/4). p.294-308.

48. HA, S. and STOEL, L. (2008) Consumer e-shopping acceptance: Antecedents in a technology acceptance model. *Journal of Business Research.* 62 (5). p.565-571.

49. HO, C. and WU, W. (1999) *Antecedents of Customer Satisfaction on the Internet: An Empirical Study of Online Shopping.* Proceedings of the 32nd Hawaii International Conference on System Sciences 1999: Hawaii.

50. HODA, R., NOBLE, J. and MARSHALL, S. (2011) Grounded Theory for Geeks. *Patterns Languages of Programs Conference* 2011.

51. HOLTON, J. (2008) Grounded Theory as a general research methodology. *Grounded Theory Review: An international journal.* 7 (2). p1-2.

52. HUA, H., KANDAMPULLY, J. and JUWAHEERC, T. (2009) Relationships and impacts of service quality, perceived value, customer satisfaction, and image: an empirical study. *The Service Industries Journal.* 29 (2). p.111-125.

53. HUGHES, J. and JONES, S. (2003) *AIS Electronic Library.* [Online] Available from: http://aisel.aisnet.org/ecis2003/62/. [Accessed: 22nd March 2011].

54. HUSSEIN, M.E., HIRST, S., SALYERS, V. and OSUJI, J. (2014) Using Grounded Theory as a Method of Inquiry: Advantages and Disadvantages. *The Qualitative Report.* 19 (13). p.1-15.

55. IVANKOVA, N.V., CRESWELL, J.W. and STICK, S.L. (2006) Using mixed methods sequential explanatory design: From theory to practice. *Field Methods.* 18 (1). p.3-20.

56. JIANG, L., YANG, Z. and JUN, M. (2013) Measuring consumer perceptions of online shopping convenience. *Journal of Service Management.* 24 (2). p.191-214.

57. JOSEPH, M., MCCLURE, C. and JOSEPH, B. (1999) Service Quality in the Banking Sector: The Impact of Technology on Service Delivery. *International Journal of Bank Marketing.* 17 (4). p.182-191.

58. KAILANI, M. and KUMAR, R. (2011) Investigating Uncertainty Avoidance and Perceived Risk for Impacting Internet Buying: A Study in Three National Cultures. *International Journal of Business and Management.* 6 (5). p.76-92.

59. KANDAMPULLY, J. (2002) Innovation as the Core Competency of a Service Organisation: The Role of Technology, Knowledge and Networks. *European Journal of Innovation Management.* 5 (1), p.18-26.

60. KARDARAS, D. and KARAKOSTAS, B. (2012) *Services Customization Using Web Technologies.* London, UK: IGI Global.

61. KASSIM, N. AND N. ABDULLAH (2010) The effect of perceived service quality dimensions on customer satisfaction, trust, and loyalty in e-commerce settings. *Asia Pacific Journal of Marketing and Logistics.* 22 (3). p.351-371.

62. KAUFMAN-SCARBOROUGH, C. and LINDQUIST, J.D. (2002) E-shopping in a Multiple Channel Environment. *Journal of consumer marketing.* 19 (4). p.333-350.

63. KUMAR, R., GARG, D. and GARG, T.K. (2011) TQM success factors in North Indian manufacturing and service industries. *The TQM Journal.* 23 (1). p.36-46.

64. KYOBE, M. (2011) Investigating the key factors influencing ICT adoption in South Africa. *Journal of Systems and Information Technology.* 13 (3). p.255-267.

65. LA, S. and CHOI, B. (2012) The role of customer affection and trust in loyalty rebuilding after service failure and recovery. *The Service Industries Journal.* 32 (1). p.105-125.

66. LABUS, M. and STONE, M. (2012) The CRM Behaviour Theory- Managing Corporate Customer Relationships in Service Industries. *Database Marketing and Customer Strategy Management.* 17 (3/4), p.155-173.

67. LARSSON, G., JOHANSSON, A., JANSSON, T. and GRONLUND, G. (2009) Leadership under severe stress: A grounded theory study. *Open Access in Diva.* [Online] Available from: http://fhs.diva-portal.org/smash/record.jsf?pid=diva2%3A580213&dswid=9370. [Accessed: 18th February 2015].

68. LEE, K. and JOSHI, K. (2007) An Empirical Investigation of Customer Satisfaction with Technology Mediated Service Encounters in the Context of Online Shopping. *Journal of Information Technology Management.* 18 (2). p.79-98.

69. LIANG, T.P. (2004) Introduction to the Special Issue: Mobile Commerce Applications. *International Journal of Electronic Commerce.* 8 (3). p.7-17.

70. LIN, C. and CHANG, H. (2010) The role of technology readiness in self-service technology acceptance. *Managing Service Quality: An International Journal.* 21 (4). p.424 - 444.

71. LUORA, T., LUB, H., CHIENA, K. and WUB, T. (2012) *The online platform for Taylor & Francis Group.* [Online] Available from: http://www.tandfonline.com/doi/abs/10.1080/14783363.2012.733264?journalCode=ctqm20#.VOTrgyuUdqV. [Accessed: 18th February 2015].

72. MATAVIRE, R. and BROWN, I. (2013) Profiling Grounded Theory Approaches in Information Systems Research. *European Journal of Information Systems.* 22 (1). p.119-129.

73. MATAVIRE, R. and BROWN, I. (2008) Investigating the Use of "Grounded Theory" in Information Systems Research*. IT Research in developing countries.* 4 (1). p.139-147.

74. MATZLER, K., STIEGER, D. and FULLER, J. (2011) Consumer Confusion in Internet-Based Mass Customization: Testing a Network of Antecedents and Consequences. *Journal of Consumer Policy.* 34 (2). p.231-247.

75. MATZLER, K. and HINTERHUBER, H.H. (1998) How to Make Product Development Projects More Successful by Integrating Kano's Model of Customer Satisfaction into Quality Function Deployment. *Technovation.* 18 (1). p.25-38.

76. MAVETERA, N. and KROEZE, J.H. (2009) Practical Considerations in Grounded Theory Research. Sprout. *Working Papers on Information Systems.* 9 (32) p.1-25.

77. MCFARLAN, F.W. (2010) *Enterprise App Today*. [Online] Available: http://www.crm2day.com [Accessed: 22nd March 2011].

78. MCMILLAN, W. (2010) Moving beyond description: Research that helps improve teaching and learning. *African Journal of Health Professions Education.* 2 (1). p.3-7.

79. MEUTER, M., BITNER, M.J., OSTROM, A.L. and BROWN, S.W. (2005) Choosing among alternative service delivery modes: An investigation of customer trial of self-service technologies. *Journal of Marketing.* 69 (1) p.61-83.

80. MEUTER, M., OSTROM, A.L., ROUNDTREE, R.I. and BITNER, M.J. (2000) Self-Service Technologies: Understanding Customer Satisfaction with Technology-Based Service Encounters. *Journal of Marketing.* 64 (3). p.50-64.

81. MILLS, J., BONNER, A. and FRANCIS, K. (2008) The development of constructivist grounded theory. *International Journal of Qualitative Methods.* 5 (1). p.25-35.

82. MONSUWÉ, T.P. (2004) What drives consumers to shop online? A literature review. *International Journal of Service Industry Management.* 15 (1). p.102-121.

83. MONTOYA, M.M., MASSEY, A.P. and KHATRI, V. (2010) Connecting IT Services Operations to Service Marketing Practices. *Journal of Management Information Systems.* 26 (4). p.65-85.

84. MOODLEY, S. (2003) The challenge of e-business for the South African apparel sector. *Technovation.* 23 (7). p.557-570.

85. MYERS, M.D. (1997) *Association for Information Systems.* [Online] Available: http://www.qual.auckland.ac.nz/ [21st May 2012].

86. PANDIT, N.R., 1996. The Creation of Theory: A Recent Application of the Grounded Theory Method. *The Qualitative Report.* 2(4). P.1-17.

87. PARASURAMAN, A. and GREWAL, D. (2000) Serving customers and consumers effectively in the twenty-first century: A conceptual framework and overview. *Journal of Academy of Marketing Science.* 28 (1). P.9-16.

88. PARK, C. and KIM, Y. (2003) Identifying Key Factors Affecting Consumer Purchase Behaviour in an Online Shopping Context. *International Journal of Retail and Distribution Management.* 31 (1). p.16-29.

89. PARK, J., GUNN, F. and HAN, S. (2012) Multidimensional trust building in e-retailing: Cross-cultural differences in trust formation and implications for perceived risk. *Journal of Retailing and Consumer Services.* 19 (3). p.304–312.

90. PICCOLI, G., SPALDING, B.R. and IVES, B. (2001) A Framework for Improving Customer Service Through Information Technology. *Cornell Hotel and Restaurant Administration Quarterly.* 32 (3). p.38-45.

91. PITLER, F.T., MOESLEIN, K. and STOTKO, C.M. (2004) Does Mass Customization Pay? An Economic Approach to Evaluate Customer Integration. *Production Planning and Control.* 15 (4). p.435-444.

92. POPE, C., ZIEBLAND, S. and MAYS, N. (2002) British Medical Journal. [Online] Available from: http://www.bmj.com/content/320/7227/114. [Accessed: 18th February 2015].

93. PRABHAKARAN, A. and MISHRA, H.K. (2012) Technological Change in Libraries: The Evolution of Techno-stress. *Journal of Art, Science and Commerce.* 3 (1). p.131-135.

94. QURESHI, T., ZAFAR, M. and KHAN, M. (2000) Customer Acceptance of Online Banking in Developing Economies. *Journal of Internet Banking and Commerce.* 13 (1). p.1-9

95. ROSE, S., HAIR, N. and CLARK, M. (2010) Online Customer Experience: A Review of the Business-to-Consumer Online Purchase Context. *International Journal of Management Reviews.* 13 (1). p.24-39.

96. ROWLEY, J. (2002) Using Case Studies in Research. *Management Research News.* 25 (1). p.16-27.

97. RUST, R.T. and KANNAN, P.K. (2002) *E-Service: New direction in Theory and Practice.* New York: M.E. Sharpe Inc.

98. RUST, R.T. and KANNAN, P.K. (2003) E-Service: A New Paradigm for Business in the Electronic Environment. *Communications of the ACM.* 46 (6). p.37-42.

99. SADEH, E., MOUSAVI, L., GARKAZ, M. and SADEH, S. (2011) The Structural Model of E-service Quality, E-customer Satisfaction, Trust, Customer Perceived Value and E-loyalty. *Australian Journal of Basic and Applied Sciences.* 5 (3). p.532-538.

100. SAFEENA, R., DATE, H. and KAMMANI, A. (2011) Internet Banking Adoption in an Emerging Economy: Indian Consumer's Perspective. *International Arab Journal of e-Technology.* 2 (1). p.56-64.

101. SAHADEV, S. AND K. PURANI (2008) Modeling the consequences of e-service quality. *Marketing Intelligence.* 26 (6). p.605-620.

102. SAILLARD, E.K. (2011) Systematic Versus Interpretive Analysis with Two CAQDAS Packages: NVivo and MAXQDA. *Qualitative Social Research.* 12(1). p.1-21.

103. SAYED, R.N., YASMIN, F., HAQUE, A. and KHATIBI, A. (2011) *Study on Customer Perception towards Online-Ticketing in Malaysia.* eProceedings for 2011 International Research Conference and Colloquium: Contemporary Research Issues and Challenges in Emerging Economies 2011: Malaysia.

104. SCHULTHEIS, R. and SUMNER, M. (1998) *Management Information Systems: The manager view.* 4th Edition. USA: McGraw-Hill Companies, Inc.

105. SCOTT, K.W. and HOWELL, D. (2008) Clarifying Analysis and Interpretation in Grounded Theory: Using a Conditional Relationship Guide and Reflective Coding Matrix. *International Journal of Qualitative Methods.* 7 (2). p.1-15.

106.   SIKOLIA, D., BIROS, D., MASON, M. and WEISER, M. (2013) *Trustworthiness of Grounded Theory Methodology Research in Information Systems.* Proceedings of the Eighth Midwest Association for Information Systems Conference 2013: Nebraska, Omaha.

107.   SINGH, H., 2006-last update, *The Importance of Customer Satisfaction in Relation to Customer Loyalty and Retention.* [Online] Available: http://www.van-haaften.nl/images/documents/pdf/The%20Importance%20of%20Customer%20Satisfaction%20in%20Relation%20to%20Customer%20Loyalty%20and%20Retention.pdf . [Accessed: 28th May 2012].

108.   SMITH, H., DINEV, T. and XU, H. (2011) Information privacy research: an interdisciplinary review. *MIS Quarterly.* 35 (4) p.989-1016.

109.   STANCOMBE, R. (2012) *Attitudes toward online shopping and knowledge about shopping online securely.* Germany: Stancombe Research and Planning.

110.   STOJKOVIC, D., DJORDJEVIC, D. and SAJFERT, Z. (2011) Customer Relationship Management Concept and Competitiveness of Companies from Western Balkans. *African Journal of Business Management.* 6 (12). p.4413-4422.

111.   STRAUSS, A.L. (1987) *Qualitative Analysis for Social Scientists.* Cambridge: Cambridge University Press.

112.   STRAUSS, A.L. and CORBIN, J.M. (1989) *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory.* 2nd Edn. USA: SAGE.

113.   SUN, Q., C. WANG AND H. (2009) *Applying E-S-QUAL Scale to Analysis the Factors Affecting Consumers to Use Internet Banking Services.* Proceeding of IITA International Conference on Services Science, Management and Engineering 2009: Greece.

114.   TARAFDAR, M., TU, Q. and RAGU-NATHAN, T.S. (2011) Impact of Techno-stress on End User Satisfaction and Performance. *Journal of Management Information Systems.* 27 (3). p.303-334.

115.   TAYLOR, T. (2012) Factors affecting internet and e-commerce adoption among small and medium size enterprise: non-traditional exporters. *European Journal of Business Management.* 13 (4). P.25-38.

116. TSANGA, N., LAIA, T.H. and LAWA, R. (2010) Measuring E-Service Quality for Online Travel Agencies. *Journal of Travel & Tourism Marketing.* 27 (3). p.306-323.

117. TU, Q., RAGU-NATHAN, T.S., TARAFDAR, M. and RAGU-NATHAN, B.S. (2008) *Improving end-user satisfaction through techno-stress prevention: Some empirical evidence.* Proceedings of the fourteenth Americas conference on Information Systems 2008: Toronto, ON, Canada.

118. URQUHART, C. (2001) *An Encounter with Grounded Theory: Tackling the Practical and Philosophical Issues.* USA: IGI Publishing.

119. UZOKA, F.E. and SHEMI, A.P. (2007) Behavioural influences on e-commerce adoption in a developing country context. *The electronic journal on information systems in developing countries.* 31 (4). p.1-15.

120. WALKER, D. and MYRICK, F. (2006) Grounded Theory: An Exploration of Process and Procedure. *Qualitative Health Research.* 16 (4) p.547-559.

121. WARD, J.A., (2006) *Aye Conference.* [Online] Available from: http://www.ayeconference.com/meeting-customer-requirements-first-time-every-time/. [Accessed: 22nd March 2011].

122. WARD, J.A. (2011) Aye Conference. [Online] Available from: http://www.ayeconference.com/meeting-customer-requirements-first-time-every-time/. [Accessed: 22nd March 2011].

123. WELSH, E. (2002) Dealing with Data: Using NVIVO in the qualitative analysis process. *Qualitative Social Research.* 3 (2). p.1-20.

124. WU, J. and WANG, S. (2005) What Drives Mobile Commerce? An Empirical Evaluation of the Revised Technology Acceptance Model*. Information and Management.* 42 (5). p.719-729.

125. YANG, D.Z. and JUN, D.M. (2002) Consumer perception of e-service quality: From internet purchaser and non-purchaser perspective. *Journal of Business Strategies.* 19 (1). p.1-25.

126. YEN, C. AND LU, H. (2008) Effects of e-service quality on loyalty intention: an empirical study in online auction. *Managing service quality.* 18 (2). p.127-146.

127. YOUSSEF, A.E. (2012) Exploring Cloud Computing Services and Applications. *Journal of Emerging Trends in Computing and Information Sciences.* 3 (6). p.838-847.

APPENDIX

APPENDIX A: QUALITATIVE SURVEY

Consent Form

University Letter Head

DATE:

AN INVESTIGATION INTO THE FACTORS THAT INFLUENCE CUSTOMER ADOPTION OF E-SERVICES

You are being invited to participate in a research study to identify the factors that contribute to customer e-service adoption. This study is being conducted by Kamisha Persad, from the University of South Africa. This study is being carried out as a requirement in the fulfillment of a Master's degree in Information Systems.

Please note the following:
1. There are no known risks if you decide to participate in this research study.
2. There are no costs to you for participating in the study.
3. The information you provide will be used to determine the factors that contribute to online shopping as opposed to face-to-face shopping.
4. The questionnaire will take about 20 minutes to complete.
5. The information collected may not benefit you directly, but the information learned in this study should provide more general benefits

You have the option to remain anonymous. If so, do not write your name on the survey. No one will be able to identify you or your answers, and no one will know whether or not you participated in the study. Should the data be published, no individual information will be disclosed.

