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Determinants of consumer perception of cell phone banking in Zimbabwe

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Determinants of Consumer Perception of Cell Phone Banking in Zimbabwe

By

Victor Mudyanembwa

A research report submitted to the Faculty of Commerce, Law and Management, University of the Witwatersrand, in partial fulfilment of the requirements for the degree of Master of Business Administration

Johannesburg, 28th FEBRUARY 2014

ABSTRACT

The development of advanced mobile technologies has given rise to innovative self-service technologies that allow users with bank accounts to leverage these technologies to transact on their bank accounts anytime and anywhere, without the restrictions of place or time , using their cell phone devices. The advantage for banks has been the low operational costs required to operate these systems, mainly because the user has the confidence to transact without any input from the bank. However, adoption of such technologies has been low and users have had mixed beliefs and attitudes about cell phone banking. Understanding the factors that influence consumer perception about cell phone banking is important to this research.

Mobile Network Operators are continuously evolving into financial institutions through virtual money (digital money stored on sim cards) , which has been made possible by decreasing revenue from voice and sms services, increasing the competition that traditional financial institutions are facing. The main challenge for financial institutions is driving the adoption of the technology by its clientele to remain competitive by creating innovative products, such as bill payments. The main advantage of using the technology to the consumer is the ubiquity and convenience to be able to transact without restrictions.

The objective of the research is to investigate those determinants of users' behavioural intention to cell phone banking in Zimbabwe. The research seeks to review prior literature on the factors influencing technology adoption and to validate these factors against determinants of consumer perception of cell phone banking in Zimbabwe.

Data for the research was collected through in-depth interviews which were recorded and transcribed. The survey was conducted with two groups, the potential users of cell phone banking and subject matter experts on cell phone banking, who have been involved with the implementation of the technology. A total of 21 participants were interviewed. Demographic information was presented using bar graphs. The results of the interviews were analysed using content analysis to identify patterns and themes in order to evaluate users' perception of cell phone banking.

The themes that were identified included perceived derived value which was influenced by the convenience, speed, ease of use and low cost of using cell phone banking .The perceived threat factor was also identified as a determinant that created a negative attitude about cell phone banking and this was mainly linked to the uncertainties of using cell phone banking and uncertainty was influenced by trust of the provider and risk of personal information being compromised. Perceived effort to use cell phone banking was seen as a positive factor contributing to a pleasant user experience and hence a positive attitude - this was influenced by easy to use and read menus which the users found to be “easy” to learn.

Another observed factor was the provision of educational awareness to consumers. This was explained as educational campaigns to sensitise consumers about the benefits of using the technology, mainly convenience, and the security controls in place to reduce uncertainty. This had the result of changing consumer’s perception about cell phone banking.

DECLARATION

I, Victor Mudyanembwa, declare that this 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 Business Administration at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

_____

Victor Mudyanembwa

Signed at_____

On the_____ day of _____2014

DEDICATION

To the almighty God, who has given me strength and encouragement during the course of my studies at the University of the Witwatersrand.

ACKNOWLEDGEMENTS

To my wife, Audrey, children Tashinga and Takudzwa, thank you for the encouragement and the faith you had in me to complete the MBA degree.

To my supervisor, Rabelani Dagada, thank you for the patience, guidance and support to complete this report. The tremendous effort is greatly appreciated and valued.

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1 CHAPTER 1: INTRODUCTION

1.1 Purpose of the study

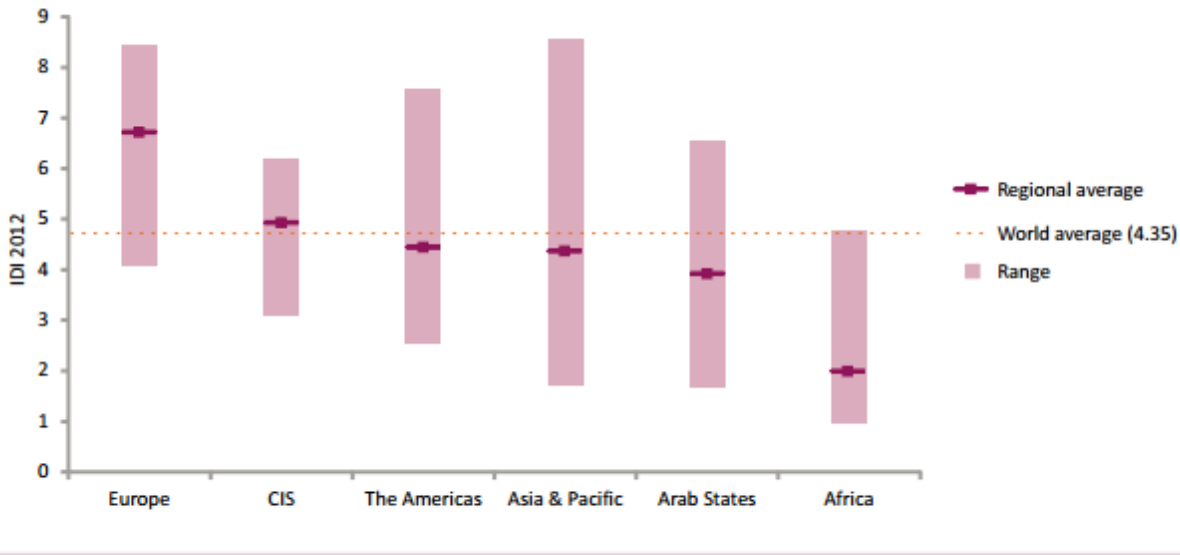
To explore the factors influencing consumer perception of cell phone banking in Zimbabwe. The research sought to establish whether there was similarity between consumers' beliefs about cell phone banking and what implementers considered being the critical success factors for the implementation of the service. The findings are expected to assist new entrants into cell phone banking to understand what factors they need to amplify to increase user adoption.

