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Modelling the effects of systems quality, user trust and user satisfaction on purchase intention

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Title: Modelling the effects of systems quality, user trust and user satisfaction on purchase intention

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in partial fulfilment of the requirements for the degree of Master of Management in Strategic Marketing

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ABSTRACT

The remarkable and apparent growth in the use of mobile technology in society is eccentric. Mobile technology brought about a swift change on how business is conducted and how individual communicate and interact. The increasing number of mobile applications available in app stores could be a challenge for developers as they will be required to stay innovative in order to acquire and maintain a competitive edge. For the mobile application businesses to succeed, owners of these applications need to know and understand their customers and their requirements to be able to meet their demands. Due to the currency of this trend, there seems to be scarcity in terms of academic literature and information intelligence for businesses on the subject. The purpose of the study is therefore to investigate the influence of systems quality, user trust and user satisfaction on purchase intention of mobile applications users in South African.

A quantitative survey was conducted using a sample of 500 internet user in Gauteng Province. The survey questionnaire was designed on Qualtrics. A project manager was appointed to roll out the project that lasted two weeks. After collecting 353 responses, the survey was closed. The results were statistically analysed using the IBM SPSS to draw descriptive statistics. The construct reliability and validity was assessed by conducting Confirmatory Factor Analysis (CFA) using AMOS version 22. The model fit was also assessed by conducting path modelling.

The results of the study indicated some level of significance on all the relationships. However, the results showed a very weak significance level between user satisfaction and purchase intention. In the concluding chapter, a number of recommendations are provided where it was suggested that business should invest and channel their resources towards building trust and reliance with their customers. The limitations of the study were highlighted and the chapter concluded by making suggestions for future research.

Key Words: System Quality, user trust, satisfaction, purchase intension, Technology Acceptance Model (TAM)

DECLARATION

I, _____, declare that this research report is my own work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Management in Strategic Marketing in the University of Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

(Mihloti Mkhatshwa)

Signed at ……

On the …… day of …….. 2015

DEDICATION

I would like to dedicate this thesis to the memory of my late brother Tony Lybon Mkhatshwa.

This work is also dedicated to academia community of the Republic of South Africa.

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I would like to express my profound gratitude to the following individuals and institutions for their generous and undivided support during my study:

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To my family; thanks for the love, support and sacrifices you have made for me in the two years of completing my studies. I would like to especially thank my dad for holding my hand as I approach the finishing line, you've always been and still is my pillar of strength and my first love. This qualification is dedicated to you all.

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CHAPTER 1. OVERVIEW OF THE STUDY

1.1. Introduction

The chapter presented the introduction to the study on system quality, user trust and user satisfaction with special reference to purchase intentions. Businesses are able to maximize the intended profits through the use of mobile technology that plays a very pivotal role in the industry. Consumers are without doubt, able to access their intended products before committing themselves through this system. The context of the study, problem statement and purpose of the study were outlined as manifested in the introduction. Research objectives and research questions were highlighted. In addition the significance of the study was discussed and delimitations of the study was briefly outlined. The key concepts used were defined with clear interpretations. Research flow and outline of chapters for the entire study was provided.

The next chapter provides literature review on system quality, user trust and user satisfaction as antecedents of purchase intention.

1.2. Context of the study

Mobile technology came with the introduction of mobile devices such as smartphones and tablets, which attracted the attention of both consumers and businesses (Chen, 2013). A mobile application is a downloadable software, developed by a vendor for installation in the mobile device (Zheng, Yan, Valtteri, & Guoliang, 2013). According to Dlodlo & Mahlangu (2013), active mobile users in South Africa were estimated at approximately 35 million, which accounts for over 80% of the total population and almost 60% of mobile users use mobile devices to browse the internet.

Masote (2012) states that the rapid growth in mobile communication has driven many investments into the African continent. This technological innovation has given rise to what is called “borderless enterprise”- a workforce that goes

beyond its employees and includes any willing individual connected to the internet (Pickworth, 2014). Businesses have seen an opportunity to extend their operations beyond the traditional bricks-and-mortar, and e-commerce shopping channels. Mobile commerce has resulted in businesses finding new means of generating extra traffic to their websites.

As customers require control, choice as well as flexibility in their online space (BusinessWire, 2014a), mobile commerce provides the benefit of convenient financial and non-financial transactions at any time and everywhere (Chung & Kwon, 2009). Businesses operating in the business-to-customer (b2c) environment have been pressured by this evolution to adapt their websites to allow for access through mobile devices (Abdul-Ghani, Hyde, & Marshall, 2011).

Recently, scholars have shown interest in the adaptation of mobile service quality as a predictor of purchase intention in the retail and service marketing industry (Lu, Zhang, & Wang, 2009; Chinomona & Sadanda, 2013). Acknowledging that people are now able to access their banks and retail shops without having to move away from their homes or offices (Gao, 2013). It is vital to examine the system quality of mobile applications downloaded on mobile devices (Chen, 2013). Thousands of mobile applications are developed on a daily basis, however, it is expected that only high-quality applications will survive in this growing market (Song, Kim, Jones, Baker, & Chin, 2014).

The current chapter starts by presenting the problem statement and the purpose of the study. The research objectives – both theoretical and empirical- as well as the research objectives are outlined. The chapter further states the significance of the study as a justification for conducting the research project. The delimitations of the study are explained. Definitions of constructs central to this study are provided based to previous and current literature.

1.3. Problem statement

Despite the advancement of the mobile commerce trend, scholarly work in this area remain scarce (Chung & Kwon, 2009; Masote, 2012; Song *et al.*, 2014).

Since this area of research is relatively new (Chiang & Liao, 2012b). As a result, the collective knowledge in this area of research is limited. The focus has not been adequately directed into establishing the impact of this new technology-led marketing on consumer behaviour (Dlodlo & Mahlangu, 2013; Du Plessis, 2010), particularly in the context of South African., which warrants more research on the constructs that affect systems quality and purchase intention.

Although mobile marketing ideally has a great potential in business value, the global usage rates have been negatively affected by issues such as user trust. (Chung & Kwon, 2009). Researchers such as Ba, Whinston and Zhang (2003) state that mobile commerce is prone to a high prevalence of online fraud and this is seen as the main concern for mobile app shoppers (Ba *et al.*, 2003). Chun and Kwon (2009) believe that when service providers have gained user's trust, users are more likely to be satisfied. Equally, if the user's trust on a service provider is low, user's satisfaction levels may be expected to be low (Strom, 2014).

Developing from the above literature, many scholars have focused on the importance of mobile service quality and its influences on trust, satisfaction and loyalty (Collier & Bienstock, 2015; Gounaris, Dimitriadis, & Stathakopoulos, 2010; Turel & Serenko, 2006). This clarifies the broad existing gap in the mobile marketing literature as very little is known on how system quality, user trust and user satisfaction have an influence on user purchase intention using mobile applications. Consequently, this study will present the following problem:

1.3.1. Main Problem

The main problem is that, it appears that there is a lack of understanding on the impact of mobile application system quality on user trust and user satisfaction and purchase intention.

1.4. Purpose of the study

The purpose of the study is to investigate how system quality, user trust and user satisfaction influence purchase intention on mobile application among South African Internet users.

1.5. Research Objectives

1.5.1. Theoretical Objectives

- To conduct a literature review on system quality
- To conduct a literature review on user trust
- To conduct a literature review on user satisfaction
- To conduct a literature review on purchase intention

1.5.2. Empirical Objectives

- To determine the influence of system quality on user trust
- To determine the influence of system quality on user satisfaction
- To determine the influence of user trust on user satisfaction
- To determine the influence of user trust on purchase intention
- To determine the influence of user satisfaction on purchase intention

1.6. Research questions

- To what extent does system quality influence user trust?
- To what extent does system quality influence user satisfaction?
- To what extent does user trust influence user satisfaction?
- To what extent does user trust influence purchase intention?
- To what extent does user satisfaction influence purchase intention?

1.7. Significance of the study

The use of mobile technology in this day and age is indispensable. Mobile technology has a great potential of adding value in businesses as it has been instrumental in attracting new markets that were not easy to reach previously especially in the African continent (Aker & Mbiti, 2010; BusinessWire, 2014b). Although mobile commerce is still in its embryonic stage, its versatility supported by recreational nature appeals to the consumer (Scarpi, Pizzi, & Visentin, 2014b; Yang, 2013), which adds to its efficiency as a marketing channel (Watson, McCarthy, & Rowley, 2013).

Despite the explosion of the mobile technology trend since the introduction of mobile apps (Amirkhanpour, Vrontis, & Thrassou, 2014), there is a growing concern with regards to the quality of the mobile application system that is capable to pursue customer's intention to purchase (Earley, 2014). Yang (2012) therefore suggests that the examination of contextual factors of mobile commerce such as user characteristics and technology characteristics, to determine whether the design of the mobile shopping environment meets consumer expectations (Shankar & Balasubramanian, 2009).

The aim of the current is to address this gap in the South African context, as it is vital for business operators in the mobile environment (Aker & Mbiti, 2010) . Business operators and mobile application developers also need to understand what the customers' expectations are (Scarpi, Pizzi, & Visentin, 2014a) before they can integrate mobile sales into their business (Chen, 2013).

The outcomes of this study will help broaden the current and sparse literature surrounding mobile applications in South Africa. The results will be helpful not only for academics and for researchers engaged in the study of mobile commerce, but also those who are involved in developing the infrastructure for mobile systems in conjunction with marketers and businesses who use these channels to reach their customers and conduct their businesses.

1.8. Delimitations of the study

The study's aim is not to examine the quality of a mobile device that a consumer would use to do mobile shopping; the focus is on the system quality of the mobile applications that vendors use to facilitate mobile commerce. The current study will only focus on the buyers' perspectives to determine whether the system quality of mobile application would motivate them to purchase from mobile devices using mobile applications.

1.9. Definition of terms

1.9.1. System quality

System quality refers to consumers' evaluation of mobile website technical characteristics (DeLone & McLean, 2003). This may include factors such as the visual appeal, security or privacy, interactivity and the navigational structure of the mobile application (Bai, Rob, & Wen, 2008).

1.9.2. Trust

Trust is defined by Flavian, Guinaliu and Gurrea (2006) as a group of convictions perceived about a brand, product or service and the organisation where the products or services are bought or sold. A key element of trust in a mobile applications is the conviction customers have that a mobile system operator would have good intentions and motives for the customer (Li & Suomi, 2008).

1.9.3. Satisfaction

Satisfaction in mobile technology is an overall perception indicating the summative outcomes drawn from experiences with the mobile system over time (Szymanski & Hise, 2000). Chung and Kwon (2009) suggest that user satisfaction is dependent on performance and could be an outcome of various elements such as information structure, content, and web design.

1.9.4. Purchase intention

Purchase intention is defined by Petter *et al.* (2008) as the consumers' desire to purchase a particular product or service offering. Purchase intention in information systems is highly dependent on the performance of that technology (Chen, 2013)

1.10. Assumptions

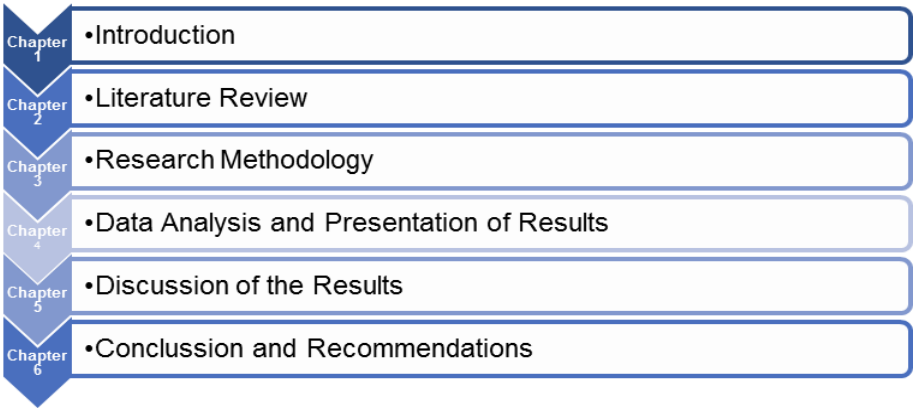
The research study makes the following assumptions:

a. The first assumption is that the 300 sample units will be representative of the populace.

b. The third assumption is that the respondents have mobile devices with internet access.