Your participation in this study is voluntary. By completing this survey/questionnaire, you are voluntarily agreeing to participate. You are free to decline to answer any particular question you do not wish to answer for any reason. You are also free to withdraw from this research process at any stage.

If you have any questions about the study, please contact Prof. Keshnee Padayachee, Supervisor for the mentioned study, on 0124296460 or Padayk@unisa.ac.za, at UNISA.

The Ethical Board has reviewed my request to conduct this project. If you have any concerns about your rights in this study, please contact UNISA.

_____
NAME OF PARTICIPANT

_____	
DATE	
_____	
SIGN	

The Questionnaire

Data with regard to the Grounded Theory study will be obtained as follows:

1. A semi-structured interview will be conducted with 75 users of online services.
2. Participants will be observed while using an e-service of the participant's choice. The participant will describe shopping online.
3. A qualitative questionnaire to be completed.

The data collected by means of the above process will be used to develop a conceptual framework.

The data collected from the surveys are found at the following link:

Qualitative Survey – Phase 1

OR

[https://sites.google.com/site/keshneepadayachee/Research-Projects/kamisha-persad]

Semi-structured Interview

The open-ended questions below relate to the objectives of the study.

Table 8: Questions asked in semi-structured interviews

Objectives	Questions	Responses
To uncover the factors that have a positive impact on a customer's online shopping experience by using Grounded Theory.	What were the most enjoyable factors of your online shopping experience?	
To uncover the factors that have a negative impact on a customer's online shopping experience by using Grounded Theory.	What were the most frustrating factors of your online shopping experience?	
To assess the effect of perceived risk on e-service adoption in South Africa by identifying the most prevalent factors that influence customers' e-service adoption.	What are the risks that concern you regarding online shopping? Are you comfortable with the level of security offered on the website? To what extent does this influence	

Category addressed	No.	Questions	Reference
		your decision to shop online or in a physical store?	
To explore the customer's preference for e-services rather than face-to-face interaction. The customer's perception of an e-service determines the level of customer satisfaction, which will determine the adoption or rejection of the e-service.		Would you say that you received a better quality of service and that it was more convenient to use the e-service, compared to shopping in a physical store? Please explain.	

The qualitative questionnaire will be administered when the observation step in the process has been completed. The questionnaire will contain a list of open-ended questions.

Table 9: Qualitative Questionnaire

Category addressed	No.	Questions	Reference
Satisfying customer needs	1	What is your intention for using the e-service?	(Collier and Bienstock, 2006) **Environment:** e-Retailing
User-friendly system Techno-stress Customer familiarity	2	Was it easy to navigate the website?	
User-friendly system Techno-stress	3	Were you allowed to return to previous actions in the case of a mistake?	
Risk	4	Does it concern you that this site may misuse your personal information?	
Risk	5	Does this site use your contact details to send you spam or unwanted advertisements?	
Relevant content	6	Were the item details you were interested in available? Price? Delivery options? Payment options?	
Delivery performance	7	Please comment on the waiting time between your action and the website's response time.	
Delivery performance Recovery from failure	8	Has the website ever crashed in the midst of your purchase?	
Satisfying customer needs	9	Were your items protected from damage during delivery?	
Satisfying customer needs	10	Were your items delivered on time?	
Satisfying customer needs	11	Did you receive the correct order in terms of quantity and billing?	
Customisation Relevant content Satisfying customer needs Elimination of barriers Customer trust and loyalty	12	Was it easy to make comparisons with other products and prices in order to reach your decision?	(Park and Kim, 2003) **Environment:** Online shopping
Techno-stress User-friendly system Customer familiarity	13	Did you easily understand what the icons represented?	(Tarafdar *et al.*, 2011) **Environment:**

			Information and communication technologies (ICT)
Self-service The time factor	14	Do you think you would have saved more time by face-to-face interaction?	**(Lee and Joshi, 2007)** **Environment:** Online shopping
Self-service The time factor	15	Do you think your problem would have been resolved faster with face-to-face interaction?	
Self-service The time factor Customer support	16	Did you receive efficient online assistance? In what form was there assistance: documents, videos, call centre? Which form of assistance is most effective in your opinion?	
Risk	17	In your view, how significant is the contribution that online shopping makes to fraud and identity theft?	
Satisfying customer needs	18	Do you feel that you saved money by shopping online?	
Customer familiarity	19	How often do you shop online?	
Satisfying customer needs Elimination of barriers Customisation	20	Is there a specific line of products that you prefer purchasing online rather than in a physical store?	
Risk	21	Was the confirmation process satisfying/comforting to you?	
Satisfying customer needs	22	Please comment on your overall online shopping experience.	
Customer trust, loyalty and social influence	23	Are you confident to refer this e-service to others?	(Montoya *et al.,* 2010) **Environment:** Information Technology

APPENDIX B: QUANTITATIVE SURVEY

Consent Form

University Letter Head

DATE:

AN INVESTIGATION INTO THE FACTORS THAT INFLUENCE CUSTOMER ADOPTION OF E-SERVICES

You are being invited to participate in a research study to identify the factors that contribute to customer e-service adoption. This study is being conducted by Kamisha Persad, from the University of South Africa. This study is being carried out as a requirement in the fulfilment of a Master's degree in Information Systems.

The Research Question:
The purpose of this study is to identify and analyze the factors that influence customer e-service adoption, as this knowledge will make a positive contribution to customer services in South Africa.
The aim is to address the following question:
What are the factors that influence the customer's adoption of e-services, and what are their relationship and relative significance towards e-service customer adoption?

The Procedure:
A survey will be conducted. The survey consists of 14 questions. The survey can be done either online or manually.
There are no known risks if you decide to participate in this research study. The information you provide will be used to determine the factors that contribute to online shopping as opposed to face-to-face shopping.

Possible Benefits:
This study will provide a better understanding of customers' needs. This understanding will assist organisations in improving customer services in South Africa.
The move towards the use of technology in all organisations, government included, is increasing rapidly. This study will provide a customer perspective to the use of technology, specifically, online shopping.

Confidentiality
The results of this participation will be confidential, and will not be released in any individually identifiable form without your prior consent. Access to the results of the surveys will be restricted to the principal investigator directly involved with the research project. Pseudonyms will be used to ensure that you cannot be identified in any way. Your identity will not be released to fellow participants.
All associated data collected will be deleted within 3 years of collection.
At the end of this study, the researcher may publish the findings. You will not be identified in any publications or presentations.

Rights

Being a research participant in this study is voluntary. You may choose to withdraw from the study at any time without penalty. You may also refuse to participate at any time without consequence.

Take as long as you like before you make a decision. We will be happy to answer any question(s) you have about this study. If you have further questions about this project or if you have a research-related problem, you may contact the principal investigator: Kamisha Persad, 084 555 5919, kamishapersad@gmail.com.

Research at the University of South Africa that involves human participants is overseen by the School of Computing Ethics Committee. Questions or problems regarding your rights as a participant should be addressed to Chairperson of the Ethics Committee, School of Computing, PO BOX 392, UNISA, 0003

Cost and commitment

There are no costs involved in participation of this research. The survey will take 15-20 minutes to complete.

Participation Statement

This study has been explained to me. I volunteer to take part in this research. I have had an opportunity to ask questions. If I have questions later about the research or my rights as a research participant, I can ask one of the contacts listed above. I understand that I may withdraw from the study or refuse to participate at any time without penalty. I will receive a copy of this consent form.

_____   _____   _____
Participant Signature   Full Name   Date

_____   _____ _____
Principal Investigator's   Full Name   Date
Signature

The Questionnaire

Focus for the remaining research lies in the quantitative survey to identify the significance of the finding of the qualitative questionnaire. Survey questions were structured to evaluate which factors contributed the most/least significantly to e-service adoption/rejection. The questionnaire was structured according to the details in Table 10 below.

Table 10: Categories and descriptions being evaluated

Sample Item	Description
Service need or purpose	Evaluation of whether the e-service has a valid need or purpose. From previous studies, the following aspects influenced this decision: relevant content; customisation; satisfying of customer requirements; risk; and foreign investment. The questions below are structured to evaluate which of the above mentioned aspects has the greatest/least influence on e-service adoption/rejection. Question 1 evaluates the significance of Relevant Content. Question 2 evaluates the significance of Customisation. Question 3 evaluates the significance of satisfying of Customer Requirements. Question 14 evaluates the significance of different forms of Risk. It was discovered, from previous research, that risk impacts all categories or sample items.
Service functional satisfaction	This refers to the evaluation of the functionality that leads to an e-service that is convenient and easy to use. From previous studies, the following aspects influenced this decision: time factor; recovery from system failure; risk; and delivery performance. The questions below are structured to evaluate which of the above mentioned aspects has the greatest/least influence on e-service adoption/rejection. Question 4 evaluates the significance of the time invested in shopping online. Question 5 evaluates the significance of the time taken to recover from a system problem. Question 6 evaluates the significance of the time invested in shopping from a system performance perspective. Question 14 evaluates the significance of different forms of Risk. . It was discovered, from previous research, that risk impacts all categories or sample items.
Customer service satisfaction and perception	Evaluation of the customer's attitude towards the e-service. From previous studies, the following aspects influenced this decision: Elimination of barriers; customer trust, loyalty and social influence; preference to popular e-service; techno-stress; user-friendly system and familiarity; customer support; risk; and spontaneous delight. The questions below are structured to evaluate which of the above mentioned aspects has the greatest/least influence on e-service adoption/rejection. Question 7 evaluates the significance of foreign investment by elimination of geographical boundaries. Question 8 evaluates the significance of preference to shopping online as opposed to a physical store. Question 9 evaluates the significance of Customer trust, loyalty and social influence. Question 10 evaluates the significance of Techno-stress. Question 11 evaluates the significance of User-friendly systems and familiarity. Question 12 evaluates the significance of Customer support. Question 13 evaluates the significance of Spontaneous delight. Question 14 evaluates the significance of different forms of Risk. . It was discovered, from previous research, that risk impacts all categories or sample items.

The aim of this survey is to gather information relating to customers' online shopping experiences. The questions are structured to determine the factors that influence customers' preferences to do online shopping as compared to face-to-face shopping. The information you provide will help service providers to better understand the needs of customers. This will lead to the improvement of customer services.

Please rank the following factors, in Questions 1-14, from **Very Important** (5) to **Not important at all** (1) with respect to each factor.
Each row represents an item that affects the factor in question.
Each column represents the ranking level for the specified item.

1. **Relevant content refers to the information that is available on the e-service, for example, details describing the product and the price of the product. Rate how important the items below are with respect to ensuring relevant content.**

	Very important	4	3	2	Not important at all
I must be able to successfully complete my purchase.	○	○	○	○	○
Using the technology/e-service should not cause any frustration.	○	○	○	○	○
Social proof content should be available in the form of reviews or testimonials from other customers.	○	○	○	○	○
Customer support should be available online in the form of documents, videos and call centre contact details.	○	○	○	○	○
Functions should be customised specifically to meet my needs.	○	○	○	○	○
The risk of using an e-service that is difficult to navigate and understand must be reduced.	○	○	○	○	○

2. **Customisation occurs when a specific requirement is built into the e-service for a customer. For example, a customer requests that the e-service must have a function to compare product prices of a specific store with those of other stores. The service provider makes this comparison function available to the customer. Rate how important the items below are with respect to customisation.**

	Very important	4	3	2	Not important at all
I must experience a sense of safety and	○	○	○	○	○

	Very Important	4	3	2	Not important at all
security in using the e-service repeatedly.					
It should take very little time to complete my purchase online.	○	○	○	○	○
Accurate details should be available about the product that I need.	◉	○	○	○	○
I must be able to successfully complete my purchase.	○	○	○	○	○
I should experience a high level of ease in using and understanding the e-service.	○	○	○	○	○
The risk of losing money by purchasing a product and not receiving it should be reduced.	○	○	○	○	○

3. **Shopping websites aim to satisfy the customers' needs. Rate how important the items below are with respect to ensuring that customer needs are met.**

	Very Important	4	3	2	Not important at all
I should experience a high level of ease in using and understanding the e-service.	◉	○	○	○	○
It should take very little time to complete my purchase online.	○	○	○	○	○
Accurate details should be available about the product that I need.	◉	○	○	○	○
I must be able to purchase an item online from any location, that is, my home or office.	○	○	○	○	○
Functions should be customised specifically to meet my needs.	◉	○	○	○	○
I must experience a sense of safety and security in using the e-service repeatedly.	○	○	○	○	○
Customer support should be available online in the form of documents, videos and call centre contact details.	○	○	○	○	○
The risk of losing social status by using a website that is not efficient or	○	○	○	○	○

trustworthy must be reduced.					
The risk of my personal information and banking details being misused should be reduced.	○	○	○	○	○

4. **How important are the items below with respect to concluding your purchase in the least time possible?**

	Very Important	4	3	2	Not important at all
Functions should be customised specifically to meet my needs.	○	○	○	○	○
The response from the e-service must be fast and efficient.	○	○	○	○	○
An e-service should take very little time to recover from an error.	○	○	○	○	○
I should experience a high level of ease in using and understanding the e-service.	○	○	○	○	○
Accurate details should be available about the product that I need.	◉	○	○	○	○
Customer support should be available online in the form of documents, videos and call centre contact details.	○	○	○	○	○
I must be able to successfully complete my purchase.	○	○	○	○	○
Using the technology/e-service should not cause any frustration.	○	○	○	○	○
The risk of having to perform time-consuming activities online in order to complete a purchase must be reduced.	○	○	○	○	○

5. **Recovery from system failure refers to how quickly a shopping website is restored after an error has occurred. How important are the items below with regard to recovery from system failure?**

	Very Important	4	3	2	Not important

				at all
I should experience a high level of ease in using and understanding the e-service.	○	○	○	○
It should take very little time to complete my purchase online.	○	○	○	○	○
Customer support should be available online in the form of documents, videos and call centre contact details.	○	○	○	○	○
The response from the e-service must be fast and efficient.	○	○	○	○	○
The risk of losing money by purchasing a product and not receiving it should be reduced.	○	○	○	○	○

6. **Delivery performance relates to the technical aspects that allow you to complete your purchase timeously and concerns the speed at which a function executes. How important are the items below with regard to increasing delivery performance?**

	Very Important	4	3	2	Not important at all
I need to trust that the e-service will deliver as expected.	○	○	○	○	○
Using the technology/e-service should not cause any frustration.	○	○	○	○	○
An e-service should take very little time to recover from an error.	◉	○	○	○	○
It should take very little time to complete my purchase online.	○	○	○	○	○
The risk of having to perform time-consuming activities online in order to complete a purchase must be reduced.	○	○	○	○	○

7. **The Internet makes it possible to eliminate geographic barriers, that is, to shop from home in stores internationally. How important are the items below with respect to the elimination of barriers or foreign exchange?**

	Very	4	3	2	Not

	Important				important at all
I must be able to successfully complete my purchase.	○	○	○	○	○
It should take very little time to complete my purchase online.	○	○	○	○	○
The risk of losing money by purchasing a product and not receiving it should be reduced.	○	○	○	○	○

8. **Customer trust, loyalty and social influence lead to customers returning to an e-service. How important are the items below with regard to ensuring customer trust, loyalty and social influence?**

	Very Important	4	3	2	Not important at all
The customer should receive discounts and free gifts.	○	○	○	○	○
Using the technology/e-service should not cause any frustration.	○	○	○	○	○
Accurate details should be available about the product that I need.	○	○	○	○	○
Functions should be customised specifically to meet my needs.	○	○	○	○	○
The response from the e-service must be fast and efficient.	○	○	○	○	○
I prefer to use shopping websites that my friends suggest.	○	○	○	○	○
Customer support should be available online in the form of documents, videos and call centre contact details.	○	○	○	○	○
I should experience a high level of ease in using and understanding the e-service.	○	○	○	○	○
The risk of my personal information and banking details being misused should be reduced.	○	○	○	○	○

9. **Techno-stress refers to the technology-related difficulties that users face when they shop online. How important are the items below with respect to reducing techno-stress?**

	Very Important	4	3	2	Not important at all
I must experience a sense of safety and security in using the e-service repeatedly.	○	○	○	○	○
The response from the e-service must be fast and efficient.	○	○	○	○	○
Functions should be customised specifically to meet my needs.	○	○	○	○	○
It should take very little time to complete my purchase online.	○	○	○	○	○
Accurate details must be available about the product that I need.	○	○	○	○	○
Customer support should be available online in the form of documents, videos and call centre contact details.	○	○	○	○	○
I should experience a high level of ease in using and understanding the e-service.	○	○	○	○	○
I must be able to successfully complete my purchase.	○	○	○	○	○
The risk of my personal information and banking details being misused should be reduced.	○	○	○	○	○
The risk of having to perform time-consuming activities online in order to complete a purchase must be reduced.	○	○	○	○	○

10. A shopping website is called user-friendly when it is easy to use. How important are the items below with respect to a shopping website being considered user-friendly?