1.2 Context of the study

Cell phone banking is the ability to conduct banking transactions such as bill payments, balance checks, account transfers and other financial transactions from a cell phone device (Brown, Cajee, Davies, & Stroebel, 2003). Some of the salient features of cell phone banking include convenience, ubiquity and its relative ease of use ,users have access to their bank account anywhere and anytime (Gu, Lee, & Suh, 2009). While millions of dollars have been invested in the technology, the major challenge still remains with user adoption of the technology, which has relatively been low (Luarn & Lin, 2005). A study in America discovered that of the 25 million people who use banking services, only 4 per cent use cell phone banking (Hanafizadeh, Behboudi, Abedini Koshksaray, & Jalilvand Shirkhani Tabar, 2014). An understanding of users' perception of the technology would help financial institutions to find ways to increase its acceptance.

Cell phone banking is a form of self-service technology that allows consumers to carry out transactions with little intervention from the banks. Literature on relationship and services marketing has argued that self-service could be destructive to the consumer-provider relationship (Johns, Perrott, 2008), although consumers see self-service channels as being convenient and easily accessible. Moving customers to cell phone banking has a clear advantage for banks in that it allows them to achieve cost savings and this can only be done if a significant number of people are migrated to the platform (Abadi, Ranjbarian, & Zade, 2012) , also cell phone banking improves the quality of services because of its ubiquity and improvement of customer experience which leads to a stronger bond between the bank and its clients (Hanafizadeh et al., 2014) .

A study by Porteous (2006) showed that some banks in Sub-Saharan Africa had implemented m-payments (mobile payments) variants with Zimbabwe having two; Cell card (cell phone banking platform) and EcoCash (mobile money person to person platform).The researcher further goes on to state that these platforms are still in their embryonic stages of development and consumers have been reluctant to accept these technologies, and this raises another dimension to the adoption of cell phone banking , of whether developing countries are ready to embrace the technology. The International Telecommunications Union (ITU) has come up with an index to measure a country's human capacity and population ability to adopt information and communication technologies which it calls the IDI index. Figure 1 shows the IDI index for 5 regions, with Africa having the lowest score.



Note: Simple averages.
Source: ITU.

Figure 1 IDI Index Showing ICT readiness for 5 regions

The low score for Africa is due to low literacy rates and government policies still being prohibitive for the development of technology infrastructure. The implication of this for cell phone banking providers is that they need to look at other factors, such as government regulation, literacy levels and technology before implementing such services

.

1.3 Problem Statement

1.3.1 Main Problem

Investigate the determinants of consumer perception of cell phone banking in Zimbabwe by evaluating consumer beliefs about cell phone banking.

1.3.2 Sub-problems

1. The first sub-problem is to review prior studies to identify the determinants of consumer perception of cell phone banking.

2. The second sub-problem is to evaluate the said consumer perceptions of cell phone banking in Zimbabwe.

3. The third sub-problem is to evaluate whether there are commonalities between the factors influencing user perception and the critical success factors for the implementation of cell phone banking in Zimbabwe.

1.4 Significance of the study

There is considerable literature on mobile commerce in developed countries (Karjaluoto, Mattila, & Pento, 2002; Poon, 2007; Suoranta, 2003), but much literature for developing countries has focused on the potential of mobile commerce and the constraints that developed economies have to overcome to realize mobile commerce's potential (Rouibah,Khalil and Hassanien). Porteous (2006) contended that there is limited literature on the acceptance of mobile banking technologies in developing countries. A study of these factors would assist in the accumulation of research on this topic.