1.11. Research Flow

Figure 1: Research Flow



Source: Own

1.12. Research Outline

Chapter one: Introduction

The chapter provides an introduction to the study. The context of the study, problem statement and purpose of the study are outlined. The research

objectives and research questions are highlighted. In addition the significance of the study is discussed and delimitations of the study are briefly highlighted. The key concepts used are defined, the research flow and outline of chapters for the entire study is provided.

Chapter two: Literature Review

In this chapter, literature on system quality, user trust and user satisfaction as antecedents of purchase intention are reviewed. The Theory of Technology Acceptance Model (TAM) gives a theoretical foundation for prodding the antecedents of purchase intention.

Chapter three: Research Methodology

The chapter provides the methodology used in the study. The philosophical underpinnings of the study and research design utilised are covered in this chapter. Quantitative reliability and validity measures are explained in detail. The statistical procedures for data analysis are described and justified.

Chapter four: Data analysis and presentation of results

The results of the study are illustrated and tabulated in this chapter. The chapter also interprets and relates the results of the study to the empirical objectives and hypotheses.

Chapter five: Discussion of the results

An extensive discussion of the findings is done in this chapter, the findings are discussed by analysing the results from the empirical phase of the study

Chapter six: Conclusions and recommendations

Conclusions and recommendations emanating from the study are provided. Implications of the research findings are discussed and limitations of the study are highlighted. This chapter also suggests avenues for further research.

CHAPTER 2. Literature Review

2.1. Introduction

This section consists of a literature review on the key areas of significance to the study. To provide the background of the study the chapter start with an overview of the mobile technology landscape internationally and locally. In addition, a view of online classifieds in South Africa is presented to contextualise the discussion on the role that mobile technology play in mobile commerce. The chapter continues with the outline of the work of Davis (1986); (Yang, Chye, Fern, & Kang, 2015) and Chang and Huang (2015) as a theory that underlie the variables used in the research. A theoretical review of system quality, user trust, user satisfaction, and purchase intention, as constructs under scrutiny is articulated as a focus of this section. The chapter concludes with a summary of the key learnings acquired in the literature reviewed.

2.2. The Mobile Technology Landscape in South Africa

Global trends spread across the world in a speed of light and customers demand access to on-trend ranges that they see through the internet, social media and other electronic communication channels (Mitchell, Godoy, Shabazz, & Horn, 2014). South Africa sees a swift expansion in the online market as more and more people use their PC's, smartphones and tablets to do daily transactions that previously required them standing in queues and speaking to call-centre agents (Sahu, Grover, & Joshi, 2014). The author further states that Internet connectivity in Africa has improved over the past three years, and this has reduced the cost of surfing the net; the connectivity speed has improved and is more reliable than before (Sahu *et al.*, 2014).

Airports, shopping malls, office parks, train stations, and many other public spaces have Wi-Fi hotspots, which enable customers to surf the net while busy with their daily activities (WorldWideWorx, 2012) . Giving their businesses

mobility across all devices could be beneficial to marketers as the online shoppers use of mobile devices is (Mitchell *et al*., 2014) waning. The percentage of browsers from mobile devices in South Africa is expanding. According to the Effective Measure's digital market data report (June, 2013), 48.73% of South Africans use ADSL for connection and 36% use mobile connectivity.

2.3. The Adoption of Mobile Application Trend

Phones have evolved into smart devices that are powerful such that they have the capability to execute various functions that used to be limited to personal computers, laptop or servers (Kuenhnhausen & Frost, 2013). A mobile application is a software application that runs on a smartphone or other portable devices (Song *et al*., 2014). Song *et al*. (2014), points out the capability that mobile applications have of enabling users to use internet services that were previously only available to desktops and notebook computers as well as offering functionality that is only available to mobile devices such as GPS navigation, location-based services or QR-code scan product searches.

Online vendors in South Africa saw the potential in mobile commerce and invested early in this platform where they built highly rated mobile applications (BusinessWire, 2014a). Mobile devices have been the key driver of growth of online shopping in emerging markets and are bypassing the usage of PCs when shopping online (BusinessWire, 2014a). Marketing behaviour has shown a significant improvement through mobile technology as it can be used as a middle-man in a customer-to-customer trade (Aker & Mbiti, 2010)

2.4. The Technology Acceptance Model (Davis, 1989)

TAM stands for Technology Acceptance Model and was proposed by Davis (1989). The theory has been widely used by many researchers in explaining the adoption of Information Technology (Carlos Roca, José García, & José de la Vega, 2009; Gefen, Karahanna, & Straub, 2003). The theory propose that user

adoption to technology is mainly dependent on perceived usefulness and perceived ease of use (Zhou, 2011). Empirical results from a study conducted by Zhou (2011) showed that system quality is the main factor affecting perceived ease of use. Carlos Roca *et al*. (2009), conducted a study on online trading systems, and the findings indicate that the most significant precursor of behavioural intention is trust. This was supported by Zhou (2011) study indicating a positive relationship between trust and satisfaction.

The Information System (IS) Success Model of DeLone and McLean (2003) is another theory that has been largely examined in many IS studies. In 1992, DeLone and McLean undertook a review of literature published during the period 1981-1987 in order to come up with the measurement IS success. Consequently, a comprehensive multidimensional model of IS success was developed (DeLone & McLean, 2003). This proved to have been a valuable framework for organizing IS measurement (Petter, DeLone, & McLean, 2008b). The IS model proposed systems quality which measures technical success; and information quality measure sematic success; and effectiveness success is measured by use, user satisfaction, individual impacts as well as organizational impacts (DeLone & McLean, 2003).

The system quality dimension has receive less formal attention in the IS literature (Nelson, Todd, & Wixom, 2005). System quality is a measure of the desired characteristics of an e-commerce system in relation to its design and technical features (DeLone & McLean, 2004). It can be expressed as a measure of how well an information system performs in an interaction between the user and the website (Cheung & Lee, 2014). Gable, Sedera, and Chan (2008) and Petter *et al.* (2008). In mobile commerce, system quality is a concept that explains a system that has the desired attributes of both mobile devices and web browsing services required by users (Chen, 2013).

The current study is grounded on these two theories as TAM explains why other IS are easily accepted by users than others which effects purchase intention; and IS success model seeks to explains the causal relationships between the quality of IS, level of trust and satisfaction in mobile applications (Chung & Kwon, 2009).

2.5. System quality

Traditionally, dimensions of system quality consist of usability, availability, reliability, adaptability, accessibility, responsiveness and flexibility (Chen & Cheng, 2009; DeLone & McLean, 2003; Petter, DeLone, & McLean, 2008a). However, customers in virtual communities have become increasingly sophisticated and seek more than reliability, responsiveness and flexibility of an information system.

Many authors have developed multiple dimensions of system quality which contributed to the IS literature have added in recent body of knowledge other dimensions of system quality that are seen as important in the VC. The dimensions include amongst others

Table 1: Multiple dimensions of system quality

Dimension	References
Accessibility	Zheng, Zhao and Stylianou (2013); Gable, Sedera and Chan (2008); Cheung and Lee (2014); Teo, Srivastava and Jiang (2008); Nelson, Todd and Wixom (2005); DeLone and McLean (1992); Zhou (2013)
Adaptability	DeLone & McLean (2003); Zaied (2012)
Appearance	Zheng, Zhao and Stylianou (2013); Vance, Elie-Dit-Cosaque and Straub (2008); Zhou (2013)
Availability	DeLone & McLean (2003)
Efficiency	Stefani and Xenos (2011); Gable, Sedera and Chan (2008); DeLone and McLean (1992)
Flexibility	Gable, Sedera and Chan (2008); Teo, Srivastava and Jiang (2008); Nelson, Todd and Wixom (2005); DeLone and McLean (1992)
Functionality	Stefani and Xenos (2011); Petter and McLean (2009)
Interactivity	Zheng, Zhao and Stylianou (2013)

Integration	Gable, Sedera and Chan (2008); Teo, Srivastava and Jiang (2008); Nelson, Todd and Wixom (2005); DeLone and McLean (1992)
Navigation	Zheng, Zhao and Stylianou (2013); Vance, Elie-Dit-Cosaque and Straub (2008); Cheung and Lee (2014); Zhou (2013)
Reliability	Stefani and Xenos (2011); Sharkey, Scott, and Acton (2006); DeLone & McLean (1992); Petter and McLean (2009); Zaied (2012); Gable, Sedera and Chan (2008); Nelson, Todd and Wixom (2005)
Response Time	DeLone & McLean (1992); Teo, Srivastava and Jiang (2008); Nelson, Todd and Wixom (2005)
Security	Zheng, Zhao and Stylianou (2013); Kim, Galliers, Shin, Ryoo and Kim (2012);
Usability	Stefani & Xenos (2011); Sharkey, Scott, & Acton (2006); DeLone & McLean (2003); Zaied (2012); Cheung and Lee (2014); Teo, Srivastava and Jiang (2008)

Source: Own

An IS should be able should be able to adjust its content to the ever-changing demands of the customers (Chen & Cheng, 2009). Vance, Elie-Dit-Cosaque and Straub (2008) state that mobile applications should be designed in such a way that the information is logically arranged if necessary it can be arranged in categories. Clearly arranged information guides the mobile app user to the different options available to them, and how they can locate these options on a mobile app (McKinney *et al*., 2002). Furthermore, a system quality of a mobile app could be questionable if is not user friendly and have poor interface design as users may feel that the service provider is unable to offer quality service (Zhou, 2013).

The vendors are faceless in this environment; the interface therefore becomes the 'online storefront' through which first impressions are formed (Chung & Kwon, 2009). This lack of human contact consequently makes it crucial for the IS to protect user's privacy and make them feel safe and comfortable to participate in this environment (Zheng, Zhao, & Stylianou, 2013).

2.5.1. Responsiveness

Li and Suomi (2008) describe responsiveness as an element of a mobile system quality concerned with how quickly the mobile system responds to requests for information or downloads, and quickly solves problems. Due to its mobility nature, users of mobile classifieds expect immediacy when making transactions or communicating with the buyers. The mobile system should enable consumers to transact and communicate in a more convenient manner that saves them time and money (Chiang & Liao, 2012b).

2.5.2. Navigation

Navigation is a guide in a form of links, which gives direction to the mobile system user of the different information available on the mobile site, and how to locate this information (McKinney *et al*., 2002).

2.5.3. Security

Security refers to the freedom from danger, risks or doubts (Li & Suomi, 2008). In the context of a mobile system, security is defined by Thair, Peter and Suhuai (2009) as a verified technical solution associated with confidentiality, authentication, integrity and non-repudiation. State-of-the-art security measures may generate a system that works efficiently; however, that does not warrant that the system would be trusted. This study therefore employs the concept of security as people believe that a secure mobile system is of a good quality and tend to be more willing to make transactions that involve money and sharing of personal information (Thair, Peter, & Suhuai, 2009).

2.6. Trust

Trust is a broad concept that has been defined in many different ways by scholars from different disciplines, however, there is consensus among researchers that trust is a social and psychological phenomenon (Chopra & Wallace, 2002). Some scholars have focused on trust as an expectation or attitude (Rotter, 1967; Rempel, Holmes, & Zanna, 1985; Barber, 1983). Another

common approach is that trust is characterised by an intention or willingness to act (Johns, 1996; Mayer, Davis, & Schoorman, 1995; Moorman, Deshpande, & Zaltman, 1993). Table 2 below will describe the different definitions of trust adapted from different studies:

Table 2: Definitions of Trust

Definition	Discipline	Source
"Expectancy held by an individual that the word, promise or written communication of another can be relied upon."	Sociology and Psychology	Rotter (1967)
"Expectations of fiduciary obligation and responsibility, that is, the expectation that some others in our social relationships have moral obligations and responsibility to demonstrate a special concern for others' interests above their own."	Sociology and Psychology	Barber (1983)
"Expectation related to subjective probability an individual assigns to the occurrence of some set of future events."	Sociology and Psychology	Rempel *et al.* (1985)
"Willingness to rely on an exchange partner in whom one has confidence."	Psychology and Marketing	Moorman *et al.* (1993)
"Willingness to place oneself in a relationship that establishes or increases vulnerability with the reliance on someone or something to perform as expected."	Psychology	Johns (1996)
"Willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that party."	Marketing	Mayer *et al.* (1995)

“Based A belief on whether the mobile application could fulfil a task as expected.”	Computer Systems and Psychology	Yan, Dong, Niemi and Yu (2013)

Source: Own

The most accepted and widely used far more than other definitions of trust is by Mayer *et al.* (1995). The citation database of the Institute for Scientific Information indicated that the article has been cited 203 times, far more than others on the topic of trust. Trust as defined by study is however going to look at trust as defined by (Yan *et al.*, 2013)

Yan *et al.* (2013) believe that trust in a mobile application is developed with the use of the application and that it can change due to the influence of many factors. From these definitions one can postulate that trust involves an individual having some form of expectation on another party or phenomenon; as they have a set of beliefs that the other party or phenomenon is capable of performing a particular action, and they are willing to risk or put themselves in a vulnerable position.