	Very Important	4	3	2	Not important at all
It should take very little time to complete my purchase online.	○	○	○	○	○
I must be able to successfully complete my purchase.	○	○	○	○	○
An e-service should take very little time to recover from an error.	○	○	○	○	○
Using the technology/e-service should not cause any frustration.	○	○	○	○	○
Functions should be customised	○	○	○	○	○

specifically to meet my needs.	○	○	○	○	○
Customer support should be available online in the form of documents, videos and call centre contact details.	○	○	○	○	○
I should feel confident in using the e-service repeatedly.	○	○	○	○	○
The risk of losing money by purchasing a product and not receiving it should be reduced.	○	○	○	○	○
The risk of my personal information and banking details being misused should be reduced.	○	○	○	○	○

11. **Customer support refers to help desk centres, online documents and online videos that can assist a user if a problem occurs on the website. How important are the items below with respect to increasing customer support?**

	Very Important	4	3	2	Not important at all
I should experience a high level of ease in using and understanding the e-service.	○	○	○	○	○
I must be able to successfully complete my purchase.	○	○	○	○	○
I must experience a sense of safety and security in using the e-service repeatedly.	○	○	○	○	○
Accurate details should be available about the product that I need.	○	○	○	○	○
An e-service should take very little time to recover from an error.	○	○	○	○	○
It should take very little time to complete my purchase online.	○	○	○	○	○
The risk of losing money by purchasing a product and not receiving it should be reduced.	○	○	○	○	○
The risk of losing social status by using a website that is not efficient or trustworthy must be reduced.	○	○	○	○	○
The risk of my personal information and banking details being misused should be reduced.	○	○	○	○	○

Please rank Question 12 from **Strongly agree** (5) to **Strongly disagree** (1) with respect to the spontaneous delight that a customer experiences when shopping online.

12. Spontaneous delight refers to an unexpected reward, for example, a discount or a gift. Rate your shopping experience according to the statements below regarding spontaneous delight.

	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
I will continue to shop online to receive discounts and rewards.	○	○	○	○	○
I will continue to shop online because I was compensated for the problems that occurred.	○	○	○	○	○
I will not shop online because the risk of losing money and time, as well as the risk of identity theft is too high.	○	○	○	○	○

Please rank Question 13 from **Most feared** (5) to **Least feared** (1) with respect to the various forms of risk when shopping online.

13. Online shopping poses many forms of risk, such as financial, time, performance, social, psychological, and privacy risks. Examples of these risks involve loss of money; loss of time, purchased products that do not work, judgement due to personal preferences, frustration and impatience experienced, and personal details being misused. Which risk item below do you fear the most?

	Most feared	4	3	2	Least feared
I fear losing money by purchasing a product and not receiving it.	○	○	○	○	○
I fear having to perform time-consuming activities online in order to complete a purchase.	○	○	○	○	○
I fear purchasing and receiving a product with faults.	○	○	○	○	○
I fear losing social status by using a website that is not efficient or trustworthy.	○	○	○	○	○
I fear using an e-service that is difficult to navigate and understand	○	○	○	○	○
I fear the misuse of my personal information and banking details.	○	○	○	○	○

Please rank Question 14 from **Strongly agree** (5) to **Strongly disagree** (1) with respect to the elimination of geographical barriers when shopping online.

14. The Internet makes it possible to eliminate geographical barriers, that is, to shop from home in stores internationally. Rate your shopping experience according to the statement below.

	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
Concluding the purchase online should take very little time, compared to my physically entering a store.	○	○	○	○	○

Overall Results of the Quantitative Survey

The result, for the quantitative survey, is below.

1. **Relevant content refers to the information that is available on the e-service, for example, details describing the product and the price of the product. Rate how important the items below are with respect to ensuring relevant content.**

	Very Important	4	3	2	Not important at all
I must be able to successfully complete my purchase. (Satisfying customer needs)	100%				
Using the technology/e-service should not cause any frustration. (Techno-stress)	80%	20%			
Social proof content should be available in the form of reviews or testimonials from other customers. (Customer trust, loyalty and social influence)	60%	25%	15%		
Customer support	100%				

should be available online in the form of documents, videos and call centre contact details. (Customer support)					
Functions should be customised specifically to meet my needs. (Customisation)	70%	15%	15%		
The risk of using an e-service that is difficult to navigate and understand must be reduced. (Psychological Risk)	100%				

2. Customisation occurs when a specific requirement is built into the e-service for a customer. For example, a customer requests that the e-service must have a function to compare product prices of a specific store with those of other stores. The service provider makes this comparison function available to the customer. Rate how important the items below are with respect to customisation.

	Very Important	4	3	2	Not important at all
I must experience a sense of safety and security in using the e-service repeatedly. (Customer trust, loyalty and social influence)	40%	60%			
It should take very little time to	100%				

	Very Important	4	3	2	Not important at all
complete my purchase online. (Time factor)					
Accurate details should be available about the product that I need. (Relevant content)	100%				
I must be able to successfully complete my purchase. (Satisfying customer needs)	100%				
I should experience a high level of ease in using and understanding the e-service. (User-friendly system)	90%	5%	5%		
The risk of losing money by purchasing a product and not receiving it should be reduced. (Financial Risk)	100%				

3. Shopping websites aim to satisfy the customers' needs. Rate how important the items below are with respect to ensuring that customer needs are met.

	Very Important	4	3	2	Not important at all
I should experience a	60%	20%	20%		

high level of ease in using and understanding the e-service. (User-friendly system)					
It should take very little time to complete my purchase online. (Time factor)	80%	20%			
Accurate details should be available about the product that I need. (Relevant content)	100%				
I must be able to purchase an item online from any location, that is, my home or office. (Elimination of barriers)	60%		30%		10%
Functions should be customised specifically to meet my needs. (Customisation)	70%	15%	15%		
I must experience a sense of safety and security in using the e-service repeatedly. (Customer trust, loyalty and social	100%				

influence)				
Customer support should be available online in the form of documents, videos and call centre contact details. **(Customer support)**	**100%**			
The risk of losing social status by using a website that is not efficient or trustworthy must be reduced. (Social Risk)	**60%**	**30%**		**10%**
The risk of my personal information and banking details being misused should be reduced. **(Privacy Risk)**	**100%**			

4. **How important are the items below with respect to concluding your purchase in the least time possible?**

	Very Important	4	3	2	Not important at all
Functions should be customised specifically to meet my needs. **(Customisation)**	**70%**	**15%**	**15%**		
The response from the e-service must be fast and efficient.	**90%**	**10%**			

(Delivery Performance)					
An e-service should take very little time to recover from an error. **(Recovery from system failure)**	80%	10%	10%		
I should experience a high level of ease in using and understanding the e-service. **(User-friendly systems)**	90%	10%			
Accurate details should be available about the product that I need. **(Relevant content)**	100%				
Customer support should be available online in the form of documents, videos and call centre contact details. **(Customer support)**	75%	15%	15%		
I must be able to successfully complete my purchase. **(Satisfying customer needs)**	100%				
Using the technology/e-	100%				

service should not cause any frustration. (Techno-stress)					
The risk of having to perform time-consuming activities online in order to complete a purchase must be reduced. (Time Risk)	100%				

5. **Recovery from system failure refers to how quickly a shopping website is restored after an error has occurred. How important are the items below with regard to recovery from system failure?**

	Very Important	4	3	2	Not important at all
I should experience a high level of ease in using and understanding the e-service. (User friendly system)	100%				
It should take very little time to complete my purchase online. (Time factor)	100%				
Customer support should be available online in the form of documents, videos and call centre	80%	10%	10%		

	Very Important	4	3	2	Not important at all
contact details. **(Customer Support)**					
The response from the e-service must be fast and efficient. **(Delivery Performance)**	100%				
The risk of losing money by purchasing a product and not receiving it should be reduced. **(Financial Risk)**	100%				

6. **Delivery performance relates to the technical aspects that allow you to complete your purchase timeously and concerns the speed at which a function executes. How important are the items below with regard to increasing delivery performance?**

	Very Important	4	3	2	Not important at all
I need to trust that the e-service will deliver as expected. **(Customer, trust, loyalty and social influence)**	100%				
Using the technology/e-service should not cause any frustration. **(Techno-stress)**	85%	10%	5%		
An e-service	80%	10%	10%		

	Very Important	4	3	2	Not important at all
should take very little time to recover from an error. **(Recovery from system failure)**					
It should take very little time to complete my purchase online. **(Time factor)**	100%				
The risk of having to perform time-consuming activities online in order to complete a purchase must be reduced. **(Time Risk)**	100%				

7. **The Internet makes it possible to eliminate geographic barriers, that is, to shop from home in stores internationally. How important are the items below with respect to the elimination of barriers or foreign exchange?**

	Very Important	4	3	2	Not important at all
I must be able to successfully complete my purchase. **(Satisfying customer needs)**	100%				
It should take very little time to complete my purchase online. **(Time**	100%				

factor)					
The risk of losing money by purchasing a product and not receiving it should be reduced. (Financial Risk)	100%				

8. Customer trust, loyalty and social influence lead to customers returning to an e-service. How important are the items below with regard to ensuring customer trust, loyalty and social influence?

	Very Important	4	3	2	Not important at all
The customer should receive discounts and free gifts. (Spontaneous delight)	100%				
Using the technology/e-service should not cause any frustration. (Techno-stress)	90%	10%			
Accurate details should be available about the product that I need. (Relevant content)	100%				
Functions should be customised specifically to meet my needs. (Customisation)	60		30%		10%
The response from the e-service must be	100%				

fast and efficient. (Delivery performance)					
I prefer to use shopping websites that my friends suggest. (Preference to popular e-service)	50%	10%	10%	20%	10%
Customer support should be available online in the form of documents, videos and call centre contact details. (Customer support)	50%	30%	20%		
I should experience a high level of ease in using and understanding the e-service. (User-friendly system)	100%				
The risk of my personal information and banking details being misused should be reduced. (Privacy risk)	100%				

9. **Techno-stress refers to the technology-related difficulties that users face when they shop online. How important are the items below with respect to reducing techno-stress?**

Very Important	4	3	2	Not important

				at all
I must experience a sense of safety and security in using the e-service repeatedly. **(Customer trust, loyalty and social influence)**	**100%**			
The response from the e-service must be fast and efficient. **(Delivery performance)**	**100%**			
Functions should be customised specifically to meet my needs. **(Customisation)**	**80%**	**20%**		
It should take very little time to complete my purchase online. **(Time factor)**	**100%**			
Accurate details must be available about the product that I need. **(Relevant content)**	**100%**			
Customer support should be available online in the form of documents, videos and call	**75%**	**15%**		**10%**

	Very Important	4	3	2	Not important at all
centre contact details. (Customer support)					
I should experience a high level of ease in using and understanding the e-service. (User-friendly system)	100%				
I must be able to successfully complete my purchase. (Satisfying customer needs)	100%				
The risk of my personal information and banking details being misused should be reduced. (Privacy risk)	100%				
The risk of having to perform time-consuming activities online in order to complete a purchase must be reduced. (Time risk)	100%				

10. A shopping website is called user-friendly when it is easy to use. How important are the items below with respect to a shopping website being considered user-friendly?

	Very Important	4	3	2	Not important at all
It should take	100%				

very little time to complete my purchase online. (Time factor)				
I must be able to successfully complete my purchase. (Satisfying customer needs)	100%			
An e-service should take very little time to recover from an error. (Recovery from system failure)	100%			
Using the technology/e-service should not cause any frustration. (Techno-stress)	100%			
Functions should be customised specifically to meet my needs. (Customisation)	75%	25%		
Customer support should be available online in the form of documents, videos and call centre contact details. (Customer support)	70%	30%		
I should feel confident in using the e-	100%			

	Very Important	4	3	2	Not important at all
service repeatedly. **(Customer trust, loyalty and social influence)**					
The risk of losing money by purchasing a product and not receiving it should be reduced. **(Financial risk)**	**100%**				
The risk of my personal information and banking details being misused should be reduced. **(Privacy Risk)**	**100%**				

11. Customer support refers to help desk centres, online documents and online videos that can assist a user if a problem occurs on the website. How important are the items below with respect to increasing customer support?

	Very Important	4	3	2	Not important at all
I should experience a high level of ease in using and understanding the e-service. **(User-friendly system)**	**100%**				
I must be able to successfully complete my purchase. **(Satisfying customer needs)**	**100%**				

I must experience a sense of safety and security in using the e-service repeatedly. (Customer trust, loyalty and social influence)	100%				
Accurate details should be available about the product that I need. (Relevant content)	100%				
An e-service should take very little time to recover from an error. (Recovery from system failure)	100%				
It should take very little time to complete my purchase online. (Time factor)	100%				
The risk of losing money by purchasing a product and not receiving it should be reduced. (Financial Risk)	100%				

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
The risk of losing social status by using a website that is not efficient or trustworthy must be reduced. **(Social risk)**	70%		20%		10%
The risk of my personal information and banking details being misused should be reduced. **(Privacy Risk)**	100%				

Please rank Question 12 from **Strongly agree** (5) to **Strongly disagree** (1) with respect to the spontaneous delight that a customer experiences when shopping online.

12. Spontaneous delight refers to an unexpected reward, for example, a discount or a gift. Rate your shopping experience according to the statements below regarding spontaneous delight.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I will continue to shop online to receive discounts and rewards. **(Spontaneous delight)**	100%				
I will continue to shop online because I was compensated for the problems that occurred. **(Spontaneous delight)**	70%		30%		
I will not shop			30%		70%

online because the risk of losing money and time, as well as the risk of identity theft is too high. (Overall Risk)					

Please rank Question 13 from **Most feared** (5) to **Least feared** (1) with respect to the various forms of risk when shopping online.

13. **Online shopping poses many forms of risk, such as financial, time, performance, social, psychological, and privacy risks. Examples of these risks involve loss of money; loss of time, purchased products that do not work, judgement due to personal preferences, frustration and impatience experienced, and personal details being misused. Which risk item below do you fear the most?**

	Most Feared	4	3	2	Least Feared
I fear losing money by purchasing a product and not receiving it. (Financial risk)	100%				
I fear having to perform time-consuming activities online in order to complete a purchase. (Time risk)	70%	30%			
I fear purchasing and receiving a product with faults. (Performance risk)	100%				
I fear losing social status by using a	60%		30%		10%

website that is not efficient or trustworthy. (Social risk)				
I fear using an e-service that is difficult to navigate and understand. (Psychological risk)	80%	10%	10%	
I fear the misuse of my personal information and banking details. (Privacy risk)	100%			

Please rank Question 14 from **Strongly agree** (5) to **Strongly disagree** (1) with respect to the elimination of geographical barriers when shopping online.

14. The Internet makes it possible to eliminate geographical barriers, that is, to shop from home in stores internationally. Rate your shopping experience according to the statement below.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Concluding the purchase online should take very little time, compared to my physically entering a store. (Elimination of barriers)	80%	10%	5%		5%

The article below was submitted to the South African Computer Journal for publication in 2015. The article is still in the review process.

The factors that influence Customer E-services Adoption

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ABSTRACT

The aim of this paper is to provide an overview of the investigation into customer e-service adoption. The investigation will include a qualitative survey and observation of participants using e-services. The results will be used to determine the factors that influence the use of e-services. E-services are used to attract customers and persuade them to transact online and the customer's perception of an e-service contributes greatly to e-service adoption or rejection. This paper describes the factors that influence customer perception towards e-services. Relationships between the identified factors were also considered in order to build a conceptual framework. Grounded Theory was used for its flexibility, repetitive comparisons of data, and emergence of data.

CATEGORIES AND SUBJECT DESCRIPTORS

H.5.2 [**User Interfaces**]
H.5.4 [**Hypertext/Hypermedia**]

KEYWORDS

Customer e-services adoption

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1. INTRODUCTION

Customer e-service adoption occurs when the e-service concerned satisfies the customer's requirements and persuades the customer to return to the e-service (1). To foster customer e-service adoption, the following factors must be considered: delivery performance; time saving; website functional properties; Internet familiarity; money saved; risk; customer support; and product variety (2). The factors that inhibit customer e-services adoption are: techno-stress; system failures; an increase in perceived risks; and low online security to protect confidential data (3). It is essential for organisations and managers to understand – from a customer's perspective – the factors that inhibit and foster the adoption of e-services. The aim of this research is to develop a conceptual framework to describe the correlation relationship between the factors that influence customer e-service adoption. The study will allow organisations to understand their customers' needs and thus improve customer e-service.

According to Singh (2010) (4), customers expect and demand flexibility and security in service encounters. Customers are drawn towards e-services due to the convenience of, for example, the booking of flights, shopping, and banking online (3). Online self-service eliminates geographic barriers (5) and allows customers the convenience of shopping anywhere in the world via an e-service.

Customers want convenience, product variety, affordable products, high-performing and user-friendly systems, relevant information, and minimised risk from e-services (2). Perceived risks, in other words where customers are reluctant to complete online transactions due to the fear of online risks, hinder the use of e-services. Risks are categorised as: performance risk, financial risk, time risk, psychological risk, social risk and privacy risk (3). The lack of security implemented online is a factor that greatly concerns customers (6), and e-service adoption by customers is greater where self-service offers both convenience and high security. The customer's perception of online risks plays a vital role in e-service adoption.