Mobile penetration in Zimbabwe is increasing at a phenomenal rate with statistics provided by the telecommunications regulator, POTRAZ, showing that for the period ending 3 December 2013, penetration had reached 103.5% (Kwabeza , 2014).Mobile penetration has led to the development of other ways to transact (bill payments, money transfers, Etc.) through cell phones, using a technology commonly referred to as mobile money. Mobile money basically allows people to keep virtual money on their sim card and perform financial transactions from their cell phone. Mobile money poses a threat to cell phone banking providers in that

users can now have their salaries deposited into their mobile money accounts, earn interest, and perform the same functions as cell phone banking. The major player in the mobile money space in Zimbabwe is Econet, with a current subscriber base of 8.52 million users (Kwabeza, 2014). Financial institutions therefore need to increase the acceptance of cell phone banking to provide innovative services and remain competitive as Mobile Network Operators are introducing services that compete with the traditional banking system. Identifying the factors that influence behavioural intention to accept cell phone banking would have beneficial effects for banks to meet this challenge (Matthew, George 2003).

The study will also assist relationship marketing professionals understand the perception that consumers have about self-service banking channels and come up with strategies to help strengthen the relationship between consumers and the providers of cell phone banking.

1.5 Delimitations of the study

- The study will be restricted to the banked, ie consumers with a bank account in Zimbabwe, as this sample is considered to be likely to adopt the technology in the future.

- The study will be limited to investigating consumer perception of cell phone banking from the perspectives of the consumer and the supplier of the service.

- The sample size will be limited to consumers who reside in the urban areas in Zimbabwe - potential consumers who live in the rural areas will not be targeted.

- This study will use the Technology Acceptance Model (Davis 2005) as a theoretical basis for the research - no other theories will be examined.

1.6 Definition of terms

- **Cell Phone Banking:** Is performing financial transactions during which the consumer uses a mobile communication channel, together with a cell phone device (Pousttchi & Schurig, 2004)

- **Unstructured Supplementary Service Data (USSD):** Is a communication protocol that is independent of the type of handset and facilitates fast GSM communication between a user and a compatible application (Kufandirimbwa, Zanamwe, Hapanyengwi, & Kabanda, 2013)

- **Technology Acceptance Model (TAM):** Addresses why users accept or reject information technology, derived from the theory of reasoned action (Legris, Ingham, & Collerette, 2003)

- **Self-Service Technology (SST):** Is a technology that allows customers to access a service without direct involvement by the provider of the service (Meuter, Ostrom, Roundtree, & Bitner, 2000)

- One of the key selling points of cell phone is “convenience,” which is defined as consumer’s perception of time and effort to using a service .Consumers belief of convenience has been any service that saves them time and effort (Berry, Seiders, & Grewal, 2002)

- **Ubiquity :** Is the ability of a consumer to access a service and perform transactions independent of their location also referred to as “anywhere” (Tiwari, Buse, & Herstatt, 2006)

1.7 Assumptions

A number of assumptions were made about the study:

a. Cell phone banking is in its embryonic stages of development in Zimbabwe , the assumption was that consumers have a view on its use as a means to perform financial transactions.

b. It is assumed that respondents will answer the questions truthfully and honestly without any bias.

c. Respondents have a bank account on which they can transact using a cell phone.

2 CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This section provides a literature review of the research problem under study. The chapter begins with a look at the cell phone banking value chain together with the stakeholders involved, as well as the technology behind cell phone banking otherwise known as USSD. The second part will examine the Technology Acceptance Model (TAM) as a predictor of the acceptance technology

2.2 Cell phone banking

The following section describes two important components of cell phone banking, firstly the technology used in cell phone banking (USSD) and secondly the cell phone banking value chain which identifies the main role players for the provision of the service.

2.2.1 USSD Technology in Cell Phone banking

To get a better understanding of cell banking we will look at the underlying technology that enables consumers to access their accounts via their cell phones ,otherwise known as USSD.USSD stands for Unstructured Supplementary Service Data and is a communication protocol that facilities transmission of information over GSM networks. USSD is different from short message service (sms) in that it provides session-based data transmission as opposed to sms which uses a store and forward approach, session-based transmission makes USSD a fast communication protocol (Lo, Bishop, & Eloff, 2008).USSD uses short codes such as *123# which are currently used to load airtime, check balances and access mobile network services.

Sanganagouda (2011) identified the following advantages of using USSD:

- Cost-effective for providing interactive cell phone based services.
- Support for menu-based systems allows more user-based interactions.
- USSD is compatible with all GSM cell phone devices from old communication devices to new smartphones.

- USSD allows fast transmission of information because it does not store data and messages are sent directly to the user.

- USSD services can be accessed while roaming and there are no charges incurred by the user, unlike sms.

USSD technology has had an influence in the development of cell phone banking in that there are no huge capital investments that a financial institution incurs during the setup , as they use the existing GSM network. The fast transmission of information enables the providers of cell phone banking to create easy to use fast menu based systems.