2.6.1. Trusting beliefs

Trust is an intrinsic element in every business transaction then again it is even a bigger concern in e-commerce and all web-based interfaces. Before engaging with the seller in a virtual environment, customers need to trust that they will get the goods or service advertised and that private information such as names, contact details and credit card details will not be disclosed to a third party (Grandison & Sloman, 2000). Due to the nature and size of mobile devices, people who are used to transacting on a PC may find it difficult to trust these portable and small devices with their personal information. Trust management should thus be a basic part of a business for mobile commerce to achieve the same levels of acceptance as traditional commerce (Grandison & Sloman, 2000).

Various literature on trust have demonstrated that trust is a crucial issue in that people tend to rely on technology they trust and reject technology they do not

(Lee & See, 2004). Furthermore, Lee and See (2004) posit that trust plays a role in people overcoming the challenge of handling progressively sophisticated technology. Trust in the seller's competence and integrity will also impact the customer's decision as to which seller to use (Grandison & Sloman, 2000).

2.6.2. User trust in mobile applications

Trust in mobile application is seen as an inherent mind-set of a user that is highly subjective and can be difficult to measure (Yan *et al.*, 2013). User's trust in mobile application can be developed during the use of the mobile application by observing its operational outcomes (Yan *et al.,* 2013).

According to Chiang and Liao (2012a), consumers build trust and are more comfortable to make transactions on a mobile system that is believed to be of a high quality. Trust involves a certain degree of taking risks, and this creates some sense of vulnerability on a customer to the mobile system operator (Chinomona & Sandada, 2013). Many scholars believe that trust is built gradually, grounded on positive outcomes, and if there are uncertainties about a mobile system and the consumer, chances of the user establishing long term relations with the mobile site would be low (Chiang & Liao, 2012a; Chiu, Hsu, Lai, & Chang, 2012).

2.7. User Satisfaction

Satisfaction is defined as a pleasant or disappointed status formed by customers after comparing the perceived actual results of a product or service with the expected one (Taha, Jahed, Ahmad, & Zakaria, 2013). If the perceived results are lower than the expected one, a customer's feelings of dissatisfaction will intensify. Because of mobile commerce's short history, mobile satisfaction has rarely been given much consideration. Many researchers pay attention more to the customer's reasons for accepting mobile commerce rather than on what is it about the mobile system would lead to customer satisfaction (Taha *et al.* 2013).

The authors therefore suggest that gaining more insight on mobile satisfaction will lead to a better understanding of successful applications in the mobile commerce area. Moreover, they believe the more mobile application operators and mobile system developers know about drivers and predictors of mobile satisfaction, the better they will come up with reliable and secure mobile applications and systems.

2.7.1. User satisfaction in mobile applications

User satisfaction has been prominently used as a measure for information systems (Chung & Kwon, 2009). Many academics allude to the fact that satisfaction in mobile technology is highly dependent on performance that adds social, emotional and conditional value (Varnali & Toker, 2010).

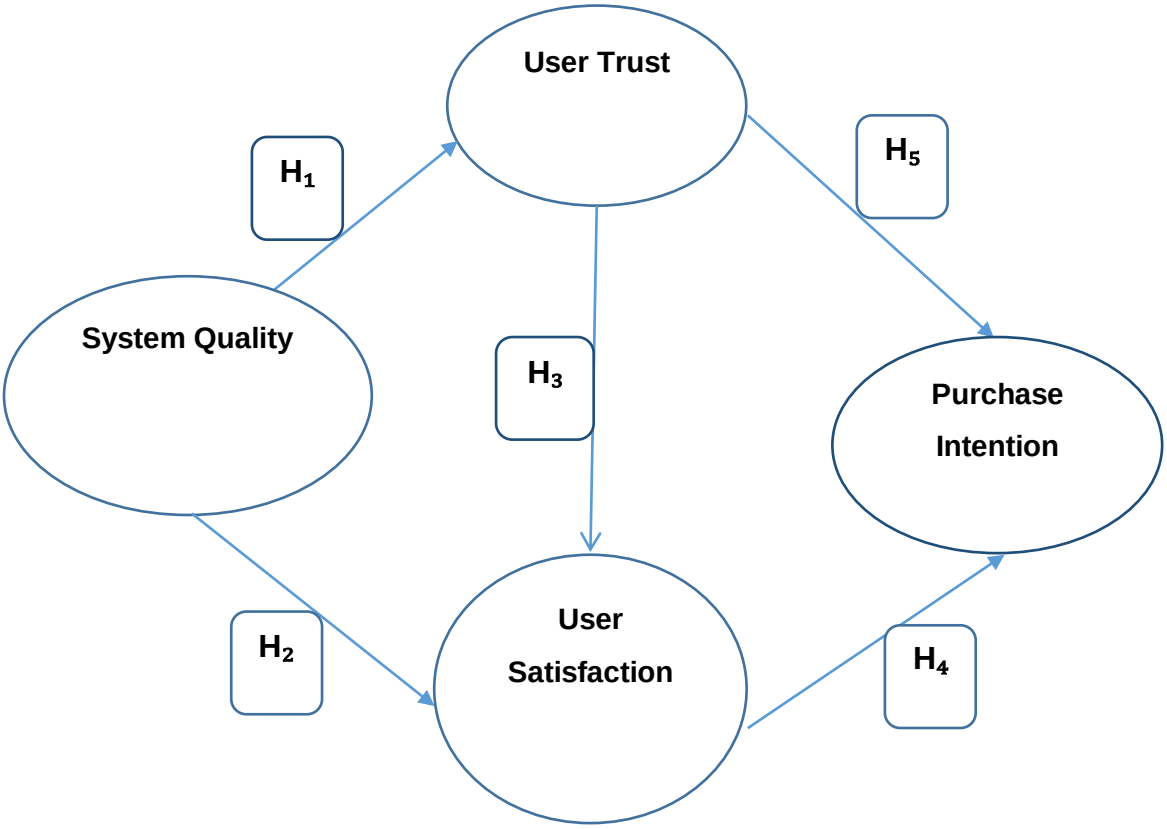
2.8. Purchase intention

Although customers may know about the benefits (such as saving time) associated with using mobile applications as a shopping channel, they are sometimes reluctant to use mobile applications because of the limited mobile system interface that hampers their judgement of the sellers honesty compared to traditional retail shopping (Lin, 2007). The Technology Acceptance Model (TAM) developed by Davis (1986), and Theory of Planned Behaviour (TPB) founded by Ajzen (1985, 1989) are the most popular intention-based models used to understand consumer intentions to use internet services (Lin, 2007).

The quality of an information system (IS) would be futile if the system is not used; hence many scholarly researches put emphasis on IS use instead of the actual IS. Mobile system operators need to understand how people decide whether they would, use a particular IS or not (Mathieson, 1991), the same applies to mobile classifieds operators. They need to know what is it about their mobile systems would lead to purchasing or purchase intention.

2.9. Conceptual model

Figure 2: A Conceptual Model of Mobile System Quality, Satisfaction, Trust and Purchase Intention



Source: Own

2.10. Hypotheses Development

The Technology Acceptance Model (TAM describes how people use technology or information systems (IS) (Davis, 1989). TAM is mainly grounded on two views that is Perceived Ease of Use and Perceived Usefulness (Wang & Lin, 2012). Researchers such as Chinomona (2013), Kuppelwieser, Sarstedt and Tuzovic (2014), Gurtner, Reinhardt and Soyez (2014) and Wu (2013) have conducted research on how users accept and use IS in a variety of settings. System quality focusses on the technical level of IS, trust and satisfaction focuses on the perceptual side of the user. The study therefore would like to

explore TAM, by looking at system quality, user trust and user satisfaction as antecedents of purchase intention among mobile applications users. Based on the above, the following assumptions were therefore hypothesized:

H_1 ⇒ there is a positive relationship between system quality and user trust

H_2 ⇒ there is a positive relationship between system quality and user satisfaction

H_3 ⇒ there is a positive relationship between user trust and user satisfaction

H_4 ⇒ there is a positive relationship between user trust and purchase intention

H_5 ⇒ there is a positive relationship between mobile user satisfaction and purchase intention

2.11. Summary

The key findings of the literature review suggest that the system quality-purchase intention interface in mobile commerce is an important yet under-researched area particularly in the South African context. A useful approach to the system quality-purchase intention interface research focuses on the planned behaviour of the consumer. It is important for mobile application vendors to understand the perceptions of consumers towards system quality if they are to come up with superior mobile applications software and other offerings to enhance customer intention to purchase and repurchase

CHAPTER 3. Research methodology

3.1. Introduction

The current chapter presents the research philosophy that will guide or shape the approach of the research. This chapter illustrates the research methods used in the study and justify the selection of the chosen methods. The research design is outlined and the steps and actions taken to ensure good validity and reliability are also explained. In addition, the procedures used to collect, capture and process the data as well as the techniques implemented to analyse the data are discussed in this chapter.

3.2. Research Philosophy

One of the most critical challenges researchers are confronted with is the selection and justification of the research paradigm (Crotty, 1998). In theory, a research paradigm refers to a set of philosophical worldviews, assumptions, beliefs, values and methods within which research studies are conducted (Cresswell, 2009; Quinlan, 2011). Factors such as the nature and discipline area of the research, the beliefs of mentors and experts in a particular field of research or past research experience shape these worldviews (Cresswell, 2009). This informs researchers' decision of which research approach would be suitable for a particular study i.e. qualitative, quantitative or mixed methods (Cresswell, 2009). Table 3 will present the four main worldviews and the major elements of each position.

Table 3: Four Worldviews

Postpositivism	Constructivism
• Determination • Reductionism	• Understanding • Multiple participant meanings

• Empirical observation and measurement • Theory verification	• Social and historical construction • Theory generation
Advocacy/Participatory	**Pragmatism**
• Political • Empowerment issue-oriented • Collaborative • Change oriented	• Consequences of action • Problem centred • Pluralistic • Real-world practice oriented

Source: (Cresswell, 2009)

For the current study, the research paradigm in line with the research objectives, is the post-positivist. This approach was seen as appropriate as it is purely scientific in nature and will provide the researcher with the flexibility to statistically examine and analyse the constructs under study.

3.3. The Post-positivism Worldview

The term post-positivism represents the thinking after positivism as it of a notion that we cannot be “positive” about our claims of knowledge when studying the actions and behaviours of humans (Cresswell, 2009). Post-positivists share a belief that the nature of reality is independent of human thoughts and can be construed effectively through objective analysis of research objects (Wahyuni 2012). The post-positivism paradigm undertakes that knowledge is generated rationally based on a methodical and unbiased scientific survey (Creswell 2009). The objective of the post-positivism paradigm is to engender unbiased knowledge through the use of a reliable research process that increases the accuracy, validity, reliability and generalizability of research outcomes (Cresswell, 2009).

3.4. Research Design

The research design as a preliminary plan of a research outlines the structure and strategy of enquiry as to how to get answers to the research objectives. Aaker, Kumar and Day (2004) define a research design as a detailed draft used to guide a research study towards its objectives. The appropriate design depends on the research goals and the required data to achieve the goals.

Malhotra, Birks, Palmer, and Koenig-Lewis, (2007), identified three major research designs namely: exploratory research (which primarily involves qualitative data), causal research and descriptive research (both of which primarily involves quantitative data).In this regard, there are two types of research methods namely quantitative and qualitative methods. Both methods are adaptable for they are appropriate in almost any setting and can be adjusted for virtually any research objective (Jarboe 1999). Both methods are illustrated in Table 4:

Table 4: Comparisons of Qualitative and Quantitative Research Methods

	Qualitative	Quantitative
Research Objectives	• Discovery and identification of new ideas thoughts, feelings, preliminary insights on and understanding of ideas and objectives.	• Validation of facts, estimates, relationships and predictions.
Type of Research	• Normally exploratory designs.	• Descriptive and causal designs.
Type of Questions	• Open-ended, semi-structured, Unstructured, deep probing.	• Mostly structured.
Type of Execution	• Relatively short time frames.	• Usually significantly longer time frames
Representativeness	• Small samples limited to the sampled respondents.	• Large samples, normally good

		representation of target population.
Type of Analyses	• Debriefing, subjective, content, Interpretive, semiotic analysis.	• Statistical, descriptive, causal predictions.
Researcher Skills	• Interpersonal communications, observations, interpretive skills.	• Scientific, statistical procedure, translation skills; and some subjective.
Generalization of Results	• Very limited; only preliminary insights and understanding.	• Usually very good; inferences about facts, estimates of relationships.