Customers experience techno-stress when technology is complex, difficult to use, and constantly changing (7). Tarafdar (2011) investigated the impact of emerging information and communication technology (ICT) on end-user satisfaction (8). A techno-stress creator, such as information overload, decreases customer e-service adoption. Another techno-stress creator in recent times has been increasing numbers of system failures (9). A techno-stress inhibitor, on the other hand, is the assurance that online technical support is available.

To be successful, service providers must identify the requirements of their customers (10). In this way, the service provider creates a positive impression with the customer. The use of the Internet and self-service technologies is increasing in South Africa and across the world (11). Hence, customers are more knowledgeable with regard to e-services and this makes them more demanding in terms of receiving a high quality of service.

The motivation for this study lies in the increased use of the Internet. Shoppers today demand convenience, the need to save time and money, and to avoid any form of risk. This study does not only benefit online shoppers, it also helps organisations to better understand customers. A good understanding of customers' needs leads to improved customer services.

This article presents the results of a Grounded Theory study undertaken to identify the factors that influence e-service adoption. The aim was to build a conceptual framework to identify the relationships between the factors that influence e-service adoption. The rest of the paper is structured as follows: Section 2 presents related work on the factors that influence e-service adoption; the research

methodology is explicated in Section 3. Section 4 describes the techniques used to collect data. Section 5 provides an overview of the analysis of the data collected. A discussion of the analysis is in Chapter 6. The proposed framework is discussed in Section 7. Chapter 8 reflates to the significance of the conceptual framework and Section 9 concludes with future research directions.

2. RELATED WORK

The customer's perception of the usefulness of an online service increases customer adoption of the e- service (12). According to Kandampully (2002) (13), organisations compete on the basis of services rendered, and not on the basis of physical products delivered. However, Lee and Joshi (2007) (2) illustrated a different view to e-service and argue that face-to-face interaction is more effective in resolving customer dissatisfaction. Hence it is imperative for organisations to understand the factors that influence e-service adoption.

Holton's (2008) study describes Grounded Theory as allowing flexibility in the research process, ensuring high quality in the analysis of data and thoroughness (14). The quality of Grounded Theory methodology is assessed by the following criteria: fit, work, relevance and modifiability. Fit refers to the emergence of conceptual codes and categories from the data. Work refers to the ability of the Grounded Theory to explain and interpret behaviour in a substantive area and to predict future behaviour.

Relevance refers to the theory's focus on a core concern or process that emerges in a substantive area. Modifiability refers to the theory's ability to be continually changed as new data emerge to produce new categories and properties.

These properties, of Grounded Theory, guide the research towards quality and structure.

2.1 Delivery performance and the time factor

The infrastructure setup is linked directly to the speed of the e-service, that is, the faster the network service, the faster the performance of the e-service (9). Many e-services are rejected by customers due to poor system design, which leads to very slow system response (15). E-services that have a high system performance (i.e. that save time) are more likely to be used by the customer. Time can be saved in the following ways: by providing relevant content to the customer; by ensuring that the content is presented well and is easy to navigate; by ensuring that the customer's needs are met, and by providing a high performing infrastructure for the e-service (16). An e-service that saves time invariably increases the likelihood that the customer will adopt the use of such a service.

2.2 Elimination of barriers

Geography and location are no longer restricting factors in doing business and attracting new customers. The fact that customers are able to access a service online from anywhere in the world does pose security risks and customers fear that their personal information will be misused (17). Organisations therefore have to invest in ensuring high security in respect of transactions conducted over the Internet. Trust and loyalty, in respect to receiving the products purchased, is also a concern. Organisations must ensure that products are delivered in good condition and timeously.

2.3 Trust, loyalty and social influence

If the network speed is excellent and does not frustrate the user, if the relevant information is easily available to customers, if online help is available, if call centre support staff are well trained, and if the system is user friendly, customers develop an increasing amount of trust in a service

provider's technology (18). Customer trust will increase customer loyalty, which can be expected to result in future profit gain. Customer loyalty can also be ensured by customising the service offering and guaranteeing quick recovery from system failure. Furthermore, the service must give the customer "spontaneous delight" (19), in other words it must offer a service or reward that (pleasantly) surprises the customer.

Customer loyalty and trust are also increased by social influence (20). This occurs when satisfied customers refer the e-service to other customers. Social influence reduces the cost of maintaining customer loyalty, and an increase in customer loyalty usually leads to an increase in customer e-service adoption.

2.5 Customer preference and customisation

Customisation of e-services is definitely an advantage in the field of technology (21). An example of a customised e-service is Streamline – an online grocery store (19). The store has created a competitive advantage by identifying every customer's preferences and buying patterns, determining when the customer needs another order/delivery (based on the last purchase date) and generally adding value for customers. Through being aware of its customers' preferences, this e-service increases customer satisfaction by rendering the desired service. Although it is costly to maintain customisations as compared to merely offering generic functionalities (19), the customers' needs are met (22) and these satisfied customers return to do more business.

2.6. Techno-stress

Constant changes and complex customisations increase techno-stress (7). Techno-stress creators are those factors that introduce stress into an information technology environment (23). For example, communication overload and information overload are techno-stress creators where users are faced with too many electronic

services. Keeping track of the latest technology trends and coping with the complexities of newer electronic devices are also causes of such stress. Techno-stress inhibitors, on the other hand, are ways to prevent techno-stress. For example, technical support and help desks are identified as techno-stress inhibitors as they provide users with relevant information that reduces techno-stress and facilitates the use of e-services (24).

2.7. Recovery from system failure and online customer support

The technology infusion matrix focuses on the following areas (25):

1. Response to customer needs and requests (customisation and flexibility): It is important to understand the customer's needs and preferences.

2. Response to service delivery and system failures: The time taken to assist customers during system failures affects an organisation's reputation and subsequent customer loyalty.

3. Unprompted or unsolicited actions (spontaneous delight). This involves providing customers with a pleasing experience that they did not expect.

The following tools that are used to assist customers increase the likelihood of e-service adoption: Video response systems (9, 25); online documentation (including system screenshots) (26); system prompts that provide the user with error descriptions and directions to resolve problems that arise (26); and helpdesk and online support contact details (2).

2.8. Usability factors

Two factors that enhance the ease of use of e-services are the customer's level of familiarity with technology and the relevant content provided (27), (28). Bachelet and Cansfield (2001) made the following statements which led to an increase in customer e-service adoption (28). Experience of the e-service reduces both the time taken to make a purchase and

techno-stress. Providing the customer with relevant information also reduces techno-stress as the customer is not overloaded with unnecessary information that may cause irritation and difficulty in deciding on a product/purchase. Customers are likely to return to user-friendly e-services. This results in an increase in customer e-service adoption

2.9. Satisfying customer requirements

Total quality management (TQM) is a method used to ensure that customers' needs are met first time, every time. Having to repeat the same functionality several times increases customer frustrations and decreases profitability (29). TQM focuses on the customer by regularly monitoring customer service satisfaction and offering management involvement to ensure that the organisation understands the customer (29). Kandampully's (2002) research also concluded that customer satisfaction must be monitored regularly to identify customer trends and experiences for future strategic planning (13).

Similar to the TQM method, Kano's Model of customer satisfaction also places emphasis on the customer's requirements (30). Kano's Model was built on the following three factors that influence customer satisfaction:

1. 'Must-be' requirements (refer to the basic requirements of a service or product)

2. One-dimensional requirements (refer to the relationship between customer satisfaction and level of fulfilment. The relationship is proportional, that is, the higher the level of fulfilment, the higher the customer satisfaction)

3. Attractive requirements (refer to services that the customer does not expect. but that are available – for example, airlines that offer in-flight telephone services)

2.10. Security and perceived risks

Security is a major concern, as customers are uneasy about entering personal information online. Encrypted data, firewalls and password protection policies may be used to ensure maximum security of personal data (12). Perceived risk is defined as uncertainty about the possible negative consequences of using a product or service (31). Consumers are more comfortable using face-to-face services because they feel that there is less risk (3). This decreases the competitive advantage of e-services and hampers customers' adoption of such services (3). Featherman and Wells (2010) discuss the intangibility of e-services (32). Perceived risk is increased where customers cannot visualise or define the e-service. Uncertainty of adopting the e-service is increased where customers feel that the system is abstract. According to Featherman and Wells (2010) perceived risk involves the following facets (32):

1. Performance risk – The risk of the product malfunctioning

2. Financial risk – The risk of losing money

3. Time risk – The risk of a transaction taking too long to complete

4. Psychological risk – The risk of customer frustration due to using an e-service

5. Social risk – Loss of social status by adopting a particular e-service

6. Privacy risk – Loss of control over personal information

7. Overall risk – A measurement of perceived risk when all the above risks are evaluated

The categories discussed above play a role in understanding customer needs and strengthening customer relationships. Further research, on the factors that influence customer e-service adoption, will be beneficial to any organisation as customer satisfaction is an indicator of the chances of survival of an organisation. Hence, it is imperative to study the customer's perception of e-services to discover whether it has an impact on customer satisfaction

The South Africa Customer Satisfaction Index is a national rating of the quality of services and products available in South Africa. This is directly linked to customer preferences. The study of the factors that impact customer satisfaction, in online shopping, can be used to increase the rating of the South Africa Customer Satisfaction Index. This will attract foreign investment.

The acceptance of e-services in South Africa has a dependency on the adoption of information and communication technology (ICT) (33). Exposure to international markets has encouraged ICT adoption. This eliminates the geographical barriers for online shopping. This contributes to the economic growth in South Africa.

Given that acceptable ICT is in place, South Africans lean more towards the convenience of using e-services (34). This study will aim to increase customer satisfaction in South Africa by identifying the factors that impact customer e-service adoption.

3. RESEARCH METHODOLOGY

The aim of this study is to identify and analyse the factors that influence customer e-service adoption, as this knowledge will make a positive contribution to customer services in South Africa. This study will use Grounded Theory methodology to achieve its main objective – the development of a conceptual framework to show the correlation relationship among, and relative significance of, the factors that influence customer e-service adoption.

3.1 RESEARCH APPROACH: Grounded Theory

Grounded Theory is systematically obtained through social research and is grounded in data (35). The basic idea of this methodology is to let the theory emerge from the data collection. It involves building a theory rather than testing a theory

Grounded Theory has become a popular choice of research methodology in the information systems field (36). Matavire and Brown identified the main principles of Grounded Theory as emergence, constant comparative analysis and theoretical sampling (35). Grounded Theory methodology was chosen in this study for its comparative process that identifies relationships between categories, and for the fact that it is known to be a flexible method that allows researchers to be innovative (37). These properties make it a suitable choice for gaining a fresh perspective on the factors that significantly affect customer e-service adoption. Grounded Theory techniques will be used to build the theory that will show the customers' view of using e-services. Grounded Theory involves the collection of data to build a theory, rather than the introduction of a hypothesis to test a theory (38). According to Egan (2002) (37), Grounded Theory research comprises the following steps: initiation of research; data selection; data collection; data analysis; and conclusion of the research. Initiation of research involves the choosing of a topic. Data selection involves identifying or locating sources of data that relate to the research objectives. Data collection involves carrying out interviews, observing participants, and completing surveys. Data analysis involves the categorisation and comparison of the data collected. Conclusion of the research involves providing the results uncovered during the process of the Grounded Theory research conducted (37).

Glaser and Straus (1978) both agree that Grounded Theory is beneficial to research in any area (38). This methodology offers the following benefits:
1. Theory derived through data is more likely to resemble reality.
2. The discovery of multiple options for a single phenomenon promotes creative thinking.
3. High interaction with participants leads to more accurate results.

Using this methodology will ensure high interaction with customers and service providers. The emerging theory will contain categories and concepts that focus on this dependency.

Memos and integrated diagrams will assist in writing up the emerging theory, which is flexible in terms of handling data (39). Grounded Theory is useful in gaining a fresh perspective on an area that has been researched previously (40). The emergent nature of the data also makes the data traceable (36). Grounded Theory is known as the "delayed action" phenomenon (38) as findings may emerge after the data has been under analysis for a long while.

3.1.1 Philosophical assumptions

There are three basic approaches to Grounded Theory research: the Glaserian approach (41), the evolved Straussian approach (39), and the constructivist approach (42). Glaser described the essential methods of Grounded Theory as follows: initial coding and categorisation of data, concurrent data generation or collection and analysis, writing memos, theoretical sampling, constant comparative analysis using inductive and abductive logic, theoretical sensitivity, intermediate coding, selecting a core category, theoretical saturation and theoretical integration (43). In the study of the Strauss-Glaser method by Walker and Myrick, many differences were found between Strauss's approach and Glaser's approach (44):

1. Paradigmatic differences: The Glaserian perspective favours post-positivism, whereas Strauss focussed on the relationship between the researcher and the research participant. This interactive nature between the researcher and the research participant led to a constructivist view. Post-positives believe that the researcher's background and knowledge can be useful in determining the research

results. Constructivists believe that the use of an individual's experience can alter the research results which may lead to inaccuracy.

2. Formulation of research questions: Glaser's approach did not require starting the research with questions. Strauss preferred to enter the field of research with questions.

3. Use of literature: In both approaches, literature plays an important role in discovering new theory. Glaser objected to using literature at the beginning of the research. He believed that the emerging data would be manipulated by the researcher's preconceptions if literature was used at the beginning of the research. Strauss believed that the use of literature could be implemented at any phase in the research.

4. Sampling procedures: Both approaches use theoretical sampling. Glaser commented on Strauss's sampling method, stating that Straus used "model sampling" which did not allow data to emerge, which is the essence of Grounded Theory. "Model sampling" forces the data in an already perceived direction rather than allowing the data to emerge.

5. Analysis procedures: Both approaches focus on coding and constant comparative methods. Glaser believed that selective coding should be done only once the core categories emerge. Strauss, on the other hand, argued that this should be done at the beginning and should aid in identifying the core categories.

6. Procedures for validating the resulting theory: Glaser's main focus was on the following factors: fit; relevance; work; and modifiability. Strauss's focus was more varied, as follows: validity; reliability; credibility; plausibility and value of the theory; adequacy of the research process; and the empirical grounding of the research process.

It may be concluded from the above that Glaser believes in 'true reality' while Strauss preferred 'constructive reality'.

This research favours the constructivist approach. This approach focuses on first-hand knowledge of empirical worlds, takes a middle ground between post modernisation and positivism, and offers methods to improve qualitative research (42). Positivism refers to a paradigm of enquiry that holds reality – that is, a true state of affairs and one that can be determined by research (45). In this case, the researched object is independent from the researcher. The theoretical focus of positivism is control and prediction. The post-positivist paradigm of inquiry is one in which there is an assumed reality worth discovering as a detached objective observer. Psychology, science, and society are constantly changing in behaviour. Research methods must cater for these changes. The aim of post modernisation is to address complex, interrelated and interactive global situations (46).

Constructivists see the nature of social reality as constructed, interpreted, and experienced by people interacting with each other. Researchers focus on real world situations. They tend to be non-manipulative, unobtrusive, and non-controlling (47). Positivist and constructivist researchers agree that human behaviour may be patterned and regular. Constructivists see these patterns being created as people interact with each other. Positivists use validity, reliability, objectivity, precision, and generalizability to determine the rigour of quantitative research. Constructivists use trustworthiness and credibility to determine the rigour of the study. Methodologies differ in terms of judging rigour. However, the general rule is to ensure that investigations are based on a sound rationale that justifies the use of the preferred methodology and the processes involved in data collection and analysis. Research conducted by constructivists usually includes qualitative methodology. A deeper understanding is gained by observing the participants' behaviour and social interaction (47).

Constructivism involves assuming the relativism of multiple realities, recognises the mutual creation of knowledge by the viewer and the viewed, and aims towards interpretive understanding of the study (48). This approach allows participants to be studied in their natural settings. Constructivists believe that individuals interpret information on their own, integrating what is learned from others. This means that people learn together while viewing the habits of other people. This study places focus on the customer's perception, that is, how the customer interprets the use of e-services in the light of knowledge gained through online shopping.

Constructivism refers to individuals constructing knowledge and ideas based on their own experiences. A constructivist approach is feasible for the following reasons: data is allowed to emerge rather than forced; the inductive approach will allow a fresh perspective on the study, and the coding methods and repetitive comparison lead to more accurate results.

3.1.2 Development of the conceptual model

A conceptual framework represents the links between various concepts (49). The factors in Table 1 were identified from the researched theory. These factors were the focus areas in previous studies on e-services and online shopping. The factors will be further analysed to determine the relative significance of each factor with regard to the customer's acceptance of e-services.

. The categories above will feed into the research model that will be used to determine the correlation and significance of the factors that affect customer adoption. The aim is to develop a conceptual model that will determine the interrelationships between the factors that influence customer adoption of e-services.