The next section examines the cell phone banking value chain and identifies the role players in the provision of the service.

2.2.2 Cell Phone Banking Value Chain

The high-level architecture of cell phone banking is shown in figure 2, from the architecture three layers can be identified and each layer is provided by an actor in the ecosystem.

The layers in the value chain are:

A. **Connector layer** provides a gateway for the cell phone banking system to the bank back-end system .Two payment standards are used by the connector layer to establish a session, mainly ISO 8583 or Open Financial Exchange (OFX) (Buyang & Qi-meng, 2010).This layer is provided by the cell phone banking technology vendor.

B. **Service layer** provides a link between the channel layer and the connector layer (Buyang & Qi-meng, 2010).This is facilitated by the Mobile Network Operator.

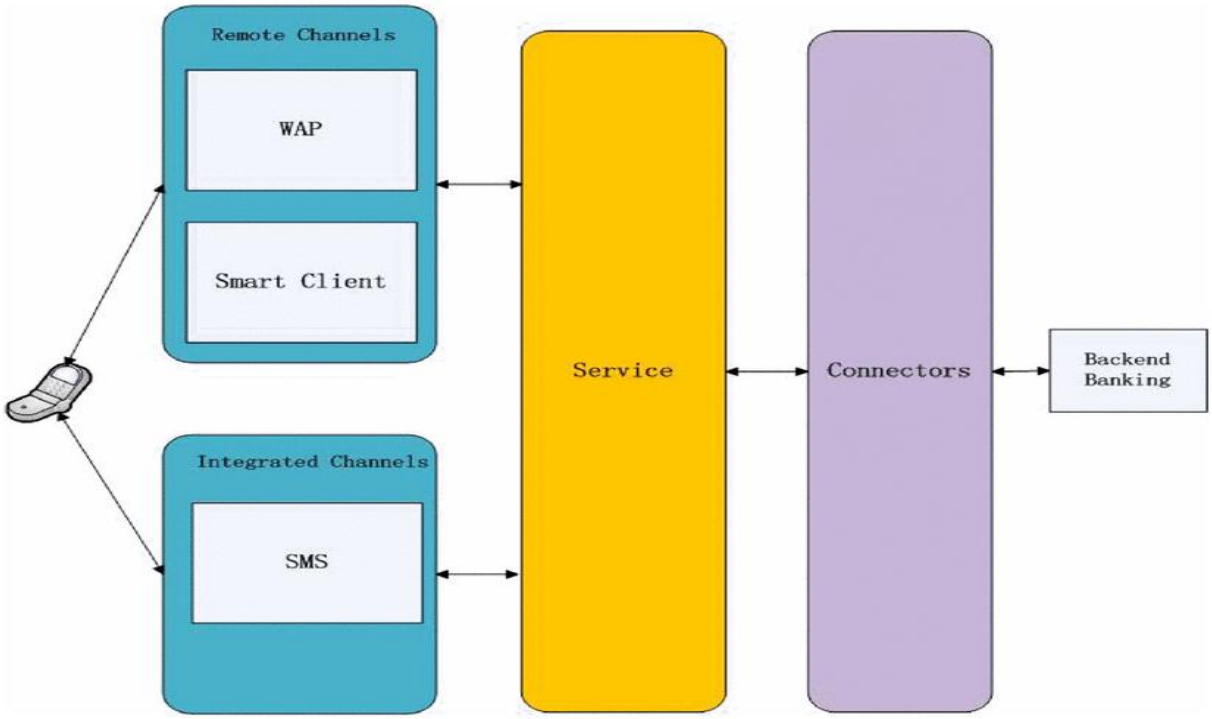


Figure 2 Cell phone banking architecture (Buyang & Qi-meng , 2010)

C. **Channel layer** is the users' mobile device that communicates with the service layer using wireless application protocol (WAP), Short message service or USSD.

D. **Backend Banking** is the banks' back-end application to store the users account details and passes on user requests back to the cell phone device provided by the financial institution.

The value chain consists of the following main stakeholders to allow provision of the service; mobile banking technology vendor, Mobile Network Operator (MNO) and financial institution. Cell phone banking has largely been driven by the mobile banking technology vendor through lobbying the value of using the chain to provide consumers with a convenient service for transacting on their accounts (Krugel, 2007).Monetisation of the value chain has potential to benefit all stakeholders who provide specific services in the chain.

The components of cell phone banking are further shown in figure 3 - the platform would need to be integrated into the MNO to access the consumer's mobile device

(Krugel, 2007).The features that influence users perceptions of cell phone are then incorporated into the ecosystem shown in figure 3 (security, user notifications, user friendly menus, etc.).