Source: Hair, Bush & Ortinau (2008)

To some extent, both research methods are suitable for answering different kinds of questions. However, for this study, the quantitative method was considered the most appropriate based on previous similar studies (Chong, Chan, & Ooi, 2012; Kim *et al*., 2012; Song *et al*., 2014; Watson *et al*., 2013).

The rationale in picking a quantitative method was to be able to enhance the accuracy of results through detailed statistical analysis. Moreover, the impartiality and consistency that is necessary to address the objectives of the study are catered for within the procedure. This method has an added advantage of minimising the element of subjectivity in research.

3.4.1. Sampling design

The process of sampling design outlines a structure that forms a basis for the selection of a survey sample as it provides a foundation for a sound measurement of phenomena from survey of businesses to households. The sampling design process includes the following steps: identifying the target or survey population, identifying the sample frame, selecting a sampling method, selecting the sample size and data collection from the selected sample (Bryman, 2012).

a. *Target Population*

A population is the universe of units from which a sample will be selected (Bryman, 2012). The population targeted for this study is online shoppers in South Africa. Approximately 81.6 percent South Africans use smartphones to access the Internet, 18.4 percent use the traditional methods of access (IAB, 2014). The Gauteng province is reported to be the most populous province in the country and showed that over 60 percent of Internet users in South Africa live in the province (BusinessTech, 2013).

b. *Sampling frame*

A sampling frame is the list of all units in the population from which the sample will be drawn (Bryman, 2012). In the current study, the sampling frame will be a list of all survey participant registered with Qualtrics – a private web-based survey software company.

c. *Sample size*

A sample size is defined by Malhotra and Bricks (2006) as a smaller group of the population carefully chosen to participate in a study. Churchill and Iacobucci (2005) state that a big sample size does not guarantee accurate results. They maintain that sometimes the smaller the sample size, the more accurate the results. The sample size will consist of 300 respondents. This sample size is good enough for the software (AMOS) to be used in this study for data analysis.

d. *Sampling method*

There are two approaches to sampling: probability and non-probability sampling methods (Diamantopoulos & Schlegelmilch, 2000). Probability sampling is based on the premise that all units of the population have an equal opportunity to be selected. In non-probability sampling, sample unit selection relies on the discretion of the researcher and furthermore, the degree of sampling error cannot be determined (Diamantopoulos & Schlegelmilch, 2000; Tustin, Ligthelm, Martins, & Van wyk, 2005).

Three different types of non-probability sampling methods can be distinguished namely: judgemental, quota and convenience sampling methods (Welman & Kruger, 2001; Zikmund, Babin, Carr, & Griffin, 2012). On the other hand, probability sampling methods are grouped into the following types: simple random sampling, systematic sampling, stratified sampling, cluster sampling and multi stage sampling (Edmonds & Kennedy, 2012; Tustin *et al*., 2005).

To ensure that every survey participant in the population has an equal chance of inclusion in the sample, the study will use a probability sample method called simple random sampling. Simple random sampling is easy to use and it is fair and unbiased which is a requirement in scientific research (Bryman, 2012).

3.4.2. Questionnaire Design

A questionnaire is the most popular research instrument in quantitative studies and was used in this study because of some of its intrinsic advantages. The questionnaire used in the study is based on the variables of the conceptual model. The measurement instruments were adapted from previous researchers. The questionnaire comprise five sections; section A, B, C, D and E. Section A required the respondents to fill in their background information. Sections B, C, D and E measure systems quality, user trust, user satisfaction and purchase intention respectively.

All measurement instrument were adopted from previous literature. System quality was measured using 14 items adopted from (Kim *et al*., 2012; Zheng *et al.*, 2013). Adopted from (Gefen *et al.*, 2003), trust was measured with four measurement items. Five measurement items were used to measure satisfaction, adopted from (Chea & Luo, 2008). Purchase intention will make use of three measurement instruments also adopted from (Van der Heijden, Verhagen, & Creemers, 2003). A seven-point Likert scale ranging from 1 = strongly disagree to 7 = strongly agree was used in measuring all these items.

3.4.3. Data collection technique

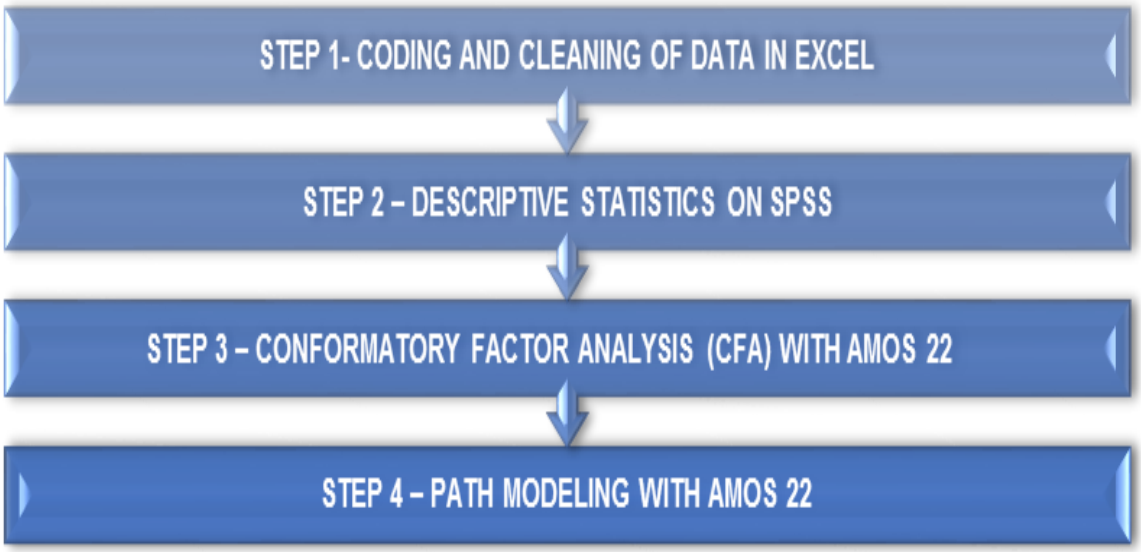
After planning, consulting and deciding exactly what the study seeks to find out, the researcher would know what technique to use for data collection purposes

(Bell, 2014). The survey questionnaire was designed on Qualtrics. A project manager was appointed to roll out the project. The Project Manager made suggestions on changes to the questionnaire until a final consensus

3.5. Data analysis Approach

The returned questionnaires were statistically analysed using the IBM Statistical Package for Social Sciences (SPSS 22.0) and Analysis of Moment Structures (AMOS 22.0) software. The analysis is structured in figure 3 below:

Figure 3: Data analysis procedure



Source: Own

3.5.1. The Coding Process

The coding process was conducted by assigning labels to all constructs in the study and numeric values to each of the responses. The questionnaire utilised in this study was composed of five sections: Section A (Demographic Profile), Section B (System Quality), Section C (User Trust), Section D (User Satisfaction) and Section E (Purchase Intention). All measurement items in Sections B,C,D and E were measured on a 7- point Likert scale:1=strongly disagree, 2=disagree, 3=somewhat disagree, 4=neither agree nor disagree, 5=somewhat agree, 6=agree and 7=strongly agree. No questionnaire items

were reverse coded. Table 5 provides the codes for all sections and assigned response values.

Table 5: Coding of Demographic Profiles

A1	**Gender**	**Response value**
	Male	1
	Female	2
A2	**Age group**	
	Less than 18 years old	1
	18 - 24 years old	2
	25 – 32 years old	3
	33 – 36 years old	4
	40 years and older	5
A3	**Ethnic Group**	
	African	1
	White	2
	Indian	3
	Coloured	4
	Other (Specify)_____	5
A4	**Highest Education Level**	
	Grade 12	1
	College/Trade Certificate	2
	National Diploma	3
	Degree	4
	Postgraduate	5
A5	**Occupation**	
	Student	1
	Employee	2
	Self-employed	3
	Unemployed	4
	Other (specify)_____	5

Source: Own

3.5.2. Descriptive Statistics

The study employed descriptive statistics to analyse the composition of the sample using SPSS 22.0. Descriptive statistics are defined as techniques that allow the researcher to tabulate and summarise the profile of research objects in a given study (Lomax & Hahs-Vaughn, 2013). The study reported on the demographic profile of the sample in terms of age, income, education level, gender and ethnicity. Descriptive statistics utilised in this study included frequencies, mean and standard deviation.

3.5.3. The Measurement Model

The measurement model refers to the relationship between latent variables and manifest variables within a given study (Anderson & Gerbing, 1988). The adequacy of the measurement model was assessed by conducting confirmatory factor analysis (CFA) using AMOS Version 22.0. The CFA model for the study comprises all latent and manifest variables, that is, system quality (four items scale), user trust (four items scale), user satisfaction (five items scale) and purchase intention (four items scale).

Based on CFA, the quality of the measurement model was assessed by checking the significance of the item loadings of all the constructs. Following the procedure followed by (Chinomona, Dhurup, & Chinomona, 2013). The measurement model was subjected to a model fit assessment using AMOS version 22.0. The main goal of model fitting is to determine how well the sample data fit the measurement model.

a. *Absolute fit Indices*

The Absolute fit indices were used to determine how well the *priori* model fits the sample data (McDonald & Ho, 2002). The Chi-Squared Goodness-of-Fit-test statistic including its degrees of freedom value ($\chi 2$/ (df)) and p-value, root mean square error of approximation (RMSEA), Goodness-of-Fit Index (GFI), Root Mean Square Residual (RMR) and Standardized Root Mean Square Residual (SRMR) are the main absolute fit indices that were used to assess the fitness of the measurement model.

Traditionally, the Chi-Square value is the conventional approach utilised to evaluate model fit (Hooper, Coughlan, & Mullen, 2008). The chi-square "assesses the magnitude of discrepancy between the sample and fitted co-variances matrices" (Hu & Bentler, 1998). The chi-square assesses model fit by comparing the difference between the model's inferred co-variances and the observed sample co-variances (Bagozzi, Yi, & Nassen, 1998). The study utilises (Wheaton, 1977) normed chi-square ($\chi 2$/df) to assess model fit. Although there is no consensus amongst researchers regarding the acceptable

ratio for the normed chi-square, recommendations range from as high as 5.0 to as low as 2.0 (Wheaton, 1977).

Another index used to assess model fit was the root mean square error of approximation (RMSEA). RMSEA is regarded as "one of the most informative fit indices" (Diamantopoulos & Siguaw, 2013). The RMSEA describes the extent to which the model fits with the covariance matrix of the sample data (Hooper *et al.*, 2008). In contrast with other fit indices, RMSEA is based on the analysis of residuals, with lower values implying the fit between the model and the data (Fadlelmula, 2011) .The minimum threshold of 0.06 is acceptable (Hu & Bentler, 1999) while 0.08 is the recommended upper limit (Steiger, 2007). One of the greatest advantages of the RMSEA is that it not substantially affected by the variation in sample size (Sharma, Mukherjee, Kumar, & Dillon, 2005). In addition, the RMSEA allows for a broader interpretation of the degree of model fit than the chi-square test, because it recognises the influence of sample size when estimating model fit (McQuitty, 2004).

Another measure of model fit is the Goodness-of-Fit Index (GFI). In confirmatory factor analysis, the GFI measures the difference between the covariance matrix of the sample and that of the measurement model (McQuitty, 2004). The recommended minimum threshold for GFI is 0.90 for fitting models (Shevlin & Miles, 1998).

b. *Incremental fit indices*

The incremental fit indices are employed to complement the chi-square test (Bentler, 1990). One of the incremental fit indices is the Normed Fit Index (NFI). The NFI, which was popularised by Bentler and Bonett (1980), assesses the model fit by comparing the $\chi 2$ value of the measurement model to the $\chi 2$ of the null model (Schumacker & Lomax, 2004). Although values for NFI range between 0 and 1, the recommended the cut-off point of NFI ≥ .90.