Table 1: Factors that constitute the theoretical framework

CATEGORY	COMMENTS
Delivery performance	How does the speed of an online system affect customers' perception of the overall service? (2)
Elimination of barriers	Does this create convenience or does it reduce local business? Do customers prefer to shop online and are they satisfied? (5)
Customer trust, loyalty and social influence	What are the reasons that a customer will return to a particular e-service? What factors will encourage customers to share their online shopping experiences? (20)
Customisation	What steps should be taken to ensure that customers adopt customised e-services? (19, 21)
Techno-stress	What impact does techno-stress have on a customer's perception of e-services? (8)
Recovery from system failure	How do customers respond to this factor? (9)
Time factor	Do all e-services satisfy this requirement and how can this be achieved? (50)
User-friendly systems and customer familiarity	What standard requirements must e-services meet in order to satisfy customers with varying skills and varying knowledge of e-services? (2)
Relevant content	How does relevance affect the customer's perception of an e-service? (2)
Customer support	Are online documents sufficient or are call centres the preferred method of assistance for customers? (2)
Satisfying of customer requirements	Did the customer achieve the intended result from the e-service, for example, was the required product available, was time saved, was money saved? (51)
Risk	How does security risk and perceived risk (performance, financial, time psychological, finance, social, privacy) influence customer e-services adoption (3, 6)

3.1.3 Grounded Theory – **The process**

The Grounded Theory research approach is suitable for the development of theoretical frameworks as the methodology possesses the following characteristics (37): responsiveness aimed at conceptual values and not just the values of the investigator; the ability to fit the situation being researched; and the formation of rigorous theory that emerges from a thorough analysis of contextual data (52). Grounded Theory, in interpretative information systems research, is described as traceable to the data and as "fluid",

which means that the emphasis is on the process and the temporal nature of the theory (36). In comparison to ethnography and phenomenology, Grounded Theory has been found to have the most promising possibilities for developing a conceptual framework (53).Theoretical sampling is sampling that is directed by theory. The emerging theory dictates the properties of the sample, for example, the number of participants.

3.1.4 Data ordering and analysis

Data ordering involves organising the data in a chronological order according to date and time. This will define the sequence of events which will lead to the identification of categories and concepts (54). Grounded Theory research can produce large volumes of data in the form of recorded interviews, field work, memos and jotted notes (55).

3.1.4.1 Theoretical sensitivity

Theoretical sensitivity is to have insight and the ability to give meaning to data (56). Literature and professional experience are sources of theoretical sensitivity (56). There are two important characteristics for the development of theoretical sensitivity, as discussed by Glaser and Holton (2002) (56). These are:

1. The researcher must have the personal and temperamental bent to maintain analytic distance and tolerate confusion and regression while remaining open and trusting to preconscious processing and to conceptual emergence.
2. The researcher must have the ability to conceptualise and organise, make abstract connections, visualise and think multivariately.

The following aspects will ensure theoretical sensitivity (57): determine what the data is a study of; determine the categories; determine the main concerns of participants; and determine the resolutions for the participants' concerns.

3.1.4.2 Open coding

The aim of this step is to identify concepts and categories from the data collected. This technique was used to identify the core categories based on interviews and surveys pertaining to the online experience of a customer. Patterns in the data will arise. New categories will emerge and new incidents will fit into existing categories.

3.1.4.3 Axial coding

The aim of this process is to associate categories with sub-categories. The paradigm consists of conditions, context, action/interactional strategies and consequences. The researcher will use axial coding to identify the commonalities, differences and trends that exist within the feedback received from the online shoppers (58).

3.1.4.4 Selective coding

In this step, core or central categories will be identified. This will ensure that our focus remains on relative categories. The previous two steps [open and axial coding] will provide the researcher with a more focussed view of the data and the direction for the research. Only data that supports the research questions should be studied (39).

3.1.4.5 Comparative analysis

This process involves comparing categories and finding relationships between them. The main objective of the study is to draw relationships between the factors. This will give common meaning to various data categories. According to Matavire (2008) (35), the following can be accomplished by using this technique: ensuring accuracy of data; establishing limits of empirical generalisation; specifying a concept; verifying theory; and building theory.

Glaser and Holton (2004) described the process as follows (56). Incidents are compared to incidents to discover uniformity and varying conditions. These become concepts. The concepts are then compared to more incidents to generate new theoretical properties of the concepts. The purpose is theoretical elaboration, saturation and verification of concepts, densification of concepts by developing their properties and generation of further concepts. Thereafter, concepts are compared to concepts.

3.1.4.6 Memo writing

The aim of writing memos is to develop ideas based on the categories (57). Memo construction differs from writing detailed descriptions. Memos uncover properties of the categories by drawing and filing of analytical properties of the descriptive data. Memos assist in adding order to the constant comparisons of data, incidents, and categories and, in addition, direct the theoretical sampling and identify gaps that may exist in the data analysis.

3.2 Demonstration of validity and reliability

The researcher will follow the steps of open coding, axial coding, selective coding and comparative analysis to ensure validity. For example, construct validity was ensured by using open coding, in other words by clearly identifying the factors that arise from the online shoppers' experience. Internal validity can be linked to axial coding where relationships and links are identified based on the feedback received from online shoppers. External validity seeks to find the domain to which the findings can be generalised and can be ensured by using random participants at random times. This will create different situations in which to repeat the same test cases (59).

Reliability can also be ensured by using the chosen methodology. The researcher will use comparative analysis to ensure validity and reliability. Tests will be repeated at varying times with random participants. The results from these tests will be compared and analysed. Integrating more than one method will ensure reliability and validity and will result in more reliable designs. Validation is increased by the use

of mixed methods by being able to identify trends. In this study, both semi-structured and structured interviewing are applied, coupled with observation.

3.3 SAMPLING METHOD

Participants from the Group IT division of an organisation, within Gauteng, were surveyed. Participants were selected according to: age; employment in an IT profession; and their level of e-Service exposure. Group IT is responsible for ensuring effective delivery of IT systems and processes to support the organisation's objectives. From the safety of our people, to the experience of our customers, to the efficiency of our power stations, Group IT plays a vital role in achieving the organisation's aspiration of becoming a high performance organisation

These categories were intended give an indication of the experience the participant has with online services, the participants' familiarity with technology, and how accessible e-services are to the participants. There were 70 participants in total and random sampling was used.

4. DATA COLLECTION

The following methods were used to collect data:

1. Semi-structured interviews (Appendix A): These questions provided a high-level view of the users' experiences. The questions were derived by considering the factors in the literature review.
2. Observation
1. Qualitative surveys which were distributed via e-mail (Appendix B). These questions aimed to provide an in-depth understanding of the users' experiences. The questions were derived from online shopping studies by Collier (2006) (60); Park and Kim (2003) (61); Tarafdar (2011) (8) and Lee and Joshi (2007) (2). The questions were modified to

relate to the study of customer e-service adoption.

Participants were classified into groups depending on age, experience using technology and available access to e-services. The aim was to encourage interaction and discussion based on commonality amongst the participants. This allowed new data to emerge as shown in Table 2 and Figure 1.

Table 2: Participant Groupings

Groups	Description	Method
Group 1: Age: 21-25 years	IT professionals	1 and 3
Group 2: Age: 21-25 years	Novice Users	1 and 3
Group 3: Age: 21-25 years	IT professionals	1 and 2
Group 4: Age: 21-25 years	Novice Users	1 and 2
Group 5: Age: 26-50 years	IT professionals,	1 and 2
Group 6: Age: 26-50 years	Novice Users.	1 and 2
Group 7: 26-50 years	IT Professionals.	1 and 3
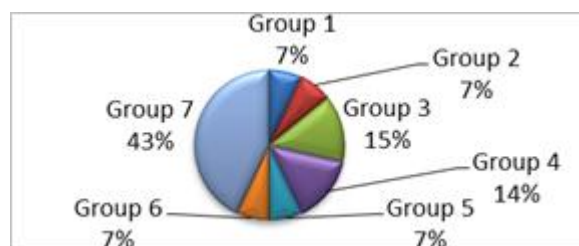
Figure 3: Classification of participants

The data was collected using a mixed method approach to ensure reliability and validity. The classification of participants influenced the research significantly. For example, the valuation of the data showed the following:

1. A larger percentage of participants between the ages of 21 and 25 preferred e-services.
2. The fear of risk was evident across the research population showing that age, level of IT experience and easy access to e-services was an in dependent factor.
3. More techno-stress was experienced in the age groups of 26-50 where

participants had little technology experience.

The e-services used in the study were according to the users' preferences. The interview questions were aimed at understanding the customers' perception of the use of e-services. In this study the interview consisted of structured, open-ended questions and observation. The observation involved viewing the customer navigating an online purchase. The observations focussed on the following:

1. The sequence of actions
2. Identifying the ease and comfort level of navigation
3. The preferences and products purchased
4. The challenges experienced and the resolutions that follow
5. The finalisation of the transaction

Memos and diagrams were also used to record and compare ideas and concepts. By writing memos, the relationships between codes and theory were identified. Diagrams help in the visualisation of the relationships between categories.

5. DATA ANALYSIS

The results of the survey were analysed using the Nvivo tool. Nvivo is software that can easily organise and analyse unstructured information. Pope described qualitative research as the on-going process of collecting data and iterative analysis of that data (62). This sequence allows researchers to go back to refine questions, develop hypotheses and identify emerging data. The process of Grounded Theory also allows this sequence. The analysis involved considering each category identified and the interrelationships that were discovered between these categories are listed in Table 1.

The surveys are available from the following link:

[https://sites.google.com/site/keshneepada yachee/Research-Projects/kamisha-persad]

5.1 Delivery performance

All participants indicated that this was a major factor in using online services. All participants valued services that saved them time. Delivery performance was directly linked to the following categories: customer trust; loyalty and social influence; techno-stress; recovery from system failure; time factor; and risk. A further explanation is provided below:

1. Customer trust: Shorter system response times led to greater customer trust with 15% of participants stating that they would return to an e-service because they had saved time due to excellent system response time.
2. Techno-stress: Shorter system response times led to a decrease in techno-stress. Participant #3 responded to question 7: *"I enjoyed my shopping experience as the response to every button was immediate. This was pleasing and less frustrating"*.
3. Recovery from system failure: Shorter system response times led to shorter times for the system to recover from failure. Participant #10 responded to question 8: *"The error I came across was resolved efficiently which made me complete my shopping with hardly any hassle"*.
4. Time factor: Shorter system response times led to decreases in the time taken to complete a purchase.
5. Risk: Shorter system response times led to a decrease in the performance risk perception.

5.2 Elimination of barriers

Elimination of barriers accounted for 10% of the research population indicating that they preferred online services as they did not have to leave their homes or offices to make a purchase. They also expressed

that the preference for shopping online is linked to the availability of a variety of products. That is, products not otherwise available in South Africa can be purchased. This also leads to an inflow of foreign exchange as people not living in South Africa can purchase South African products using e-services. Elimination of barriers was directly linked to the following categories: the time factor, satisfying customer requirements; and risk. The elimination of barriers factor was correlated with the following factors which foster customer e-service adoption:

1. Time factor: The time taken to complete the purchase online and the delivery time was acceptable to 70% of the participants. Participant #5 responded to question 14: *"saving time is very important to my busy lifestyle"*.

2. Satisfying customer requirements: Eliminating geographic barriers increased the variety of products available. Participant #2 responded to question 12: *"I do not have to spend money on an overseas holiday to find the brand I like"*.

However elimination of barriers was negatively correlated with the financial risk factor which inhibits customer e-services adoption. It was discovered that participants were more cautious when using international e-services and expressed more concern regarding their financial details. Participant #4 responded to question 17: *"I'm not too confident about shopping in other currencies and having things delivered to me from other countries"*.

5.3 Customer trust, loyalty and social influence

Customers will trust an e-service and return to it if their experience was satisfactory (20).The analysis showed that 70% of the research population trusted e-services and will return to the e-service chosen. The remaining 30% indicated that fraud, identity theft and financial loss contributed to their mistrust of e-services.

Customer trust, loyalty and social influence were directly linked to the following categories: delivery performance; customisation; techno-stress; user-friendly systems and customer familiarity; relevant content; customer support; satisfying of customer requirements; and risk. This factor was correlated with the following factors, which foster customer e-service adoption:

1. Delivery performance: Shorter system response times led to greater customer trust.

2. Customisation: E-services that take users' considerations and suggestions into account increased customer trust. Participant #1 responded to question 12: *"Any service that cares about what I need is a good service provider. I will continue shopping online"*.

3. Techno-stress: A decrease in techno-stress led to an increase in customer trust. Participant #32 responded to question 13: *"Even though I had to re-log in because of Internet problems, I was still able to buy my goodies with ease"*.

4. User-friendly systems: User-friendly systems increased customer trust.

5. Relevant content allowed the users to make good decisions regarding their purchases. This increased customer trust.

6. Customer support: All participants in the research population preferred call centre support. Users who received efficient online support became loyal customers of that e-service. Efficient customer support increased customer trust and loyalty.

7. Satisfying of customer requirements: Participants were satisfied if the product they intended to purchase was available.

The customer trust, loyalty and social influence factor was negatively correlated

with the privacy risk factor which inhibits customer e-service adoption. Participants were comfortable with e-services that requested more than one password, additional access details, and provided safe transacting methods. A decrease in privacy risk led to an increase in customer trust and loyalty. Participant #53 responded to question 23: *"I don't shop on the Internet because I do not know how strong the security methods are"*.

5.4 Customisation

All participants agreed that an e-service that heeds the requests of customers was an e-service that they would use. Customisation was directly linked to the following categories: customer trust; loyalty and social influence; techno-stress; the time factor; user-friendly systems and customer familiarity; relevant content; satisfying of customer requirements; and risk. The customisation factor was correlated with the following factors, which fosters customer e-service adoption:

1. Customisation increased customer trust, loyalty and social influence.

2. Techno-stress: Participants who suggested ways to make an e-service user-friendly explained that their intent was to reduce techno-stress. An increase in customisation led to a decrease in techno-stress.

3. Time factor: Customisation provides the customer with exactly the right tools to assist with his or her purchase online. This reduces the time taken to make a purchase.

4. User-friendly systems and customer familiarity: Participants explained that customisation requirements were to improve the e-service from a customer's perspective. The intent was to increase the ease in using the e-service. Participant #6 responded to question 2: *"English is not my first language so I use this site because the language is simple and to the point"*.

5. Relevant content: Participants suggested the type of content that should be available online. By allowing this sort of customisation, the e-service added more value to the participant's shopping experience. As a result, the participant was not overwhelmed by unnecessary or too much information. Participant #8 responded to question 6: *"I don't have to battle with last year's prices vs this year's inflated costs"*.

6. Satisfying of customer requirements: Customisation requests aim to provide customers with exactly what they need and/or want.

However, the customisation factor was negatively correlated with the financial risk factor which inhibits customer e-services adoption. Participants perceived customisation as being costly. There was concern that the prices of products would increase to cater for the customisation cost.

5.5 Techno-stress

Techno-stress occurs when customers cannot cope with the fast-changing technology (8). This was experienced mostly in groups 6 and 7. These groups included participants who did not have experience with technology, nor did they have easy access to the Internet. Techno-stress was directly linked to the following categories: delivery performance; customer trust; loyalty and social influence; customisation; recovery from system failure; the time factor; user-friendly systems and customer familiarity; relevant content; customer support; satisfying of customer requirements; and risk. The techno-stress factor was correlated with the following factors, which foster customer e-service adoption

1. Delivery performance: Shorter system response times led to a decrease in techno-stress. Participant #7 responded to question 7: *"I don't want to spend more time than I have to. I don't want to give hackers time to work their misdeeds"*.

2. Customer trust, loyalty, and social influence: A decrease in techno-stress led to an increase in customer trust.

3. Customisation: Participants who suggested ways to make an e-service user-friendly explained that their intent was to reduce techno-stress. An increase in customisation led to a decrease in techno-stress.

4. User-friendly systems and customer familiarity: 75% of participants selected online services that they were familiar with and that were easy to use. The more user-friendly a system was, the less techno-stress was experienced.

5. Relevant content: Participants indicated that relevant content decreased techno-stress.

6. Customer support: Participants preferred shopping on websites that had valid contact details, for example, a valid telephone number for inquiries or product/system problems. The more options there were for customer support, the less techno-stress was experienced.

7. Satisfying customer requirements: Participants stated that reducing techno-stress should be a requirement for all e-services. If this requirement is satisfied then there will be more online shoppers. A decrease in techno-stress implied to participants that customer requirements were being met.

The techno-stress factor was correlated with the following factors which inhibit customer e-service adoption: Recovery from system failure; time and; financial risk. Errors and system failures created confusion, frustration and dissatisfaction with participants. There were errors where clicking on objects did not give the intended result or where there was no response from the system. The longer the system took to return to a functional state, the more techno-stress was experienced. Techno-stress in respect of the risk of fraud was experienced by 25% of participants when

the e-service crashed. Under these circumstances, there was an increase in frustration levels due to participants not knowing if the purchase was complete or not. Passwords and confirmation messages decreased techno-stress and also decreased concerns about privacy risk. Techno-stress was experienced by 25% of the participants when time was wasted on trying to decipher errors and find online help.

5.6 Recovery from system failure

Recovery from system failure is necessary when an e-services system crashes or suffers errors that prevent the participant from completing his or her purchase. This was experience by 25% of the participants. Recovery from system failure was directly linked to the following categories: delivery performance; techno-stress; the time factor; user-friendly systems and familiarity; customer support; and risk. This factor was correlated with the following factors, which foster customer e-service adoption:

1. Delivery performance: Shorter system response times led to shorter times being needed for the system to recover from failure.