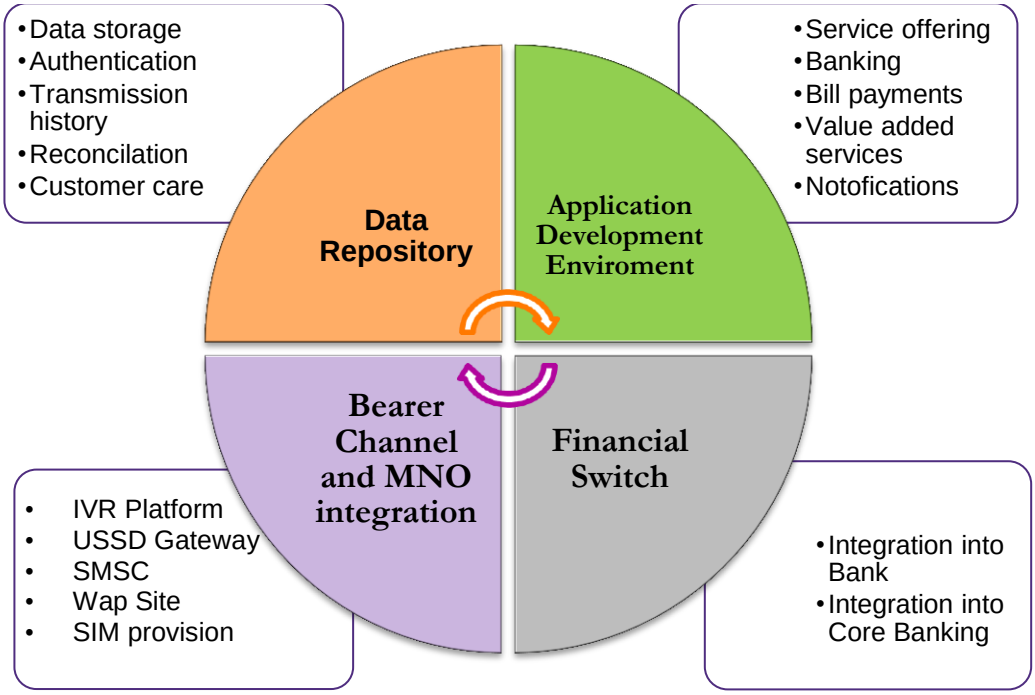


Figure 3 Components of a cell phone banking platform (Krugel ,2007)

2.3 Consumer perception towards cell phone banking

2.3.1 Consumer attitude and acceptance

Information technology changes are happening faster than before with organisations facing risky decisions as to whether to adopt a technology or not, to maintain a competitive advantage (Davis & Venkatesh, 1996).These authors further explained that information technologies cannot achieve their intended goals if the targeted users reject them and that organisations need tools to determine whether a particular technology will be adopted.

Cell phone banking in Zimbabwe is in its early stages of development and most consumers have not had the chance to utilise the service. It is thus difficult to empirically measure acceptance of such a banking channel and the best way to do

so would be to use the attitude measurement scale developed by Fishbein and Azjen to determine attitude toward using cell phone banking (Davis, 1993).

According to Davis (1993), attitude is "the degree of evaluative affect that an individual associates with using the target system in his or her job"(p. 476). The definition of attitude is continuously evolving in research and some of the basic subcomponents include the psychological readiness to respond and a correlational relationship between attitude and behaviour (Shrigley, Koballa, & Simpson, 1988) .

2.3.2 Consumer attitude toward cell phone banking

Despite the fact that technology continues to re-shape the services industry and disrupt the way services are delivered, there is little understanding of consumers' perception, behaviour and expectations about the advanced technologies (Durkin, Jennings, Mulholland, & Worthington, 2008).

- In a study conducted in South Africa on predictors of adoption of cell phone banking, Brown et al. (2003) concluded that less than 6% of the participants had used cell phones to conduct financial transactions and overall respondents had a negative attitude about cell phone banking because of the perception that cell phone banking is not secure.

- Laforet and Li (2005) in their study on consumer attitude towards mobile banking in China found that consumers' attitude about cell phone banking was influenced by perceived risk.

- A study by Wessels,Drennan (2010) in Australia, found that consumers' attitude about mobile banking was influenced by perceived risk, perceived usefulness, cost, risk and compatibility.

- Laukkanen (2007) observed that consumers value perceptions for internet and mobile banking were mainly influenced by convenience, safety and efficiency.

- In South Africa Shambare (2011) identified the factors risk and security as major inhibitors of adoption of cell phone banking amongst 124 participants in the research.

2.3.3 Conclusion

Overall, it can be said that consumer attitude towards cell phone banking can predict behavioural intention to use cell phone banking and hence its acceptance. Results of various studies show that consumer attitude to cell phone banking is influenced by different factors which will be examined in the next section. It is therefore important for financial institutions to understand these factors that drive unfavourable and favourable behaviour towards cell phone banking to be able to create impactful campaigns. The following research question therefore arises

Research Question 1
What is the consumer attitude towards cell phone banking in Zimbabwe?