The third incremental fit index is the Comparative Fit Index (CFI) (Hooper *et al*., 2008). The CFI assumes that all latent variables are uncorrelated and compares the sample covariance matrix of the measurement model to that of a null model by taking into account the non-centrality and distribution values of model

parameters (Schumacker & Lomax, 2004). The CFI values between 0.0 and 1.0 with a value of CFI ≥ 0.90 generally accepted as an indication of good model fit (Hu & Bentler, 1998). The main advantage of CFI is that it is the least index that is affected by sample size (Bentler, 1990).

3.5.4. Structural Model

After assessing the quality of the measurement model, the structural model is assessed by means of AMOS version 22.0 employing the maximum likelihood estimates. The structural model captures the relationships amongst the latent variables (Arslan, Yilmaz, & Aksoy, 2012). Structural models provide estimates of correlations among latent variables. Structural models differ from measurement models in that the emphasis moves from the relationship between latent and their measured variables to the nature and magnitude of the relationship between constructs (Arslan *et al.*, 2012).

The structured model includes all latent variables, that is, systems quality, user trust, user satisfaction and purchase intention. The correlations between constructs will be assessed. Again, the structural model fit will be assessed using the model fit indices such as GFI, AGFI, IFI, RMSEA, CFI, TLI and CMIN/DF. Table 6 presents the acceptable thresholds of model fit indices.

Table 6: Measurement and structural model fit indices

Fit index	Acceptable Threshold
GFI	≧ 0.900
AGFI	≧ 0.900
RMSEA	≦ 0.080
IFI	≧ 0.900
CFI	≧ 0.900
TLI	≧ 0.900
CMIN/DF	< 3.000

Source: Bagozzi and Yi (2012); Fornell and Larcker (1981); Hu and Bentler (1998).

After the checking the suitability of the scale and structural models were established, path modelling was conducted using structural equation modelling to predict the nature and directions of relationships of the antecedents of purchase intention in mobile applications. SEM helps the researcher to be more precise in their specification of research models and operationalization of constructs. It guides confirmatory research in a manner combining self-insight and modelling skills (Bagozzi & Yi, 2012).

3.5.5. Reliability and Validity

The greatest challenge faced by researchers is to convince the audience that the research findings are credible (Guba & Lincoln, 1989). To enhance the quality of the research findings, researchers rely on the reliability and validity of the measurement instruments. Reliability refers to the ability of a measurement procedure to produce consistent results if repeated under similar conditions (Guba & Lincoln, 1989). A study is trustworthy when it captures accurately the experiences of the participants in a given study (Krefting, 1991).Validity is defined as the ability of a measuring instrument to measure what is intended to be measured (Lehmann, Gupta, & Steckel, 1998). A description of the

approaches that were utilised to enhance reliability and validity of the quantitative study follow.

a. *Reliability*

Reliability and validity in quantitative research primarily assess the integrity of the measurement instruments (Patton, 2005). The study employed the Cronbach's alpha coefficient, the item-to-total values and composite reliability (CR) to measure the internal consistency of the measuring items. Internal consistency measures the degree of interrelatedness of measurement items that are designed to measure the same construct (Tavakol & Dennick, 2011).

The Cronbach alpha also known as the alpha coefficient is the most frequently used measure of internal consistency. The Cronbach's alpha estimates the correlation coefficient of measurement items within a test (Malhotra *et al.*, 2007). The Cronbach Alpha, which is based on the seminal work of Cronbach, assumes that each measurement item's observed score is the result of adding the item's true score and measurement error, Tau equivalency, where all measurement items are presumed to carry equal loadings and variance and the uni-dimensionality of measurement items (Tavakol & Dennick, 2011).

In its application, the Cronbach Alpha estimates the magnitude of measurement error in a test Tavakol and Dennick (2011). A high alpha, that is, 0.7 or greater implies a high internal consistency of the test whereas a low alpha value, that is, below 0.7 infers that the measurement items are not reliable (Blunch, 2008). Given the plethora of assumptions that guides the alpha coefficient, any violation of the aforementioned conditions impairs the alpha value (Yang & Green, 2011).

Composite reliability measures the degree to which observable variables measure the latent variable. It provides a robust measure of reliability by taking into account the contribution of each latent factor to each item and each item's error. The study employs the formula proposed by Fornell and Larcker (1981) to manually calculate the composite reliability value. The formula is as follows:

$$CR\eta = (\Sigma\lambda yi)^2 / [(\Sigma\lambda yi)^2 + (\Sigma\varepsilon i)]$$

Where CRη = Composite reliability,

$(\Sigma\lambda yi)^2$ = Square the sum of the factor loadings;

$(\Sigma\varepsilon i)$ = Sum of error variances.

b. *Validity*

Content, construct, discriminant, and convergent validities are used in research to assess the validity of the study. Content validity also known as face validity, assess the extent to which the measurement scales are aligned to the theoretical lens of the construct under investigation (Malhotra *et al.*, 2007). Construct validity reflects the inter-relationships between the measurement items and the construct being studied (Bagozzi & Yi, 2012). Construct validity attempts to ascertain the extent to which the measurement items accurately captures the latent variable that is being measured (Welman, Kruger, & Mitchell, 2005).

Discriminant validity assesses the existence or absence of associations amongst unrelated constructs within a study (Malhotra *et al.*, 2007). By definition, discriminant validity refers to the degree to which a measurement item is not related to other items that are not supposed to measure the same underlying construct (Malhotra *et al.,* 2007). Convergent validity measures the extent of positive associations of the measurement item with other items measuring the same construct (Malhotra *et al.*, 2007). Convergent validity was assessed through the computation of the inter-construct correlation matrix among the various constructs, that is, system quality, user trust, user satisfaction and purchase intention.

3.6. Limitations of the study

The study has a number of limitations. One limitation associated with this research is that it lacks external validity based on the fact that the study was conducted with a sample of 300 respondents at residing in the same Province. The study has a limitation in that its results are restricted to only one province in

South Africa. This implies that caution must again be exercised when generalising the results to other geographical locations and when deriving subsequent conclusions from this study. There remains a need to replicate this study in other provinces within South Africa

3.7. Summary

The present study is grounded on the principles of post-positivism paradigm. In terms of methodology, the study follows the quantitative method. . It is expected that the quantitative method approach will result in the collection of rich data sets, with the potential of addressing the research problem. The Statistical Package for Social Sciences (SPSS) and the Analysis of Moments of Structure (AMOS) are the statistical tools employed for data analysis. The chapter concluded by discussing the approaches for enhancing reliability and validity.

CHAPTER 4. Data Analysis and Presentation of Results

4.1. Introduction

This chapter focuses on presenting the results of the study. The chapter presents the results pertaining to all sections of the questionnaire. A Statistical Package for the Social Sciences (SPSS) 22.0 was used to compute descriptive statistics, correlations, validities and reliabilities of all the variables under study.

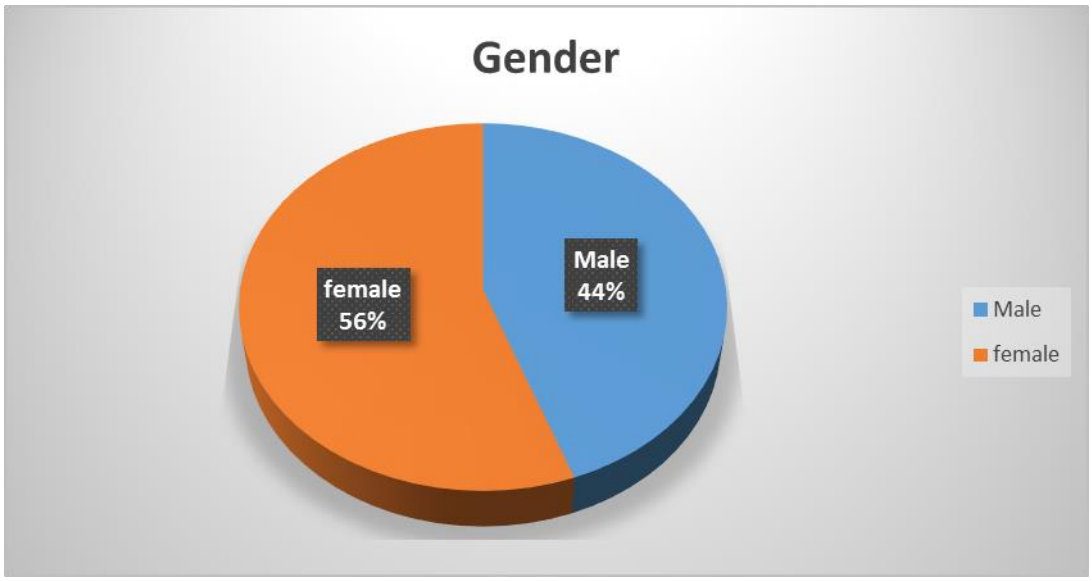
4.2. Descriptive Statistics

The descriptive statistics of the respondents profile and the variables will be illustrated in a form of tables, graphs and/or charts.

4.2.1. Respondents Profile

The figures below presents the profile of the respondents and the frequencies of each response collected.

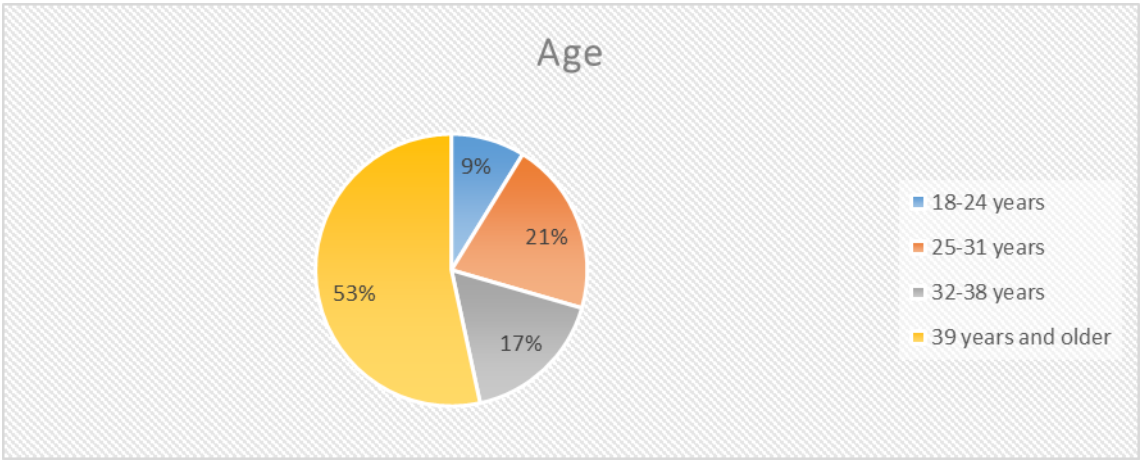
Figure 4: Respondent's Gender



Source: Own

Figure 4 presents the gender profile of the respondents. The female respondents were 140 which constituted 56% of the sample with male completes being 111 which constituted 44% of the 251 respondents (n=251).

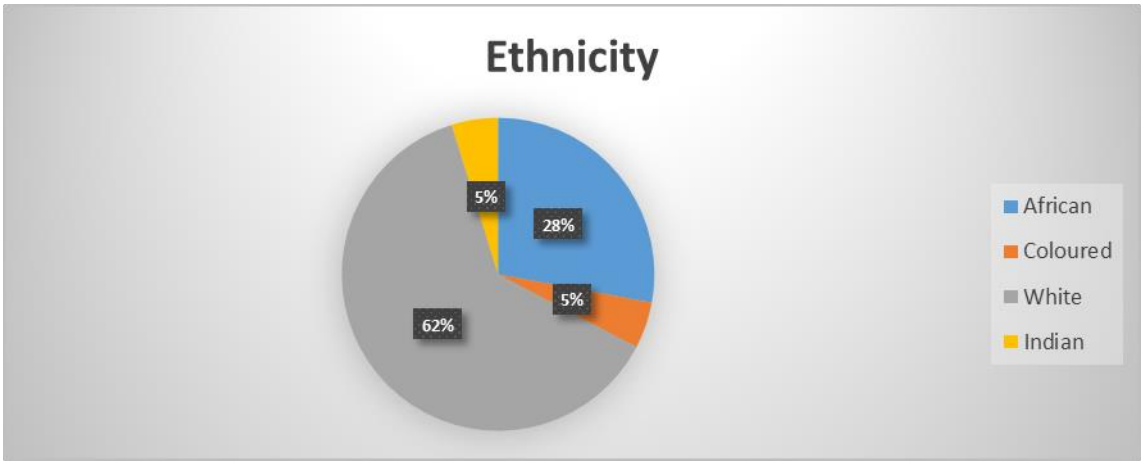
Figure 5: Age Distribution



Source: Own

The respondents were classified into four age groups as illustrated in Figure 5. The majority of the respondents (n=134; 53%) were in the age group of 39 years and older, followed by the age group of 25-31 years (n=52; 21%), the age group of 32-38 years (n=43; 17%) and the age group of less than 30 years (n=22; 9%) respectively.