2. Time factor: All participants agreed that the purpose of e-services is to save time and cost. The shorter the time taken by the system to recover, the more satisfied participants were.

3. User-friendly system and familiarity: User-friendly systems allowed participants to resolve problems very quickly and complete their purchases. Participants who were familiar with the e-service chosen were also able to identify the problem very quickly and obtain customer support. Recovery from system failure takes less time where the system is easy to use, that is, user friendly.

4. Customer support: An increase in efficient customer support led to a decrease in system recovery time. Participant #9 responded to question

16: *"When I go into a shop I can literally speak to a person but this is not possible on the websites. I depend on the online help links to replace the person that I would usually deal with. I have no complains about the help that I got online".*

The recovery from failure factor was correlated with the techno-stress and financial risk factors, both of which inhibit customer e-service adoption. The longer a system took to return its functional state, the more techno-stress was experienced. Participants expressed concern regarding the risk of capturing financial details online where this might be followed by a system fault. Novice participants often indicated that they were uncomfortable because they were unsure if the details were saved online or not. It was discovered that the shorter the time taken to recover from a system fault, the more comfortable participants felt about transacting online and that this favoured e-service adoption.

5.7 Time factor

The time factor was directly linked to the following categories: delivery performance; customisation; techno-stress; recovery from system failure; user-friendly system and familiarity; relevant content; customer support; satisfying of customer requirements; and risk. 70% of the research population indicated that time was saved by shopping online. The time factor was correlated with the following factors, which foster customer e-service adoption:

1. Delivery performance: Shorter system response times led to a decrease in the time taken to complete a purchase.

2. Customisation: Customisation led to a decrease in the time taken to complete a purchase.

3. Recovery from system failure: All participants agreed that the purpose of e-services is to save time and cost. The shorter the time taken by the system to recover, the more satisfied participants were.

4. User-friendly system and familiarity: It was discovered that the more user-friendly the system and more familiar it is to the participant, the less time that is taken to complete a purchase.

   Relevant content: Relevant content allowed for decisiveness in the completing of purchases and also reduced the time factor. Participant #56 responded to question 12: *"I cannot do without the search option. This saves me so much time because I can put in my requirements I the advanced search option to bypass information that I have no interest for".*

5. Customer support: It was discovered that efficient customer support decreased the time factor.

6. Customer requirements: In 70% of the cases studied, the customer was satisfied because his or her requirements were met. The participant could complete his or her purchase within an acceptable time. Meeting all the customers' requirements led to a decrease in online shopping time.

7. Techno-stress: 25% of participants spent more time trying to decipher errors and find online help compared to participants that were familiar with using e-services. This increased techno-stress. E-service adoption is favoured where there is a decrease in techno-stress which, in turn, decreases the time taken to complete a purchase

8. Risk: Time risk is decreased in e-service adoption because the participant's perception is that the purpose of e-services is to save time

5.8 User-friendly systems and customer familiarity

Customers who use e-services have varying levels of knowledge of technology. It was discovered that colours, pictures chosen for icons, confirmation messages, text size, menu content, and online documents and videos all contributed to making a system user-friendly. Only 1% of

the research population chose a service that they were not familiar with. User-friendly systems and customer familiarity were directly linked to the following categories: customer trust; loyalty and social influence; customisation, techno-stress, recovery from system failure, time factor, customer support, satisfying of customer requirements and risk. The user-friendliness factor was correlated with the following factors, which foster customer e-service adoption:

1. Customer trust, loyalty and social influence: User-friendly systems increased customer trust

2. Customisation: Taking the participants suggestions for improvement into consideration led to customisation. This led to easy to use systems.

3. Techno-stress: 99% of participants selected online services that they were familiar with and that were easy to use. The more user-friendly a system was, the less techno-stress was experienced.

4. Recovery from system failure: User-friendly systems allowed participants to resolve problems and complete their purchases very quickly. Participants who were familiar with the e-service chosen were also able to identify the problem and obtain customer support very quickly.

5. Time factor: It was discovered that the more user-friendly the system and the more familiar to the participant it was, the less time was taken to complete a purchase.

6. Customer support: One of the factors that participants used to measure the level of user-friendliness of a system was the efficiency and availability of customer support. An increase in efficient and available customer support led to an increase in the perceived user-friendliness of the system.

7. Satisfying of customer requirements: A system classified as user-friendly implied to participants that user requirements were being met. An increase in user-friendly functionality also led to an increase in customer requirements being satisfied. Participant #51 responded to question 1: *"If the site can provide for my needs and purpose then I will definitely shop on the Internet"*.

The user-friendliness factor was correlated with the financial risk and privacy risk factors that inhibit customer e-service adoption: With respect to financial risk, 11% of the research population stated that risk of fraud and identity theft (i.e. privacy risk) was low in popular websites. The same 11% also felt safer using the e-service knowing that thousands of other people preferred that particular e-service.

5.9 Relevant content

The importance of relevant content is to allow customers to make the correct choice when shopping online. Relevant content was directly linked to the following categories: customer trust; loyalty and social influence; customisation; techno-stress; the time factor; customer support; satisfying of customer requirements; and risk. The relevant content factor was correlated with the following factors, which foster customer e-service adoption:

1. Customer trust, loyalty and social influence: Relevant content allowed the users to make good decisions regarding their purchases. This increased customer trust.

2. Customisation: Participants suggested the type of content that should be available online. By allowing them to do so, the e-service added more value to the participant's shopping experience. The participant was not overwhelmed by unnecessary information.

3. Time factor: Relevant content allowed decisiveness in completing purchases. Relevant content reduces the time factor. Participant #47 responded to question 12: *"If the service provider can save me time by showing me only the*

information I need, then I will use that e-service".

4. Customer support: Participants stated that customer support is dependent on relevant and accurate contact details. Relevant content increased the quality of customer support.

5. Satisfying of customer requirements: 78% of the research population experienced customer satisfaction due to relevant content. Participants indicated that relevant content is a factor that satisfies customer requirements.

6. Risk: 22% of the research population experienced the psychological risk of not receiving the correct product or bill. This was related to irrelevant, incorrect and outdated content. Relevant content may reduce the risk of receiving the incorrect products.

7. Techno-stress: Participants indicated that relevant content decreased techno-stress.

5.10   Customer support

Customer support was directly linked to the following categories: customer trust; loyalty and social influence; techno-stress; recovery from system failure; the time factor; user-friendly systems and familiarity; relevant content; satisfying of customer requirements; and risk. The customer support factor was correlated with the following factors, which foster customer e-service adoption:

1. Customer trust, loyalty and social influence: 100% of the research population preferred call centre support. Users who received efficient online support became loyal customers to that e-service. Efficient customer support increased customer trust and loyalty. Participant #45 responded to question 23: *"Telephone help is more effective than emails. The sites I use have given me efficient help telephonically. This is as good as physically assistance over the counter."*

2. Recovery from system failure: An increase in efficient customer support led to a decrease in system recovery time.

3. Time factor: It was discovered that efficient customer support decreased the time factor

4. User-friendly systems and familiarity: One of the factors that participants used to measure the level of user-friendliness of a system was the efficiency and availability of customer support. An increase in efficient and available customer support led to an increase in the user-friendliness of the system.

5. Relevant content: Participants stated that customer support is dependent on relevant and accurate contact details. Relevant content increased the quality of customer support.

6. Satisfying of customer requirements: All participants agreed that online customer support is mandatory. 75% of the research population indicated that their requirements were met due to efficient online customer support. E-service adoption is favoured where efficient customer service that satisfies customer requirements for online shopping is available.

The customer support factor was negatively correlated with the risk and techno stress factors, which inhibit customer e-service adoption. With regard to risk, 25% of the research population expressed concerns regarding the risk of no online support. It was discovered that, without online support, customers would rather drive to a physical shopping centre. Risk is decreased where efficient online support is available. This relationship favours e-service adoption. Participants preferred shopping on websites that had valid contact details, for example, a valid telephone number for inquiries or product/system problems. The more options that were available for customer support, the lower the level of techno-stress that was experienced.

5.11 Satisfying of customer requirements

In satisfying customer requirements, time is saved, loyal customers are retained, and customer satisfaction is increased (51). Satisfying of customer requirements was directly linked to the following categories: elimination of barriers; customer trust; loyalty and social influence; customisation; techno-stress; the time factor; user-friendly systems and familiarity; relevant content; customer support; and risk. The satisfying customer requirements factor was correlated with the following factors, which foster customer e-service adoption:

1. Elimination of barriers: Eliminating geographic barriers increased the variety of products. Participant #44 responded to question 12: *"I want variety and unlimited options from the comfort of my home"*.

2. Customer trust, loyalty and social influence: Participants were satisfied if the product they intended to purchase was available.

3. Customisation: Allowing for customisation requests is aimed at providing customers with exactly what they need/want.

4. Time factor: In 70% of the cases studied, the customer was satisfied because his or her requirements were met. The participant could complete his or her purchase within an acceptable time. Meeting all the customer's requirements led to a decrease in online shopping time.

5. User-friendly systems and familiarity: A system classified as user-friendly implied to participants that user requirements were being met. An increase in user-friendly functionality led to an increase in satisfying of customer requirements.

6. Relevant content: 78% of the research population experienced customer satisfaction due to relevant content. E-service adoption was favoured where relevant content existed to satisfy the customers' shopping requirements.

7. Customer support: All participants agreed that online customer support is mandatory. 75% of the research population indicated that their requirements were met due to efficient online customer support. E-service adoption is favoured where efficient customer service is available and where it satisfies customer requirements for online shopping.

The satisfying customer requirements factor was negatively correlated with techno-stress, which inhibits customer e-service adoption. Participants stated that reducing techno-stress should be a requirement for all e-services. If this requirement is satisfied then there will be more online shoppers. A decrease in techno-stress implied to participants that customer requirements were being met. The satisfying customer requirements factor was negatively correlated with risk and this inhibits customer e-service adoption. Participants agreed that e-services that cannot satisfy basic requirements, such as, strong and reliable options for secure transacting, a variety of products, efficient online support and user-friendly functionality are at risk (i.e. social risk) of losing both credibility and customers. Satisfying customer needs leads to less risk of losing customer trust and loyalty which, in turn, increases e-service adoption.

5.12 Risk

Security risks occur when personal data is misused (6). Perceived risk is measured according to the following categories: performance; financial; time; psychological; social; and privacy risk (3). A further explanation of the abovementioned risks is found in section 2.10. Risk affects customer satisfaction and this, in turn, has an impact on the increase/decrease in customer e-service adoption. 100% of the research participants mentioned risk. Risk

was directly linked to all categories, that is: delivery performance; elimination of barriers; customer trust; loyalty and social influence; customisation; techno-stress; recovery from system failure; time factor; user-friendly systems and familiarity; relevant content; customer support; and satisfying of customer requirements. The risk factor was correlated with the following factors, which foster customer e-service adoption:

1. Delivery performance: Shorter system response times led to a decrease in the risk of having the system fail while personal and financial details were being entered. This relates to time risk.

2. Customer trust, loyalty and social influence: Participants were comfortable with e-services that requested more than one password, additional access details, and provided safe transacting methods. A decrease in risk led to an increase in customer trust and loyalty. This relates to privacy risk.

3. Recovery from system failure: It was discovered that the shorter the time taken to recover from a system fault, the more comfortable participants felt about transacting online. This relates to time risk.

4. User-friendly systems and familiarity: 11% of the research population stated that risk of fraud and identity theft was low in popular websites. The same 11% also felt safer using the e-service knowing that thousands of other people preferred the same e-service. This relates to social and privacy risk.

The risk factor was correlated with the following factors which inhibit customer e-service adoption:

1. Customer support: 25% of the research population expressed concerns regarding the risk of no online support. This relates to time, financial and psychological risk.

2. Customer requirements: Participants agreed that e-services that cannot satisfy basic requirements – such as,

strong and reliable options for secure transacting, variety of products, efficient online support and user-friendly functionality – are at risk of losing both credibility and customers. This relates to psychological risk.

3. Relevant content: 22% of the research population experienced the risk of receiving irrelevant, incorrect and outdated content. This relates to performance and financial risk.

4. Time factor: An increase in the time factor led to a decrease in new and existing e-service users. This relates to time risk.

5. Elimination of barriers: Participants were more cautious when using international e-services. There was more concern regarding financial details. This relates to privacy risk

6. Customisation: Participants perceived customisation as being costly. This relates to financial risk.

Techno-stress: 25% of participants experienced techno-stress relating to risk of fraud when the e-service crashed. Participants were concerned that their banking details would be misused. There was an increased level of frustration regarding not knowing if the purchase was complete or not. This relates to privacy and psychological risk. Participant #37 responded to question 21: *"I will not shop on the Internet. There are too many opportunities for risk and loss of money and personal information".*

Table 3, below, summaries the percentage of users that had a positive/negative experience in relation to each category.

Table 3: Summary of user experience

Category Name	Positive	Negative
Delivery Performance	70%	30%
Elimination of barriers	90%	10%
Customer trust, loyalty and social influence	70%	30%

Customisation	100%	0%
Techno-stress	75%	25%
Recovery from system failure	75%	25%
Time factor	70%	30%
User- friendly system and customer familiarity	99%	1%
Relevant Content	78%	22%
Customer support	100%	0%
Satisfying of customer requirements	70%	30%
Risk	70%	30%

5.13   NEW CATEGORIES

During the analysis, new categories emerged from the data. These categories are discussed below.

5.14   Foreign exchange

Business is not only about creating a product that can be sold. It is about customer satisfaction related to the product and creating a competitive advantage (63). Evidently, 10% of participants stated that e-services attract the inflow of foreign exchange into South Africa by making South African products available abroad. An increase in the use and improvement of e-services led to an increase in foreign investment. Foreign investment has a link to the category elimination of barriers.

5.15   Spontaneous delight

Spontaneous delight is where a customer is offered a surprise reward (9). Participants that received surprise gifts or unexpected discounted prices expressed customer satisfaction. Evidently, 10% of the research population experienced customer satisfaction due to spontaneous delight. Spontaneous delight is linked to customer loyalty as participants were willing to return to the e-services that provided the surprise reward. An increase in spontaneous delight led to an increase in customer satisfaction and loyalty, which led to e-service adoption.

5.16   Preference to popular/well known e-services

It was discovered that users trusted popular e-services that attracted large numbers of customers. This was the view of 11% of the research population. It was discovered that the more popular the e-service, the greater the acceptance of that e-service. The overall analysis of the data showed that 70% of the research population preferred using e-services, while 30% of the population preferred face-to-face services. These results have taken all the above-mentioned categories into consideration. The aim of the study was to determine the factors that contribute to e-service adoption. The intention was to develop a conceptual framework that represents the interrelationships between the factors that contribute to e-service adoption/rejection.

Table 4, below, indicates the percentage of users that commented on the new/uncovered categories.

Table 4: Summary of user experience to new categories

Category Name	Percentage
Foreign Exchange	10%
Spontaneous Delight	10%
Preference to popular e-services	11%

6.   DISCUSSION OF FINDINGS

The data was collected using a mixed method approach to ensure reliability and validity. The classification of participants influenced the research significantly. For example, the valuation of the data showed the following:

- A larger percentage of participants between the ages of 21 and 25 preferred e-services. A reason for this observation is that this age group is more technology savvy and known as the technology generation.
- The fear of risk was evident across the research population showing

that age, level of IT experience and easy access to e-services was an in dependent factor. The older generation feared risk the most. This was also the generation that was greatly impacted by techno-stress. This showed that advancement in technology is not widely accepted by the older generation. Online trust issues also arise in the older generation that prefers face-to-face interaction.

- More techno-stress was experienced in the age groups of 26-50 where participants had little technology experience.

The aim of the data collection and analysis was to discover the factors that impact customer e-service adoption. The literature review provided a view of the existing factors. The results of the analysis above are in line with the discoveries made in previous studies. New categories were also discovered from this study. Answers to the following research questions were derived from this study.

5. <u>What are the factors that enable e-service adoption?</u>
   These are the factors that encourage customers to use e-services. These factors were: increased e-service delivery performance; reduced time to complete a purchase; elimination of barriers; increased trust, loyalty and social influence; increased customisation; minimal time to recover from system failure; user-friendly system; relevant content; online customer support; foreign exchange; spontaneous delight; preference to popular e-services; and meeting customer needs.

6. <u>What are the factors that inhibit e-service adoption?</u>
   These are the factors that lead to the rejection of e-services. These factors were: techno-stress and perceived risk.

7. <u>How does perceived risk affect e-service adoption by the customer?</u>
   There are different types of risks. These are performance, financial, time, psychological, social, and privacy. Perceived risk refers to the overall risk. All surveys indicate that risk is a concern to customers. Risks discourage customers from shopping online.

8. <u>What is relationship between a customer's perception of an e-service and the enablers and inhibitors of e-service adoption?</u>
   The survey responses showed that the enabling factors motivate customers to take advantage of the efficiency and convenience of e-services. However, the inhibiting factors discourage the acceptance of e-services. Customers are afraid of losing money, time and purchasing poor quality products.