2.4 Theoretical Background

This section describes past theories on technology acceptance. According to Bhattacherjee (2012), theories are formulated to explain certain phenomena or social behaviour and they consist of constructs and propositions to systematically and logically explain a phenomena with assumptions and limitations identified.

2.5 Theory of Reasoned Action (TRA)

The theory of reasoned action formulated by Ajzen & Fisbbein (1974) is a model that predicts general human behaviour and was adapted from studies in psychology. The theory has been criticized for its lack of clarity on predicting usage of Information technologies (Succi & Walter, 1999). Sheppard, Jon, and Warshaw (1988) contended that Fishbein and Ajzen (1974) acknowledged that their theory had limitations in that it was created to examine human behaviours and not the outcomes of those behaviours. Southey (2011) claimed that the theory is not suitable for evaluating behaviour in an organisational context due to the

multi-person and dynamic nature of decision processes in an organisation. The research will not focus on the TRA but rather use it to provide background to the model that has been adopted for the study.

2.6 Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) (Davis 2005), which was derived from the theory of reasoned action (Azjen & Fishbein , 9174), has been widely used to predict consumer behaviour towards cell phone banking (Brown et al., 2003; Dahlberg, Mallat, & Öörni, 2003; Lule, Omwansa, & Waema, 2012; Wu & Wang, 2005) .The theory has been used to identify features that inhibit or promote the use of technology mainly influenced by perceived usefulness and perceived ease of use. These factors have been seen to influence user's behavioural intention to use a technology.

The TAM states that usage of a technology is influenced by behavioural intention to use that technology and behavioural intention is determined by perceived ease of use and perceived usefulness (Luarn & Lin, 2005). Fred D. Davis (1989) defined perceived usefulness (PU) as the extent to which people believe a technology will improve their job performance and perceived ease of use (PEoU) as the extent to which an individual believes that the use of a system will be free from effort. Figure 4 depicts the key constructs developed by the original TAM and how they interact.

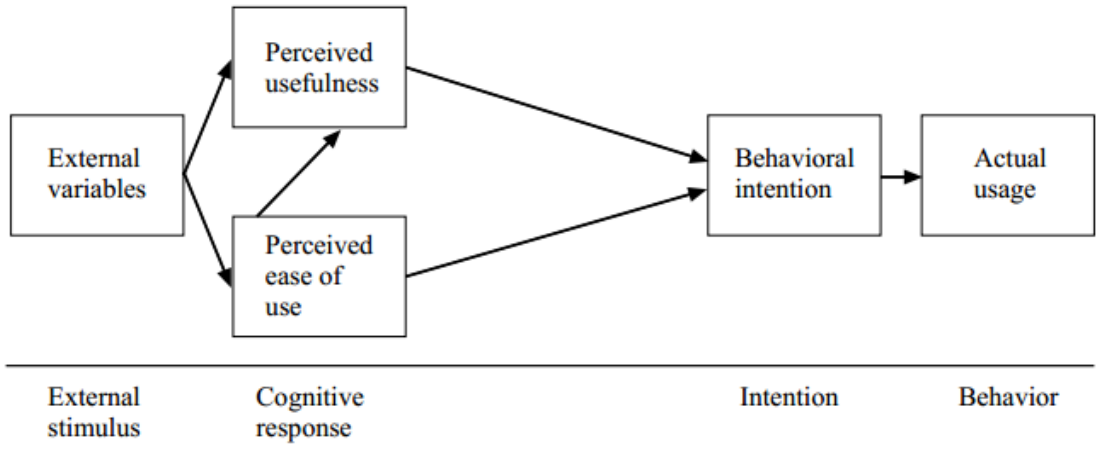


Figure 4 Factors influencing adoption of technology (Davis ,Bagozzi, & Warshaw ,1989)

One of the limitations of the TAM model that (Luarn & Lin, 2005) observed is that it assumes that use of technology is volitional, meaning there is no barrier that can prevent a user from using a technology if they chose to do so. The other limitation that was identified by Lule et al. (2012) is its fit for use in everyday life, the original model was created for the adoption of technology in an organisational context.

According to Luarn and Lin (2005), TAM has been popular because of its parsimony.
For the TAM model to be applicable to different contexts, additional factors had to be added as shown in table 1.