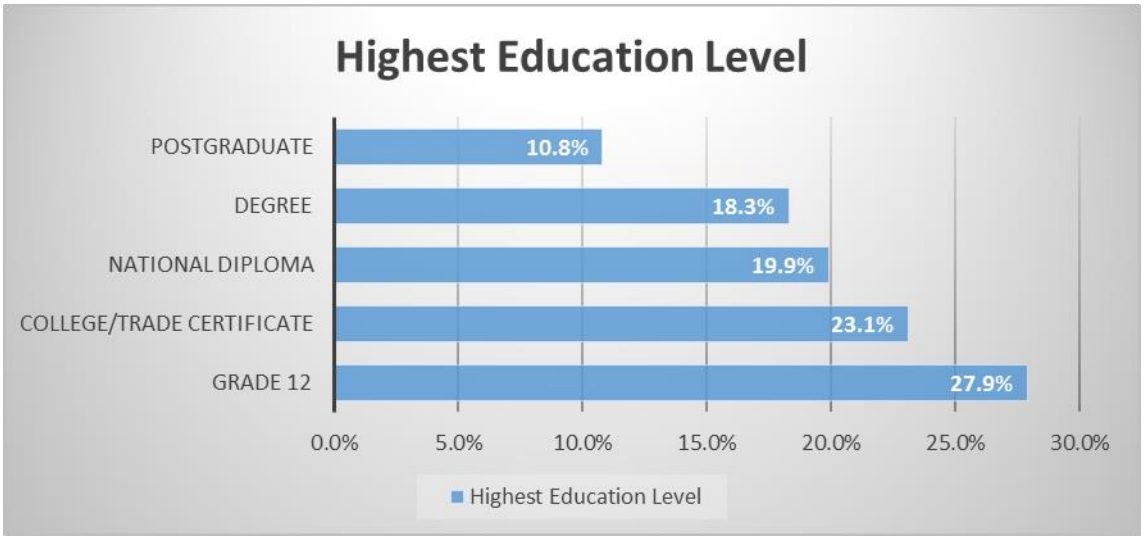
Figure 6: Ethnic Groups



Source: Own

Participants were of four ethnic groups African, Coloured, White and Indian. Figure 6 shows that the majority of respondents were white (n= 157; 62%) and African (n=70; 28%). The remainder of the sample were Coloureds (n=12;5%) and Indian (n=12; 5%).

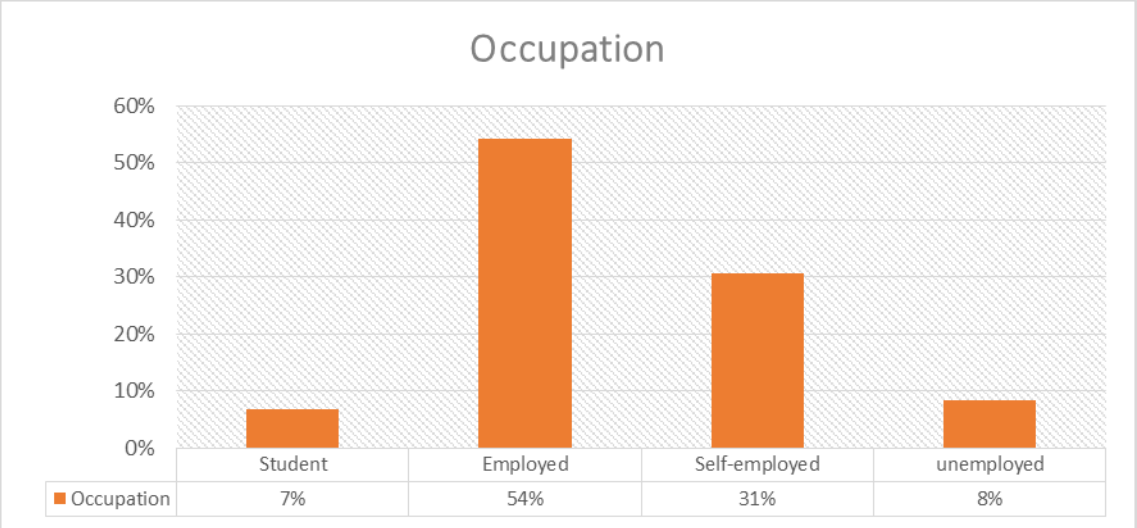
Figure 7: Highest Education Level



Source: Own

The highest education level formed part of the demographics in Section A of the questionnaire. The majority of respondents had grade 12 (n=70; 27.9%) for their highest education level. They were followed by college/trade certificate (n=58; 23.1), national diploma (n=50; 19.9%), degree (n=46; 18.3%) and postgraduate (n=27; 10.8%) respectively.

Figure 8: Occupation



Source: Own

Participants were also asked to indicate their current occupation and four possible choices were provided. Figure 8 reveals that the majority of respondents were employed (n=136; 54%) followed by self-employed (n=77; 31%). Only a small number of respondents were unemployed (n=21; 8%) and students (n=17, 7%).

4.2.2. Summary of Scale Item results

The table below gives an illustration of the statistics of each measurement item response.

Table 7: Frequencies of the measurement items

Code	Question	Strongly Disagree	Disagree	Somewhat Disagree	Agree Nor Disagree	Somewhat Agree	Agree	Strongly Agree
SECTION B: SYSTEM QUALITY								
SQ1	Mobile apps provide good protection of personal information.	11	28	42	71	50	32	17
SQ2	Mobile apps do not cause discomfort in the checkout and payment process.	9	17	34	65	56	58	12
SQ3	Mobile apps do not cause worry regarding potential leak of personal information.	18	47	46	57	43	29	11
SQ4	Mobile apps generally offer safe transactions Accessibility.	7	17	33	71	61	47	15
SQ5	Mobile apps provide tools for me to easily locate information (e.g., menu bar, use of categories and index).	4	9	15	39	61	87	36
SQ6	The descriptions for each link are clear.	6	10	23	55	65	71	21
SQ7	The navigation aids are effective.	5	9	14	52	68	80	23
SQ8	I can control how I access information.	6	11	18	47	71	77	21
SQ9	I can control how fast I go through mobile apps.	10	11	34	52	65	56	23
SQ10	The structure of information presentation is logical.	5	11	20	58	62	78	17
SQ11	Mobile apps have visually attractive screen layout.	7	8	19	52	57	80	28
SQ12	The layout across mobile apps is not uniform.	6	6	21	68	63	60	27
SQ13	Mobile apps allow me to interact with other users by various methods (e.g., emails, blogs, and discussion boards).	3	9	13	44	47	88	47
SQ14	Mobile apps allow me to know more about other users and their participation (e.g., user profile, number of postings, etc.).	7	12	26	61	48	74	23
SQ15	Mobile apps allow me to get feedback from and give feedback to others regarding the quality of messages (e.g., message rating).	5	9	24	73	53	64	23
SECTION C: USER TRUST								
UT1	I know mobile applications are honest.	10	18	36	82	56	30	19
UT2	I know mobile applications care about buyers.	13	15	25	87	55	42	14
UT3	I know mobile applications are trustworthy.	10	19	30	88	58	30	16
UT4	I know mobile applications provide good service.	5	11	14	69	76	53	23
SECTION D: USER SATISFACTION								

US1	I am satisfied with my decision to use mobile applications.	5	3	7	44	48	96	48
US2	My choice to use mobile applications was a wise one.	3	2	12	53	46	91	44
US3	I am happy with my earlier decision to use mobile applications.	3	2	9	47	55	95	40
US4	My experience with using my chosen mobile applications was very satisfactory.	3	1	16	44	55	90	42
US5	I think I did the right thing by deciding to use mobile applications.	3	4	13	43	49	101	38
SECTION E: PURCHASE INTENTION								
PI1	I would consider downloading mobile applications.	5	5	10	45	47	96	43
PI2	I would consider purchasing from mobile applications in the short term.	4	8	17	56	55	80	31
PI3	For my next purchase, I would buy from mobile applications.	6	6	21	73	56	61	28
PI4	I would consider purchasing from mobile applications in the longer term	5	10	19	56	52	76	33

Source: Own

4.3. Reliability and validity assessment of the constructs

The table below presents the results elicited following reliability and validity assessments. These results are discussed hereafter.

Table 8: Reliability and Validity Assessment of the Constructs

Research Constructs	Cronbach's Alpha Test		CR	AVE	Factor Loading	Std. Deviation	Mean
	Item-total	Alpha value					
System Quality	**-**	**.924**	**0.99**	**0.80**			
SQ5	.705				0.758	1.36	5.19
SQ6	.721				0.793	1.38	4.83
SQ7	.715				0.792	1.32	5.00
SQ8	.728				0.809	1.37	4.92
SQ9	.679				0.706	1.49	4.64
SQ10	.744				0.830	1.35	4.84
SQ11	.670				0.754	1.42	4.98
SQ13	.626				0.651	1.38	5.29
SQ15	.655				0.618	1.37	4.77
User Trust	**-**	**.931**	**0.99**	**0.99**			
T1	.919				0.879	1.44	4.28
T2	.925				0.953	1.44	4.35
T3	.935				0.967	1.41	4.27
T4	.864				0.887	1.32	4.80

User Satisfaction	**-**	**.964**	**0.99**	**0.98**			
S1	.853				0.891	1.32	5.42
S2	.926				0.903	1.27	5.33
S3	.942				0.922	1.21	5.37
S4	.873				0.808	1.25	5.33
Purchase Intention	**-**	**.916**	**0.99**	**0.97**			
IP1	.724				0.789	1.34	5.33
IP2	.873				0.914	1.36	5.05
IP3	.793				0.849	1.37	4.48
IP4	.846				0.889	1.428	4.99

Source: Own

4.3.1. Reliability

a. *Cronbach Alpha*

The Cronbach's alpha value measures the internal consistency of the measurement items that constitute the measurement instrument. In addition, higher inter-item correlations suggest a higher degree of cohesiveness amongst the measurement items. The results of reliability assessment are presented in Table 8 Overall, the Cronbach's alpha coefficients were satisfactory ranging from 0.916 to 0.964, therefore surpassing the minimum cut-off of 0.6 recommended by (Zikmund & Babin, 2012). Some items were dropped in an attempt to improve the Cronbach alpha value of the constructs. The dropped items from system quality are SQ1 –SQ4, SQ12 and SQ14. Another dropped item belongs to user satisfaction scale US5. After dropping these items, the results confirmed the ability of the survey instrument to measure all constructs in the study consistently.

b. *Composite reliability*

Another measure of internal reliability employed in this study is composite reliability. In general, the minimum requirement for composite reliability is 0.7 (Hair, Black, Babin, Anderson, & Tatham, 2006). The index of composite reliability was computed using the formula suggested by Fornell and Larcker (1981).

$$CR\eta = (\Sigma\lambda yi)^2 / [(\Sigma\lambda yi)^2 + (\Sigma\varepsilon i)]$$

Where CRη = Composite reliability,

$(\Sigma\lambda yi)^2$ = Square the sum of the factor loadings;

$(\Sigma\varepsilon i)$ = Sum of error variances.

The results of composite reliability are shown in Table 8. Again, the composite reliability (CR) values for all constructs are all at 0.99 which is above the recommended threshold of 0.7, signifying the attainment of satisfactory levels of composite reliability. Moreover, it was also imperative to ascertain whether the validity of the survey instrument utilised in this study was acceptable.