Collier and Bienstock (2006) studied the importance of customer satisfaction in e-Retailing (60). The results showed that the customer's perception of e-services determines whether a customer will return to a particular e-service. This is similar to the results above regarding customer trust and loyalty. Both studies also focus on the importance of meeting the customer's needs in order to ensure customer e-service adoption.

Tarafdar (2011) studied the impact of techno-stress, risk and customer familiarity on customer e-service adoption (8). The results above are in line with Tarafdar's discoveries. That is, techno-stress and risk must be avoided to ensure customer e-service adoption. Customer familiarity promotes customer e-service adoption as the customer feels comfortable and confident to use the e-service.

7. The proposed Framework

Grounded Theory consists of 4 steps to evaluate raw data. These steps are open coding, axial coding, selective coding and comparative analysis. These 4 steps combined with memo writing and the use of NVIVO analysis tool transformed raw data into meaningful information.

The semi-structured interview focussed on the positive and negative factors that impact online shopping. A negative factor that was prevalent in all responses was the risk factor. This factor was placed separately from the list of negative factors. The list of responses from participants provided a high level view of their preference to shop online. A further analysis of the quantitative survey resulted in identifying the factors that influence e-service adoption/rejection.

Open coding involved capturing memos on NVIVO. These were ideas, focal points, or responses which participants placed emphasis on. The focal points, from the survey, were: speed of the online service, being able to shop from home, customer trust, modifications to suite the customer's needs, fewer frustrations, fewer system errors, easy to use site, important information, online help, customer satisfaction and loss. These focal points were re-phrased as follows: delivery performance, elimination of barriers, customer trust, customisation, techno-stress, recovery from system failure, time factor, user friendly, relevant content, customer support, satisfying of customer requirements and risk.

In axial coding, it became clear that the participants focussed on 4 specific areas. These areas were human emotions, perception of the physical websites, they were questioning the need to shop online and the risk of online shopping. 4 main categories were discovered. These categories were need for purpose, system functionality, customer attitude and risk. The factors identified in open coding were grouped within these categories. The

evaluation tool then flagged each factor depending on whether the participant referred to the factor as having improved his/her shopping experience or not. Green represented a positive contributor to online shopping. Red indicated a negative contributor to online shopping. The green and red indicators were converted into a percentage format. Eventually showing that 70% of the participants enjoyed shopping online. 30% of participants preferred face-to-face interaction.

The process of selective coding is to eliminate categories that are not relevant to the research. The evaluation tool has a cross-examination function which searches all participants' responses. It then creates a list of common responses verses the exceptions. It also displays the trends in the data collected. 3 exceptions were identified. These were foreign exchange, spontaneous delight and preference to popular e-services. All factors, categories and exceptions proved to be relevant to the research.

During comparative analysis, the memos and graphs created by the evaluation tool were extensively used. The graphs showed the impact of each factor on another. These are explained in Figures 3, 4 and 5 below. Each category represented a parent node. Each factor represented a child node. Each connecting line represented a positive or negative impact on online shopping, in accordance with the participants' responses. The evaluation tool highlighted the duplicate links or common paths between parent and child nodes, parent and parent nodes, and child and child nodes. This functionality led to the discovery of the common links amongst the factors, as explained in figures 3, 4 and 5 below.

The observation of participants provided more insight into feelings and attitudes towards e-services. This combined with the iterative comparative nature of Grounded Theory showed factors that were related to each other. These links and relations were

also clear in the memos and mind maps. The feedback from participants can be used to further break down the categories above as follows (see Figure 2):

1. Customer attitude relates to the personal aspect, that is, the users' preference and feelings towards the online system.

2. System functionality refers to the technical aspects of the online system, for example, the system performance.

3. Need for purpose and use is associated with determining if there is value added from using the online system.
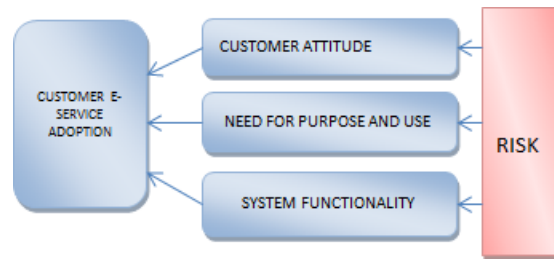

Figure 4: First order overview of the factors that influence customer e-services adoption

The research results showed that the risk factor was prevalent over all categories. All participants mentioned the risk factor. They feared identity theft and financial loss due to fraud. This impacts the customer's perception of an e-service which directly impacts customer e-service adoption/rejection
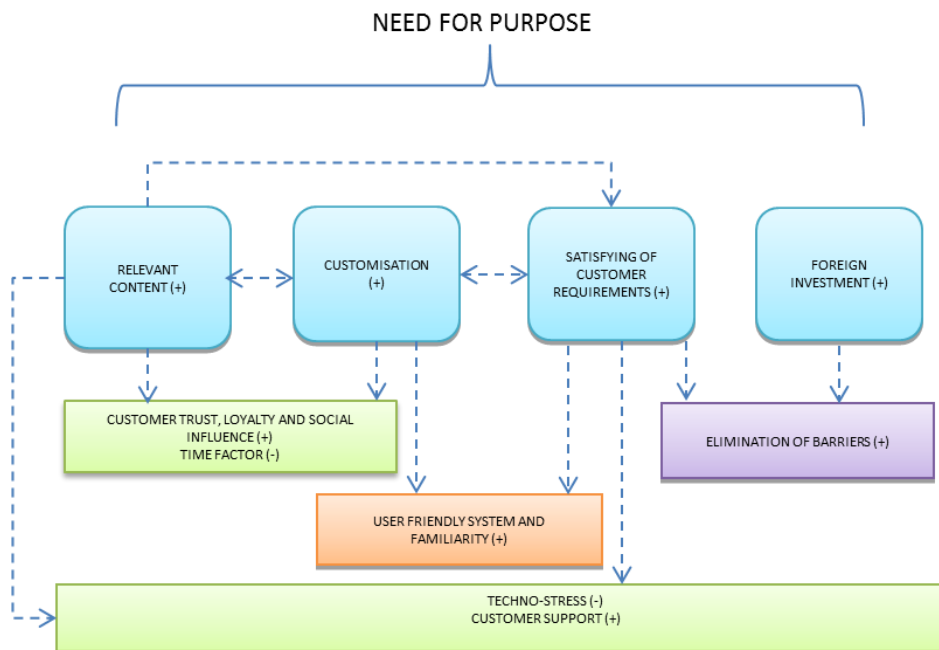

Figure 5: Second order overview of the relationships for the sub-category "need for purpose"

Figure 3 illustrates the common factors and relationships for the sub-category "need for purpose". Relevant content has an impact on: Satisfying of customer requirements; techno-stress; customer trust, loyalty and social influence; customer support; customisation; and the time factor. Accurate and up-to-date content reduces

frustration which, in turn, reduces techno-stress. Relevant content leads to satisfied customers which, in turn, lead to customers returning to the e-service. Relevant content also reduces the time taken to complete a purchase as the customer will spend little time on searching for the required information. Customisation has an impact on: customer trust, loyalty and social influence; the time factor; relevant content; satisfying of customer requirements; and user friendly-system and familiarity. Customisation is where customer's suggestions are taken into consideration regarding the e-service content. This reduces the time required to complete a purchase because the customer's requirements are met. A common link was identified where customisation and relevant content both impact: customer trust; loyalty and social influence; and the time factor. Customisation refers to satisfying the customer's needs in terms of the content and functionality of the e-service. Customers return to an e-service that contains relevant information because this reduces the shopping time. Satisfying of customer requirements has an impact on: user friendliness of the system and familiarity; techno-stress; elimination of barriers; customisation and customer support. Systems that are easy to navigate and that have online support available lead to e-service adoption. Online support increased customer satisfaction as problems could be resolved immediately, for example, in the case of call centres. Inflow of foreign exchange impacts elimination of barriers – that is, an increase in international shoppers will lead to an increase in inflow of foreign exchange.

Figure 4 illustrates the common factors and relationships for the sub-category "system functionality". A common link was identified where the time factor impacts: customisation; relevant content; and satisfying of customer requirements. Customisation refers to making changes depending on the customer's suggestions. This leads to familiarity of use which saves time in completing a purchase. The research results showed that relevant content allowed participants to make decisions easily and that this saved time in completing a purchase. Many participants indicated that saving time led to customer satisfaction. Another common link was where recovery from system failure and the time factor impact: user-friendly system and familiarity; and Customer support. The research showed that participants could easily navigate user-friendly systems which saved time. Available online assistance made it possible to efficiently and speedily resolve system failures, for example, where icons where not responsive. Delivery performance has an impact on: customer trust, loyalty and social influence; techno-stress; time to recover from system failure; and the time factor. Techno-stress is where participants experience difficulties due to very little IT knowledge or experience, or due to complicated systems. These difficulties created a negative perception of the e-service and led to delays in concluding online purchases. Poor delivery performance was seen to create a negative customer perception of e-services. For example, an e-service that has technical failures encouraged participants to rather shop in a physical store.
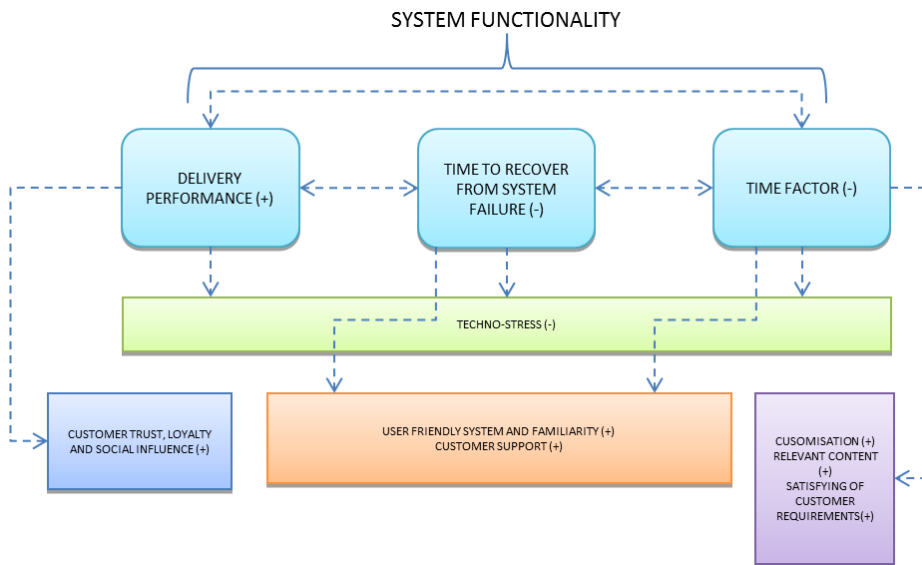
Figure 6: Second order overview of the relationships for the sub-categories of system functionality

Figure 5 illustrates the common factors and relationships for the sub-category "customer attitude". Elimination of barriers impacts: The time factor; and satisfying of customer requirements. This refers to how easily and quickly an online purchase may be concluded. Customer trust, loyalty and social influence impact: spontaneous delight; satisfying of customer requirements; relevant content; customisation; delivery performance; preference for a popular e-service; customer support; and techno-stress. These factors influence the participant's perception of the e-service. A positive perception will increase e-service adoption. Techno-stress impacts: customer trust, loyalty and social influence; delivery performance; time to recover from system failure; relevant content; customisation; the time factor; satisfying of customer requirements; customer support; and user-friendly system and familiarity. A decrease in techno-stress leads to e-service adoption. User-friendly system and familiarity impacts: techno-stress; the time factor; satisfying of customer requirements; time to recover from system failure;

customisation; customer support; and customer trust, loyalty and social influence. Customer support impacts: user-friendly system and familiarity; techno-stress; customer trust, loyalty and social influence; satisfying of customer needs; time to recover from system failure; relevant content; and the time factor. Online customer support took the form of email, telephone, online documentation, online videos, and chat. The research indicated that participants favored e-services where online support was easily accessible and where the response time for queries was within 24 hours. Resolving customer issues online eases the frustration of system faults. Relevant content resulted in customers returning to a particular e-service. Research showed that where customers' suggestions were incorporated into the e-service, those customers returned to the e-service, there were fewer technical issues, and there was ease in completing a purchase. It was discovered that customers will return to an e-service where they have experienced no technical challenges. Customer trust, loyalty and social influence impact both: spontaneous

delight and preference for a popular e-service. Research showed that spontaneous delight, in the form of discounts, increased customer satisfaction as compared to no surprise offers. E-services that are utilised more than others gain the customer's trust. Interrelated relationships between individual factors

were also discovered. As presented in the diagram, the following factors impact each other: customer trust, loyalty, and social influence; techno-stress; user-friendly system and familiarity; and customer support. That is, any change in any factor in the grouping above will impact all the factors in the group.
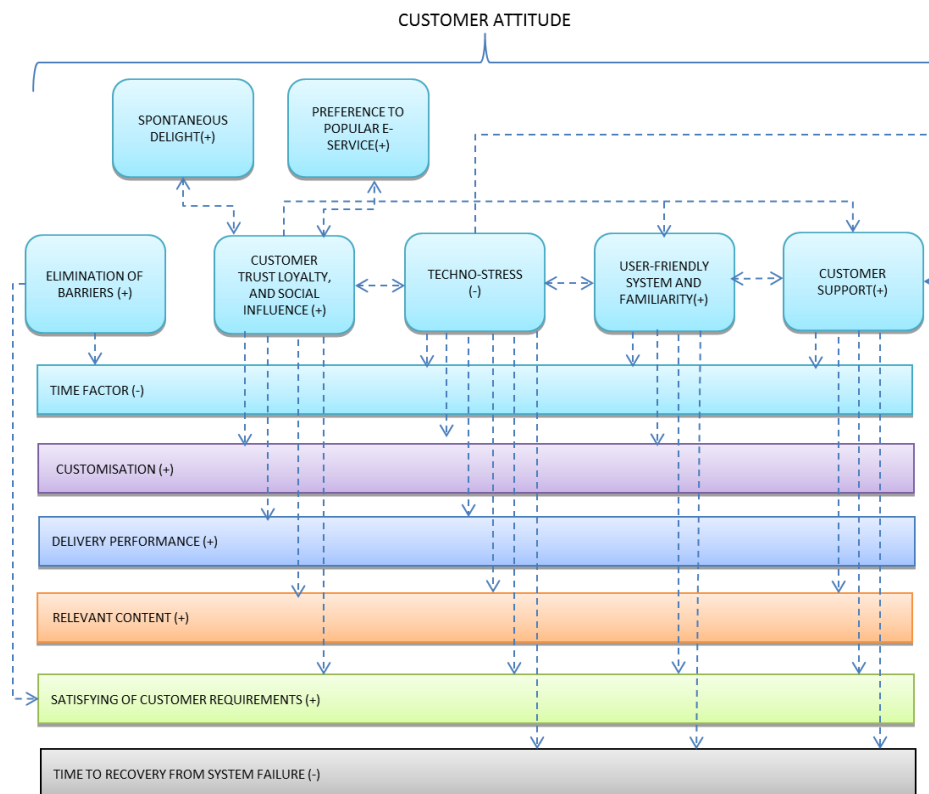

Figure 7: Second-order overview of the relationships for the sub-categories of customer attitude

8. SIGNIFICANCE OF THE CONCEPTUAL FRAMEWORK

This framework aims to bridge the gap between organisations and customers, by highlighting key considerations for meeting customer need, using e-services. The proposed framework attempts to resolve flaws and gaps that exist in previous studies.

Businesses are now operating differently by placing more emphasis on customer satisfaction. In doing so, creating competitive advantage (63). This will also lead to improved service delivery within South Africa.

Understanding customer needs leads to loyal customers. It is less costly to maintain loyal customers than to attract new customers. This study aims to reduce the cost of running a business by understanding the customer (63). This framework will help to identify customer trends and preferences.

Promoting the automation of manual service delivery processes creates innovation and new challenges within the information society. Innovative ideas can lead to job creation in South Africa. Job creation will result in a better quality of life. Fewer barriers will exist within the e-Business world. Technology opens a world of opportunities for online business, (12). This creates more product and service variety for customers.

E-services also reduce the administrative tasks and paper work that is associated with providing a service or product.

9. Conclusion

Web based transacting is growing rapidly daily in the form of self-services and e-commerce. It is imperative to understand the factors that encourage/discourage shoppers to use an e-service as compared to face-to-face shopping. Organisations that have a view of the customer's perception are better equipped

to benefit from e-services. The customer's perception is the key to the adoption/rejection of the use of e-services. This study aims to uncover the factors that impact the customer's perception. This will lead to understanding the significance of these factors on customer e-service adoption.

The main objective of this study was to develop a conceptual framework to show the correlation relationships among the factors that impact e-service adoption/rejection and the relative significance of the factors that influence the customer's e-service adoption. Grounded Theory methodology was used to achieve the objective. . The advantage of the use of Grounded Theory for this study was the clearly defined steps in the process. Also, all data must be grounded which makes the research more rigorous, reliable, valid and flexible. Grounded Theory was suitable in building the conceptual framework as it provided the researcher with a foundation to build on and enhance the study of e-service adoption. The step by step process gave the researcher an ordered approach to analysis. This structure led to accuracy and validity. The limitation of Grounded Theory was that it is very time consuming.