Table 1 Additional variables added to TAM

Determinant	Source
Perceived trust	(Dahlberg et al., 2003)
Perceived cost	(Chitungo & Munongo, 2013; Luarn & Lin, 2005)
Perceived Risk	(Brown et al., 2003; Cho, 2010; Lee, 2009; Luo, Li, Zhang, & Shim, 2010)

2.7 Factors promoting adoption of cell phone banking

There are factors that have been identified in prior research (Gefen & Straub, 2000; Hsu, Lu, & Hsu, 2007; C. Kim, Mirusmonov, & Lee, 2010; Teo & Pok, 2003; Yang, 2005) that seem to make cell phone banking a favourable channel for transacting on one's bank account .These factors include perceived ease of use and perceived usefulness (Fred D Davis, 1989).The factors together with the accompanying theory will be described below.

2.7.1 Perceived Ease of Use

Perceived ease-of-use is a belief that interaction with a specific technology will be free from effort (Bhatti, 2007). Extensive research conducted on the influence of

perceived ease-of-use on intended acceptance of information technologies has shown that there is a positive relationship to the adoption of mobile commerce (Chitungo & Munongo, 2013; Fishbein & Ajzen, 1975; Lee, 2009; Wu & Wang, 2005) i.e. the complexity of cell phone banking can positively or negatively affect the attitude that consumers have about the technology. The model in figure 5 depicts the relationship between perceived ease of use and attitude towards using a technology as postulated by Davis (1989).

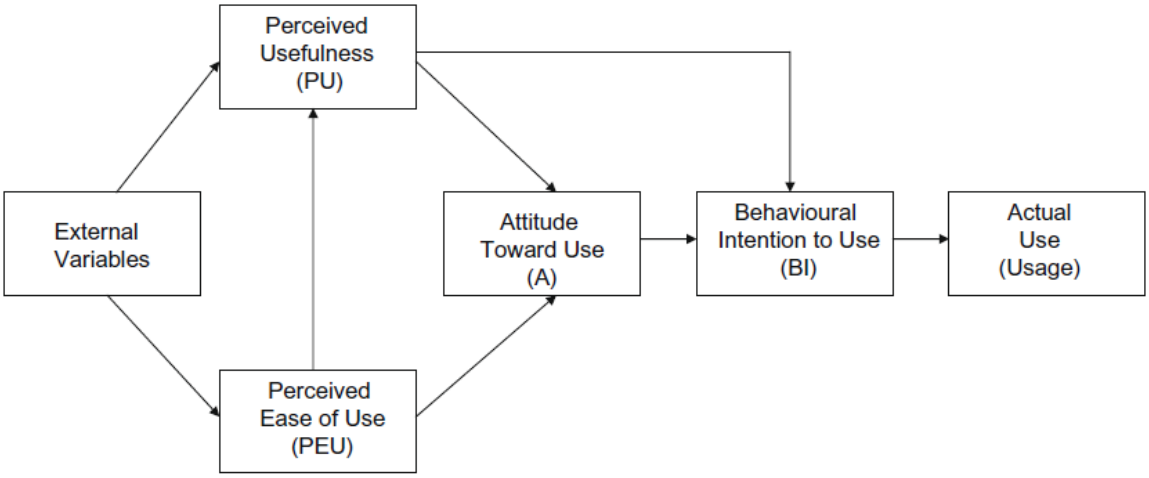


Figure 5 Perceived Ease of Use in Original TAM (Tuner ,2009)

In marketing studies, the level of complexity of a service is associated with the 'intricacy and number' of steps to execute the service (Durkin et al., 2008).To understand how customers perceive complexity of financial services, Durkin et al. (2008) introduced Storbacka's typology which basically looks at how consumers use a financial service and the frequency.

	Transactions	Deposit & Lending	Counselling	Specialist Services	Investment Services
Frequency	High	Low	Medium	Low	Low
Regularity	Regular	Irr/regular	Irr/regular	Irr/regular	Irr/regular
Interaction Duration	Short	Long/Medium	Medium/Long	Long	Long
Customer Control	Low	Low	Medium	High	High
Diversity Demand	Low	Medium	High	Medium	High
Customer Participation	High	Low	Medium	Medium	Low/High
Level of Contact	Low	High	Medium/High	High	High
Initiative	Customer/ Bank	Customer/ Bank	Customer/ Bank	Customer	Customer

Figure 6 Storbacka's typology (Durkin et al. ,2008)

Using the model in figure 6, transactional services such as bill payments, and account transfers are frequently used by consumers and this increases consumers' familiarity with such services which reduces the level of complexity, from the perspective of the consumer (Durkin et al., 2008). Consumers can perceive products to be complex depending on:

- **Previous experiences** with interacting with a bank –prior experience of applying for a loan -familiarity with the process and certainty of the outcome and the number of processes all influence the consumer's perception of complexity of the process.
- **User's self-efficacy** confidence in one's capability in certain settings and this is influenced by: personal and vicarious experiences, communication skills and emotional intelligence.
- **Feeling of control** and beliefs related to perceived risk are increased by the consumers technical anxiety, for example, can I cope with managing a product through the internet.