4.3.2. Validity

a. *Convergent validity*

Convergent validity was assessed by inspecting the factor loadings of all measurement items. As shown in Table 8 convergent validity was evidenced as all estimated factor loadings for all measurement items were above the minimum threshold of 0.5 as recommended by (Fornell & Larcker, 1981). Furthermore, Item to total correlation coefficients were used as an additional measure of convergent validity (see Table 8).

b. *Discriminant Validity*

To ensure discriminant validity, Fornell and Larcker (1981) measure of average variance extracted (AVE) was employed. Using this approach, discriminant validity was assessed by comparing the square root of the AVEs with the correlations between the construct and other constructs that form the research model. See table 8.

Finally, discriminant validity was also assessed by inspecting the inter-construct correlation matrix. As shown in Table 9, the inter-construct correlation values are less than the rule-of-thumb of 0.8 (Fraering & Minor 2006) with the highest correlation value between constructs of 0.99 and thereby providing evidence of discriminant validity. As such, the requirements of discriminant validity were satisfied in this study.

Table 9: Inter-construct Correlation Matrix

	Construct	SQ	UT	US	PI
SQ	Correlation Coefficient Sig. (2-tailed)	1.000			
UT	Correlation Coefficient Sig. (2-tailed)	**0.741**[c] .	1.000 .		
US	Correlation Coefficient Sig. (2-tailed)	**0.323**[c] .	**0.378**[c] .	1.000 .	
PI	Correlation Coefficient Sig. (2-tailed)		**0.631**[c] .	**0.187**[c] .	1.000 .

c***=0,01 level of significance b**= 0,5 level of significance a*= 0,1 level of significance

Source: own

4.4. Measurement Model Fit Assessments

The model fit was assessed prior to hypotheses testing, using the maximum estimation likelihood.

4.4.1. Confirmatory Factor Analysis (CFA)

The measurement model fitness was examined using absolute fit indices that included the chi-square value over degree of freedom (χ^2/df), Root Mean Square Error of Approximation (RMSEA), Goodness-of-Fit Index (GFI) and incremental fit indices, that is, the Comparative Fit Index (CFI), Incremental Fit Index (IFI) and Tucker-Lewis Index (TLI). The measurement model fit indices and acceptable thresholds are reported in Table 10 below.

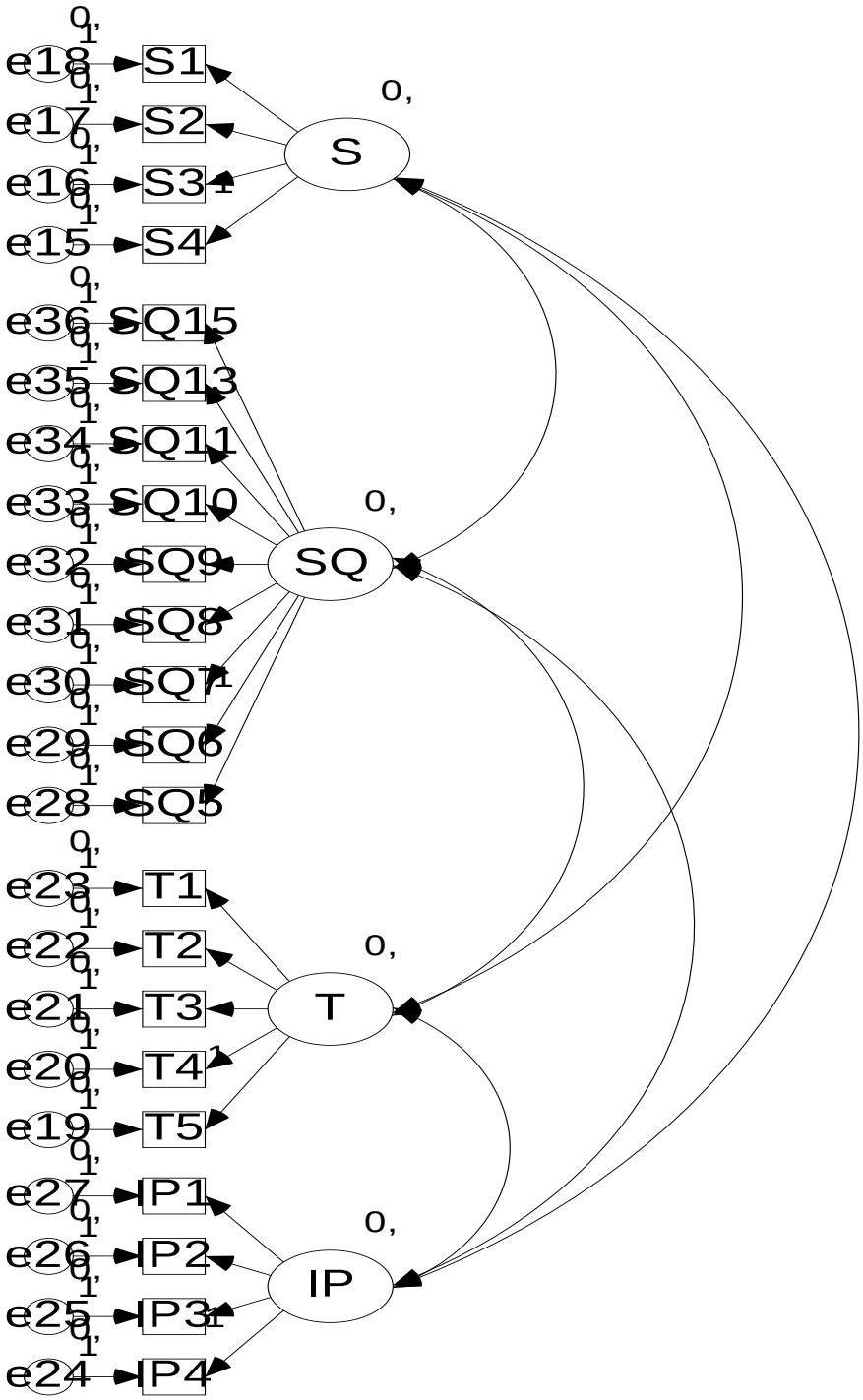
Table 10: Model fit indices and acceptable thresholds

Fit index	Acceptable Threshold	Model fit results
CMIN/DF	< 3.000	**2.780**
GFI	≧ 0.900	**.832**
RMSEA	≦ 0.080	**.084**
IFI	≧ 0.900	**.931**
CFI	≧ 0.900	**.931**
TLI	≧ 0.900	**.921**

Source: Own

The figure 9 below is a diagram illustrating the CFA model. The oval shapes signifies Latent variables, the rectangular shapes represent the observed variables. The relationships between variable are indicated by the double arrows.

Figure 9: CFA Model



Source: own

4.4.2. Structural Equation Modelling (SEM)

To ascertain the fitness of the structural model, SEM with the extreme probability estimation was conducted on AMOS 22.0. Table 11 provides the structural model fit results.

Table 11: Model Fit (Path)

Fit index	Acceptable Threshold	Model fit results
CMIN/DF	< 3.000	**2.774**
GFI	≧ 0.800	**.832**
RMSEA	≦ 0.080	**.084**
IFI	≧ 0.900	**.931**
CFI	≧ 0.900	**.931**
TLI	≧ 0.900	**.921**

Source: Own

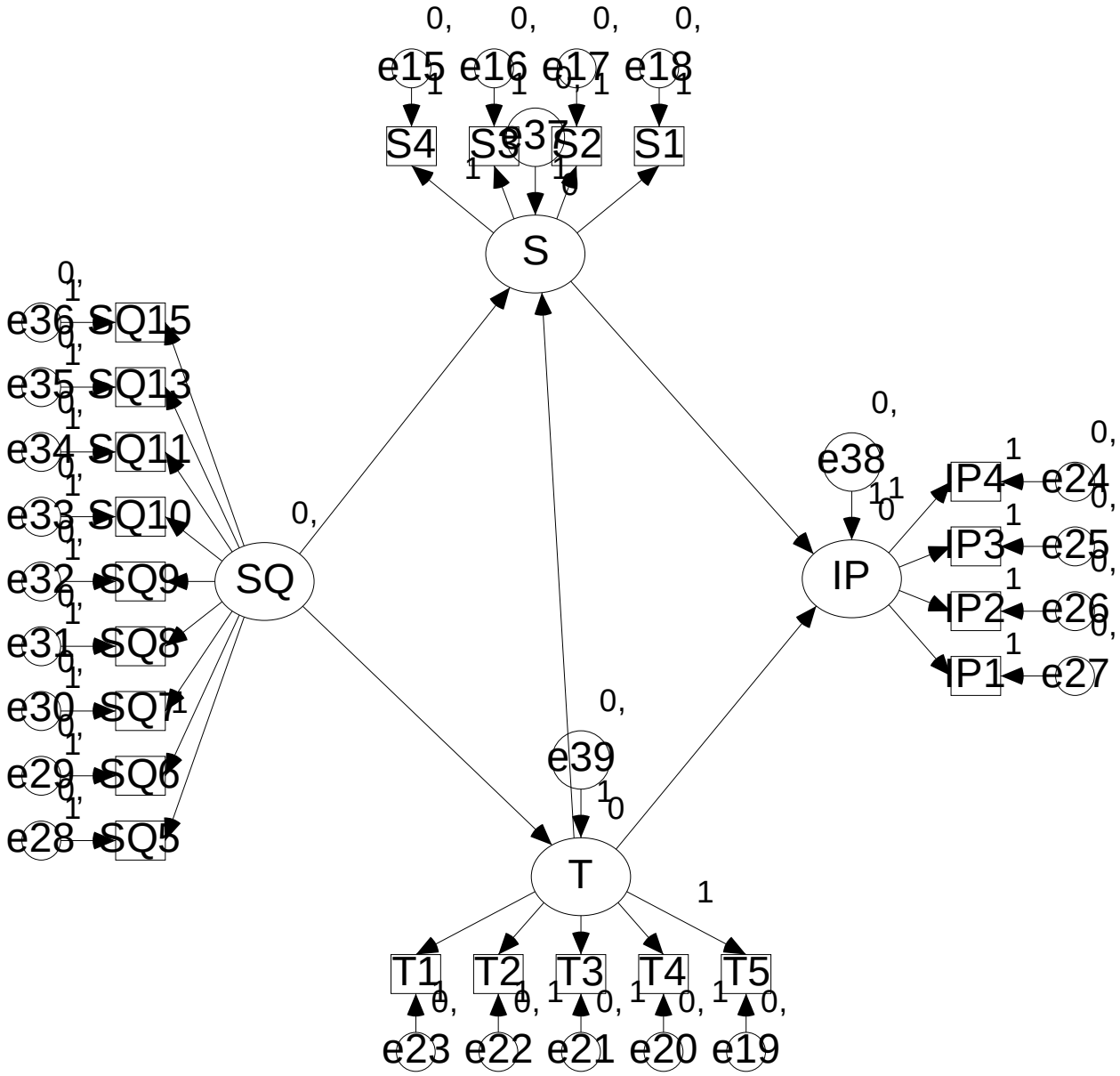
4.5. Results of Hypothesis Testing

Following the satisfactory results from the assessment of the measurement and structural models, the next stage involved the process of testing the hypothesised relationships in the study.

4.5.1. Path Model

Figure 10 shows the path model used to the hyphotheses of the study. Table 12 summarises the hypotheses testing results. The oval shapes signifies Latent variables, the rectangular shapes represent the measurement items. The causal relationships between latent variables are indicated by the arrows, and the circular shapes adjacent to the measurement items signifies measurement errors.

Figure 10: Path Model



Source: Own

Table 12: Hypotheses testing results

Hypothesized relationships	Hypotheses	Path Coefficients	P-values	Decision on Hypotheses
SQ → UT	H_1	.741	***	Supported
SQ → US	H_2	.323	***	Supported
UT → US	H_3	.378	***	Supported
UT → PI	H_4	.613	***	Supported
US → PI	H_5	.187	.003	Supported but insignificant

Source: Own

4.6. Summary

The aim of the chapter was to present the findings of the study. The collected quantitative data was analysed using the SPSS 22.0 and AMOS 22.0. The preliminary analysis took the form of coding and frequency analysis. The accuracy of data was assessed for reliability and validity. The standardised regression weights were computed to assess the relationship between variables under study. Prior to testing the hypothesised relationships, confirmatory factor analysis and structural equation modelling were done to assess the fitness of the measurement and structural models. The measurement and structural model fitted well with the data.

Thereafter, the study proceeded with hypothesis testing. The relationships between system quality and trust, system quality and user satisfaction, user trust and user satisfaction, user trust and purchase intention, and user satisfaction and purchase intention were deemed significant.