The 3 main categories that identified were: customer attitude; system functionality; and need for purpose. It was discovered that the risk factor was prevalent throughout the research, that is, risk impacted all factors that lead to adoption/rejection of e-services.

The three main categories were further broken down according to the findings. Need for purpose focussed on the effects of relevant content, customisation, satisfying of customer requirements and foreign investment.

System functionality focussed on the effects of system performance, time to recover from system failure and the overall time factor.

Customer attitude focussed on the effects of spontaneous delight, preference to popular e-service, elimination of barriers, customer trust, loyalty and social influence, techno-stress, user-friendly systems and familiarity, and customer support.

All the factors mentioned above impacts the adoption/rejection of e-services.

Customer satisfaction is a key concern in any business strategy. The customer's perception impacts customer satisfaction, that is, a positive perception of e-service use increases e-service adoption (1). Managers, within organisations, can use this study to understand customers better. This will improve customer services within South Africa. The factors and interrelationships identified in this study can be included in business strategies as focal point to improve customer satisfaction and increase profit margins. It is intended that future research will involve a quantitative survey to test the validity of the framework presented in this paper.There needs to be a mind shift about the way in which business is carried out. Business is not only about creating a product that can be sold. It is about customer satisfaction related to the product and creating a competitive advantage (63).

This study delivered a conceptual model. This conceptual model is the key to understanding customers which will lead to building stronger e-service strategies. A solid strategy will retain customers and improve customer services within South Africa. The conceptual model lists the factors that organisations should place focus on. Especially those that are of high significance, for example, satisfying customer needs, avoidance of techno-

stress, relevant content and spontaneous delight.

The conceptual model also served as a useful research model. The ordered and structured nature of the model allowed for in depth and systematic analysis. The conceptual framework provided a clear view of the focus areas. This kept the study on the path of relevance.

10. FUTURE WORK

Future work entails quantitative research to validate the conceptual framework. The research will also uncover the level of significance that each factor has on customer satisfaction.

Data was collected from one organisation only. Research including more than one organisation will contribute to a more diverse sample. That is, various age groups, cultural beliefs and experience in using online shopping. Future studies would involve conducting research in an alternative setting to verify the validity of the results.

Shopping online is rapidly growing due to the Internet and mobile technology. Retailers of all types are expanding product offerings, free shipping and experimenting with social media.

There are 3 aspects that require further investigation and that will add value to the consumers' shopping experiences. These aspects are:

4. Online shopping policies – Many consumers bypass reading the terms and conditions and other shopping policies online. Most of these policies contain information to protect the consumer and service provider. It will be beneficial for consumers to understand the policies that protect online shoppers.

5. Online shopping mobile applications – The use of mobile technology is increasing. This study did not focus on the online shopping mobile applications that are available and the consumers' attitude towards these applications.

6. Cloud technology – This relates to the sharing of resources that enable an e-service to function at high performance.

References

1. Caruana A. Service loyalty: The effects of service quality and the mediating role of customer satisfaction. *European Journal of marketing.* 2002;36(7/8):811-828.

2. Lee K., Joshi K. An empirical investigation of customer satisfaction with technology mediated service encounters in the context of online shopping. *Journal of Information Technology Management.* 2007;18(2):79-98.

3. Featherman M.S., Pavlou P.A. Predicting e-services adoption: A perceived risk facets perspective. International Journal of Human-Computer Studies. 2003;59(4):451-474.

4. Dhillon J.S., Joshi M., Verma R. e-services in india: Conceptual framework of Internet-commerce is consumer safe? . I*nternational Journal of Management and Social Sciences Research (IJMSSR).* 2012;1(3):20-28.

5. Cloete E., Courtney S. Small businesses' acceptance and adoption of e-commerce in the Western Cape Province of South Africa. *The Electronic Journal on Information Systems in Developing Countries*. 2002;10(4):1-13.

6. Rust R.T., Kannan P.K. E-service: A new paradigm for business in the electronic environment. Communications of the ACM. 2003;46(6):37-42.

7. Aghekyan-Simonian M., Forsythe S., Kwon W.S., Chattaraman V. The role of product brand image and online store image on perceived risks and online purchase intentions for apparel. *Journal of Retailing and Computer Services.* 2012;19(3):325–331.

8. Tarafdar M., Tu Q., Ragu-Nathan T.S. Impact of techno-stress on end user satisfaction and performance. *Journal of Management Information Systems.* 2011;27(3):303-334.

9. Bitner M.J., Brown S.W., Meuter M. Technology infusion in service encounters. *Journal of the Academy of Marketing Science.* 2000;28(1):138-149.

10. Singh H. *The importance of customer satisfaction in relation to customer loyalty and retention* [Online].; 2006. Available from: http://www.ucti.edu.my/wps/issue1/wp-06-06-paper.pdf.

11. Eriksson K., Nilsson D. Determinants of the continued use of self-service technology: The case of Internet banking. *Technovation.* 2007;27(4):159-167.

12. Cenfetelli R.T., Benbasat I., Al-Natour S. AIS Electronic Library [Online] ; 2005. Available from: http://aisel.aisnet.org/icis2005/58/

13. Kandampully J. Innovation as the core competency of a service organisation: The role of technology, knowledge and networks. *European Journal of Innovation Management.* 2002;5(1):18-26.

14. Holton J. Grounded Theory as a general research methodology. Grounded Theory Review: *An international journal*. 2008;7(2):1-2.

15. Abubakar A., Tasmin R. The impact of information and communication technology on banks' performance and customer service delivery in the banking industry. *International Journal of Latest Trendsin Finance and Economic Sciences.* 2012;2(1):80-90.

16. Youssef A.E.Exploring cloud computing services and applications *Journal of Emerging Trends in Computing and Information Sciences.* 2012;3(6):838-847.

17. La S., Choi B. The role of customer affection and trust in loyalty rebuilding after service failure and recovery. *The Service Industries Journal.* 2012;32(1):105-125.

18. Eid I.M. Determinants of e-commerce customer satisfaction, trust, and loyalty in Saudi Arabia . *Journal of Electronic Commerce Research.* 2011;12(1):78-93.

19. Meuter M., Bitner M.J., Ostrom A.L., Brown S.W. Choosing among alternative service delivery modes: An investigation of customer trial of self-service technologies. *Journal of Marketing.* 2005;69(1):61-83.

20. Montoya M.M., Massey A.P., Khatri V. Connecting IT services operations to service marketing practices. *Journal of Management Information Systems.* 2010;26(4):65-85.

21. Pitler F.T., Moeslein K., Stotko C.M. Does mass customisation pay? An economic approach to evaluate customer integration. *Production Planning and Control.* 2004;15(4):435-444.

22. Kardaras D., Karakostas B. *Services customisation using web technologies.* London, UK: IGI Global; 2012.

23. Tu Q., Ragu-Nathan T.S., Tarafdar M., Ragu-Nathan B.S. *Improving end-user satisfaction through techno-stress prevention: Some empirical evidence.* Proceedings of the fourteenth Americas conference on information systems, Toronto, ON, Canada, August 14-17th 2008.

24. Prabhakaran A., Mishra H.K. Technological change in libraries: The evolution of techno-stress. *Journal of Art, Science and Commerce.* 2012;3(1):131-135.

25. Parasuraman A., Grewal D. Serving customers and consumers effectively in the twenty-first century: A conceptual framework and overview. *Journal of Academy of Marketing Science.* 2000;28(1):9-16.

26. Kaufman-Scarborough C., Lindquist J.D. E-shopping in a multiple channel environment. *Journal of consumer marketing.* 2002;19(4):333-350.

27. Piccoli G., Spalding B.R, Ives B. A framework for improving customer service through information technology. *Cornell Hotel and Restaurant Administration Quarterly.* 2001;32(3):38-45.

28. Bachelet C., Cansfield, M. *Enterprise APPS Today.* [Online]; 2010. Available from: http://www.crm2day.com/experts/50256.php.

29. Ward J.A. *Meeting customer requirements, first time, every time* [Online]; 2011. Available from: http://www.ayeconference.com/meeting-customer-requirements-first-time-every-time/.

30. Bayus B.L. Kano model of customer satisfaction. 5th ed. USA: John Wiley and Sons; 2010.

31. Kailani M., Kumar R.Investigating uncertainty avoidance and perceived risk

for impacting internet buying: A study in three national cultures. *International Journal of Business and Management.* 2011;6(5):76-92.

32. Featherman M.S., Wells J.D. The intangibility of e-services: Effects on perceived risk and acceptance. *Management Information Systems.* 2010;41(2):110-131.

33. Kyobe M. Investigating the key factors influencing ICT adoption in South Africa. J*ournal of Systems and Information Technology.* 2011;13(3):255 - 267.

34. Mutula S.M., Mostert J. Challenges and opportunities of e-government in South Africa. *The Electronic Library.* 2010;28(1):38-53.

35. Matavire R., Brown I. Investigating the use of "Grounded Theory" in information systems research. *IT Research in developing countries.* 2008;4(1):139-147.

36. Cenfetelli R.T., Benbasat I., Al-natour S. *Reflections on the use of* Grounded Theory *in interpretive information systems research* [Online]. 2003. Available from: http://aisel.aisnet.org/ecis2003/62/.

37. Egan T.M. Grounded Theory research and theory building. *Advances in developing human resources.* 2002;4(3):277-295.

38. Glaser B.G.Theoretical sensitivity: Advances in the methodology of Grounded Theory. United States of America: Sociology Press (Mill Valley, Calif.); 1978.

39. Strauss A.L, Corbin J.M. *Basics of qualitative research: Techniques and procedures for developing* Grounded Theory. Second ed. USA: SAGE; 1989.

40. Hoda R., Noble J., Marshall S. *Grounded Theory for Geeks.* Patterns

languages of programs conference; Portland, USA. ; 2011.

41. Bravo E., Enache M., Fernandez V. An innovative teaching practice based on online channels: A qualitative approach. *World Journal on Educational Technology.* 2010;2(2):113-123.

42. Charmaz C. Strategies of qualitative enquiry. 2nd ed. Norman K. Denzin and Yvonna S. Lincoln, editor. California: Sage; 2003.

43. Glaser BG. Costructivist Grounded Theory? *Qualitative Social Research.* 2002;3(3):1-20.

44. Walker D., and Myrick F. Grounded Theory: An exploration of process and procedure. *Qualitative Health Research.* 2006;16(4):547-559.

45. Annells M. Hermeneutic phenomenology: Philosophical perspectives and current use in nursing research. *Journal of advanced nursing.* 1996;23(4):705-713.

46. Clarke A.E. Situational analysis: Grounded Theory mapping after the postmodern turn. *Symbolic Interaction.* 2003;26(4):553-576.

47. Fekedi T. The basis of distinction between qualitative and quantitative research in social science: Reflection on ontological, epistemological and methodological perspectives. *Ethiopian Journal of Education and Science.* 2010;6(1):97-108.

48. Glaser B.G. Conceptualization: On theory and theorizing using Grounded Theory. *International Journal of Qualitative Methods.* 2002;1(2):23-38.

49. Bowen G.A. Grounded Theory and sensitizing concepts. *International Journal of Qualitative Methods.* 2006;5(3):12-23.

50. Joseph M., McClure C., Joseph B. Service quality in the banking sector: The impact of technology on service delivery. *International Journal of Bank Marketing.* 1999;17(4):182-191.

51. Mcfarlan F.W. *Enterprise APP Today* [Online]. 2010. Available from: http://www.crm2day.com.

52. Chiovitti R.F., Piran N. Rigour and Grounded Theory research. *Journal of Advanced Nursing.* 2003;44(4):427-435.

53. Goulding C. Grounded Theory*,* ethnography, and phenomenology: A comparative analysis of three qualitative strategies for marketing research. *European Journal of Marketing.* 2005;39(3/4):294-308.

54. Urquhart C., editor. *An encounter with* Grounded Theory*: Tackling the practical and philosophical issues.* USA: IGI Publishing; 2001.

55. Bringer J.D., Johnston L.H., Brakenridge CH. Using computer-assisted qualitative data analysis software (CAQDAS) to develop a Grounded Theory project. *SAGE Journals.* 2002;18(3):245-266.

56. Glaser B.G., Holton J. Remodeling Grounded Theory. *Qualitative Social Research.* 2004;5(2):1-20.

57. Glaser B.G. Constructivist Grounded Theory. *Quantitative social reserch.* 2002;3(3):1-20.

58. Mavetera N., Kroeze J.H. Practical considerations in Grounded Theory research. *Sprouts: Working Papers on Information Systems.* 2009;9(32):1-25.

59. Bashir M., Afzal M.T., Azeem M. Reliability and validity of qualitative and operational research paradigm. *Pakistan Journal of Statistics and Operation Research.* 2008;4(1):35-45.

60. Collier J.E., Bienstock C.C. Measuring service quality in e-retailing. *Journal of service research.* 2006;8(3):260-275.

61. Park C., Kim Y. Identifying key factors affecting consumer purchase behaviour in an online shopping context. *International Journal of Retail and Distribution Management.* 2003;31(1):16-29.

62. Pope C., Ziebland S., Mays N. Qualitative research in health care: Analysing qualitative data. *British Medical Journal.* 2002;320:114-116.

63. Matzler K., Hinterhuber H.H. How to make product development projects more successful by integrating Kano's model of customer satisfaction into quality function deployment. *Technovation.* 1998;18(1):25-38.

64. Sadeh E., Mousavi L., Garkaz M., Sadeh S.The structural model of e-service quality, e-customer satisfaction, trust, customer, perceived value and e-loyalty. *Australian Journal of Basic and Applied Sciences.* 2011;5(3):532-538.

APPENDIX

APPENDIX A

Table 1A: Semi-structured interview questions

OBJECTIVES	QUESTIONS
To uncover the factors that have a positive impact on a customer's online shopping experience by using Grounded Theory. (7)	What were the most enjoyable factors of your online shopping experience?
To uncover the factors that have a negative impact on a customer's online shopping experience by using Grounded Theory. (7)	What were the most frustrating factors of your online shopping experience?
To assess the effect of perceived risk on e-service adoption in South Africa by identifying the most prevalent factors that influence customers' e-service adoption. (31)	What are the risks that concern you regarding online shopping? Are you comfortable with the level of security offered on the website? To what extent does this influence your decision to shop online or in a physical store?
To explore the customer's preference for e-services rather than face-to-face interaction. The customer's perception of an e-service determines the level of customer satisfaction, which	Would you say that you received a better quality of service and that it was more convenient to use the e-service, compared to shopping in a physical store? Please explain.
will determine the adoption or rejection of the e-service. (64)	

APPENDIX B

Table 2B: Qualitative Questionnaire

CATEGORY BEING ADDRESSED	No.	Questions
Satisfying customer needs	1	What is your intention for using the e-service?
User-friendly system Techno-stress Customer familiarity	2	Was it easy to navigate the website?
User-friendly system Techno-stress	3	Were you allowed to return to previous actions in the case of a mistake?
Risk	4	Does it concern you that this site may misuse your personal information?
Risk	5	Does this site use your contact details to send you spam or unwanted advertisements?
Relevant content	6	Were the item details you were interested in available? Price? Delivery options? Payment options?
Delivery performance	7	Please comment on the waiting time between your action and the website's response time.
	8	Has the website

Recovery from failure		ever crashed in the midst of your purchase?
Satisfying customer needs	9	Were your items protected from damage during delivery?
Satisfying customer needs	10	Were your items delivered on time?
Satisfying customer needs	11	Did you receive the correct order in terms of quantity and billing?
Customisation Relevant content Satisfying customer needs Elimination of barriers Customer trust and loyalty	12	Was it easy to make comparisons with other products and prices in order to reach your decision?
Techno-stress User-friendly system Customer familiarity	13	Did you easily understand what the icons represented?
Self-service Time factor	14	Do you think you would have saved more time by face-to-face interaction?
Self-service Time factor	15	Do you think your problem would have been resolved faster with face-to-face interaction?
Self-service Time factor Customer support	16	Did you receive efficient online assistance? In what form was there assistance: documents, videos, call centre?

		Which form of assistance is most effective in your opinion?
Risk	17	In your view, how significant is the contribution that online shopping makes to fraud and identity theft?
Satisfying customer needs	18	Do you feel that you saved money by shopping online?
Customer familiarity	19	How often do you shop online?
Satisfying customer needs Elimination of barriers Customisation	20	Is there a specific line of products that you prefer purchasing online rather than in a physical store?
Risk	21	Was the confirmation process satisfying/comforting to you?
Satisfying customer needs	22	Please comment on your overall online shopping experience.
Customer trust, loyalty and social influence	23	Are you confident to refer this e-service to others?

Questions were adapted from:

1. Collier (2006) in the environment of e-Retailing (60)
2. Park and Kim (2003) in the environment of online shopping (61)
3. Tarafdar (2011) in the environment of information and communication technologies (ICT) (8)
4. Lee and Joshi (2007) in the environment of online shopping (2)