The following chapter provides the discussion of the results pertaining to the hypotheses of the study. .

CHAPTER 5. Discussion of the Results

5.1. Introduction

The Spearman's rho was employed to examine the interrelationships between constructs in the study. The correlation analysis guidelines recommended by Cohen (1992) as shown in Table 9 were used to interpret relationships between constructs. Generally, the correlation results presented in Table 9 showed that constructs in this study are positively correlated with each other.

5.2. Discussion of Hypothesis 1

The study hypothesised that there is a relationship between system quality and user trust. This hypothesis was supported and the results show that the relationship between system quality and trust is significant (see Table 13). The findings suggests that trust plays an important role in moderating purchase intention. Businesses should rank trust as one of the most important strategy priorities if they want to achieve a higher customer retention rate. The results are consistent with Illias, Adamantia, Giannakos, and Vassilios (2014) and Chong *et al.* (2012) findings which showed that trust is important for all customers irrespective of their demographic profile.

Table 13: Results of Hypothesis 1

Hypothesized relationships	Hypothesis	Path Coefficients	P-value	Decision on Hypothesis
SQ → UT	**H_1**	0.741[c]	***	Supported

Source: Own

5.3. Discussion of Hypothesis 2

Table 14 show the results of hypothesis 2 which suggested that there is a relationship between system quality and user satisfaction. The results signals that the hypothesis is supported, however the significance level is weak. Taha *et al.* (2013) propose that satisfaction can be categorized into customer expectation, perceived quality and perceived value. Drawing from this and the findings of the study; it can be concluded that for an individual to be satisfied, the system should meet expectations by delivering on the perceived quality and add value (Taha *et al.*, 2013). This viewpoint is in line with that of Chung and Kwon (2009) stating that satisfaction is a form of determining the value or worth of a product or service; as well as McKinney, Yoon, and Zahedi (2002) emphasis on importance of perceived performance as a measure of satisfaction.

Table 14: Results of Hypothesis 2

Hypothesized relationships	Hypothesis	Path Coefficients	P-value	Decision on Hypothesis
SQ → US	**H_2**	**0.323**	*******	**Supported**

Source: Own

5.4. Discussion of Hypothesis 3

The relationship tested in hypothesis 3 was that of user trust and user satisfaction. According to McKinney *et al.* (2002), customers use prior experience and external information in forming their expectations about the quality of a system. From the results in Table 15, it can be said that people trust before they are satisfied. The level of significance is fairly low, however, this could be an indication that satisfaction and trust are mediating variables influenced by a predictor variable before it could lead to the outcome (purchase intention) which confirms or supports the conceptual model of the study.

Table 15: Results for Hypothesis 3

Hypothesized relationships	Hypothesis	Path Coefficients	P-value	Decision on Hypothesis
UT → US	**H_3**	**0.323**	*******	**Supported**

Source: Own

5.5. Discussion of hypothesis 4

The path coefficient value for hypothesis 4 is 0.631 which is an indication of a strong association and relationship between user trust and purchase intention. This again confirms that trust is crucial when a company wants to attain and retain customer. This discussion at hand should be a two-way undertaking, from the business's point of view as well as the end user. Trust generate long lasting business relationship that leads to sustainability in the long term. Once the customer develops a trust in a business, the purchase intentions will show an upward trend. The model hypothesised the relationship and the hypothesis is supported in the long run.

Table 16: Results for Hypothesis 4

Hypothesized relationship	Hypothesis	Path Coefficients	P-value	Hypotheses Results
UT → PI	**H_4**	**0.613**	*******	**Supported**

Source: Own

5.6. Discussion of Hypothesis 5

The final hypothesis in the study stated that there is a relationship between user satisfaction and purchase intention. Tang and Hanh Nguyen (2013), states that user satisfaction and user trust are the most important moderating factors of purchase intention. However, these results indicate that satisfaction alone without trust can hardly influence customers to purchase from mobile apps.

Nonetheless, it is also important to bear in mind that this does not discredit the importance of satisfaction on purchase intention (Kim, Ferrin, & Rao, 2009; Tang & Hanh Nguyen, 2013).

Table 17: Results for Hypothesis 5

Hypothesized relationship	Hypothesis	Path Coefficients	P-value	Hypotheses Results
US → PI	**H_5**	**0.187[c]**	**.003**	**Supported but not significant.**

Source: Own

5.7. Summary

Overall, based on the results of the empirical study it can be concluded that system quality plays a significant role in influencing purchase intention. However, the findings indicate that for businesses to succeed in integrating their businesses with mobile technology they have to tighten the security of their systems and ensure that consumers are protected from any potential online risks at all times. This chapter presented the discussions of the hypothesis drawn from the results. The following chapter presents the conclusion and recommendations followed by limitations identified from the study and suggestions for future research.

CHAPTER 6. Conclusion and recommendations

6.1. Introduction

The current chapter presents the conclusion of the study. The study was more of a scientific research and needed both theory and contemporary issues. Effects of systems quality, user trust and user satisfaction on purchase intention were broadly analysed. They all have the same weight in ensuring the success of businesses and their customers. The implications that the findings would possibly have in academia, business, the economy or society are explained. Subsequently, recommendations are made based on the lessons and wisdom taken from the study. The limitations of the study will assist in taking an informed decision for future references.

6.2. Implications of the findings

The overall findings of the study indicate that for systems quality to have an impact on purchase intention there should be trust on mobile applications. This means South African mobile application users would most likely go for trusted mobile applications brands that they believe are secure and reliable. Trust showed the strongest significant in relation to other constructs under study. On the academic side findings derived from the study will add to the existing body of knowledge on mobile technology. Most importantly the study will also broaden the information systems and literature in the South African context. The managerial implications is in relation to aligning the business strategy with the customers' expectations and requirements.

6.3. Recommendations

Businesses should have trust as part of their strategic planning by putting in place mechanisms for analysing risks and fraud in their sites. Businesses can also join forces with government agencies such as the Consumer Protector and The National Consumer Commission so that the mobile commerce industry can be well regulated in a form of

privacy and personal protection policies. This could give customers some sort of a relief and comfort that their personal data will not be misused by fraudsters and online hackers. There should be contingency plans for the businesses for any eventualities and mishaps.

An important limitation of the empirical part of the study is that a rather big percentage of the respondents (53.4) are of the 39 years and older age group. It would have been interesting to have had a proportionate quote across all age groups as a study conducted in Japan suggest that students and young unmarried office workers were reportedly the highest users of mobile internet. Another limitation is that the study was not based on mobile application of a specific industry or service provider. Future research can be done in a specific industry or business to see under which conditions or circumstances would systems quality, user trust, user satisfaction influence purchase intention. T

6.4. Summary

The chapter presented the conclusion of the study in its entirety. The implications of the study are outlined in this chapter. The chapter suggested some recommendations based on the results collected from the empirical research. Limitations that could have affected the outcome of the results are outlined and supported by giving suggestions for future research. The research project has revealed that both the business and customer at some stage would need each other irrespective of its size and age.

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APPENDIX A: Measurement Instrument

QUESTIONNAIRE

Mobile Application will be referred to as **"mobile app".**

SECTION A

GENERAL INFORMATION

The purpose of this section is to seek background information about you and your mobile apps usage patterns.

Please indicate your answer by making a cross (X) on the appropriate box.

	Gender	
A1	**Male**	1
	Female	2

	Age group	
A2	Less than 18 years old	1
	18 - 24 years old	2
	25 – 32 years old	3
	33 – 36 years old	4
	40 years and older	5

	Ethnic Group	
A3	African	1
	White	2
	Indian	3
	Coloured	4
	Other (Specify)_____	5

	Highest Education Level	
A4	Grade 12	1
	College/Trade Certificate	2
	National Diploma	3
	Degree	4
	Postgraduate	5

	Occupation	
A5	Student	1
	Employee	2
	Self-employed	3
	Unemployed	4
	Other (specify)_____	5

SECTION B

Systems Quality
The purpose of this section is to measure system quality with regards to mobile apps.

For the purpose of this study, system quality is described as a measure of performance of the Information System from a technical and design perspective.

Please indicate using a cross (X) the extent to which you agree/disagree with the statements:

Please tick only one number for each statement

B1	Mobile apps provide good protection of personal information.	Strongly disagree	1	2	3	4	5	6	7	Strongly agree
B2	Mobile apps do not cause discomfort in the checkout and payment process.	Strongly disagree	1	2	3	4	5	6	7	Strongly agree
B3	Mobile apps do not cause worry regarding potential leak of personal information.	Strongly disagree	1	2	3	4	5	6	7	Strongly agree
B4	Mobile apps generally offer safe transactions Accessibility.	Strongly disagree	1	2	3	4	5	6	7	Strongly agree
B5	Mobile apps provide tools for me to easily locate information (e.g., menu bar, use of categories and index).	Strongly disagree	1	2	3	4	5	6	7	Strongly agree
B6	The descriptions for each link are clear.	Strongly disagree	1	2	3	4	5	6	7	Strongly agree
B7	The navigation aids are effective.	Strongly disagree	1	2	3	4	5	6	7	Strongly agree
B8	I can control how I access information.	Strongly disagree	1	2	3	4	5	6	7	Strongly agree
B9	I can control how fast I go through mobile apps.	Strongly disagree	1	2	3	4	5	6	7	Strongly agree
B10	The structure of information presentation is logical.	Strongly disagree	1	2	3	4	5	6	7	Strongly agree
B11	Mobile apps have visually attractive screen layout.	Strongly disagree	1	2	3	4	5	6	7	Strongly agree
B12	Mobile apps allow me to interact with other users by various methods (e.g., emails, blogs and discussion boards).	Strongly disagree	1	2	3	4	5	6	7	Strongly agree
B13	Mobile apps allow me to know more about other users and their participation (e.g., user profile, number of postings, etc).	Strongly disagree	1	2	3	4	5	6	7	Strongly agree
B14	Mobile apps allow me to get feedback from and give feedback to others regarding the quality of messages (e.g., message rating).	Strongly disagree	1	2	3	4	5	6	7	Strongly agree

Source: Kim, Galliers, Shin, Ryoo and Kim (2012); Zeng, Zhao, Stylianou (2013)

SECTION C

Trust
The purpose of this section is to measure your trust towards mobile apps. Please indicate using a cross (X) the extent to which you agree/disagree with the statements:

Please tick only one number for each statement.

C1	I know mobile apps are honest.	Strongly disagree	1	2	3	4	5	6	7	Strongly agree
C2	I know mobile apps care about buyers.	Strongly disagree	1	2	3	4	5	6	7	Strongly agree
C3	I know mobile apps are trustworthy.	Strongly disagree	1	2	3	4	5	6	7	Strongly agree

C4	I know mobile apps provide good service.	Strongly disagree	1	2	3	4	5	6	7	Strongly agree

Source: Gefen, Karahanna and Straub (2003).

SECTION D

Satisfaction

The purpose of this section is to measure your satisfaction with regards to mobile apps. Please indicate using a cross (X) the extent to which you agree/disagree with the statements:

Please tick only one number for each statement

D1	I am satisfied with my decision to use mobile apps.	Strongly disagree	1	2	3	4	5	6	7	Strongly agree
D2	My choice to use mobile apps was a wise one.	Strongly disagree	1	2	3	4	5	6	7	Strongly agree
D3	I am happy with my earlier decision to use mobile apps.	Strongly disagree	1	2	3	4	5	6	7	Strongly agree
D4	My experience with using my chosen mobile apps was very satisfactory.	Strongly disagree	1	2	3	4	5	6	7	Strongly agree
D5	I think I did the right thing by deciding to use mobile apps.	Strongly disagree	1	2	3	4	5	6	7	Strongly agree

Source: Chea and Luo (2008)

SECTION E

Purchase intention

The purpose of this section is to measure your intention to purchase from classifieds using mobile applications. Please indicate using a cross (X) the extent to which you agree/disagree with the statements:

Please tick only one number for each statement

E1	I would consider downloading mobile apps	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
E2	I would consider purchasing from mobile apps in the short term	Strongly disagree	1	2	3	4	5	6	7	Strongly agree
E3	I would consider purchasing from mobile apps in the longer term	Strongly disagree	1	2	3	4	5	6	7	Strongly agree
E4	For my next purchase, I would buy from mobile apps	Strongly disagree	1	2	3	4	5	6	7	Strongly agree

Source: Van der Heijden, Verhagen and Creemers (2003).

The End

Thank you for your participation.