It can then be concluded that product complexity can have an influence on product fit for performing a job and consumers attitude towards the technology. This would apply to the cell phone banking service (Durkin et al., 2008).

Wu and Wang (2005) conducted a study on perceived ease of as a determinant of technology acceptance and found that perceived ease of use did not have a direct impact on users behavioural intention to use as depicted by figure 5, but to indirectly affect intention to use through perceived usefulness .The implication of

this is that by influencing ease of use it is possible to make a technology useful to a consumer.

Pai and Huang (2011), in their study, found that the system quality is a determinant of user's perceived ease of use of a service and they referred to system quality as quality of design, accessibility and response time.

2.8 Perceived Usefulness

According to Fred D Davis (1989), perceived usefulness is people's belief that using a specific technology will help them to improve their job performance. The author further postulated that perceived usefulness is an important factor that influences user's adoption of a system. A study conducted by Luarn and Lin (2005) supported the results by Davis (1989), by identifying how the acceptance and use of a system can improve the users' job performance.

In support of the usefulness factor Zhou, Lu, and Wang (2010) introduced the Technology Task Fit Model (TTF) .Technology task fit predicts that although a technology might have advanced features, if that technology does not fit into a consumers' task needs, they may not accept it.

On its own the TTF model does not predict attitude towards IT hence there is a need to integrate it with the TAM model as shown in Figure 7.

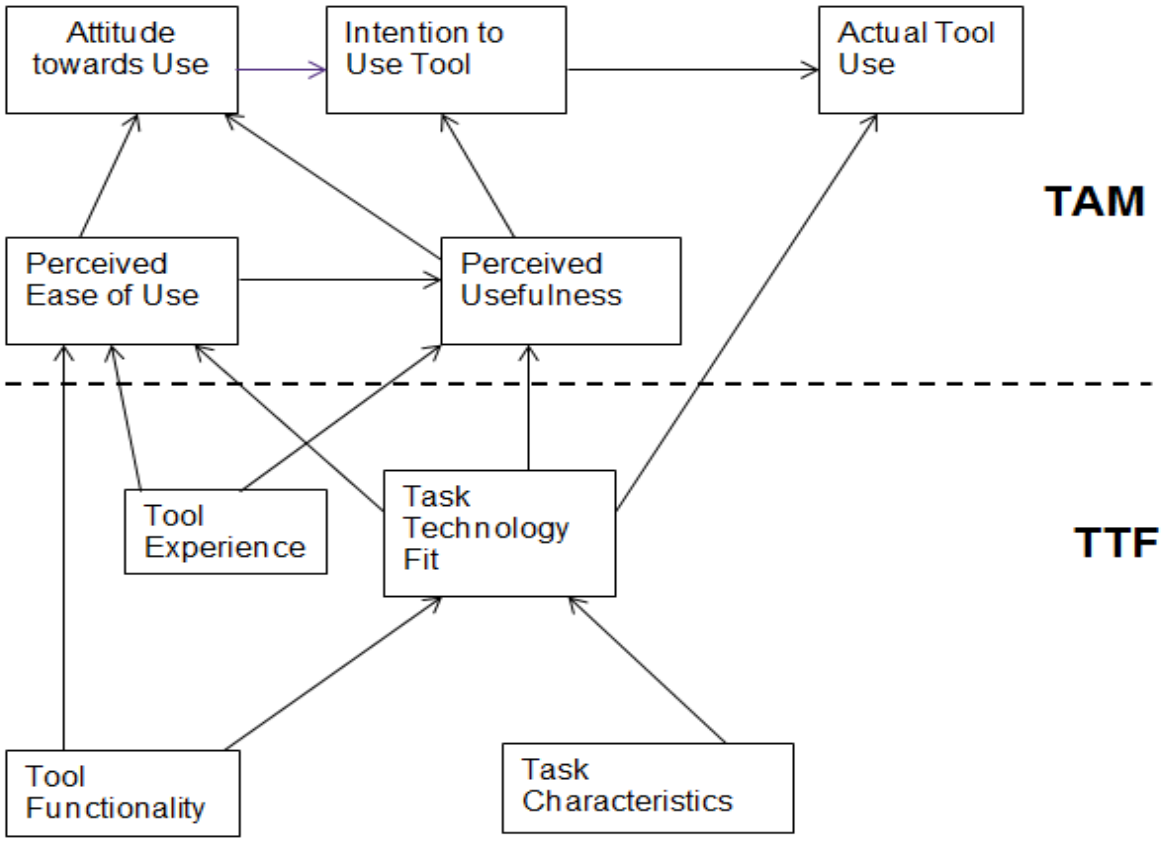


Figure 7 Integration of TTF and TAM models (Dishaw & String , 1999)

Dishaw and Strong (1999), argued that the TAM model combined with its attitude/belief models, postulates that consumers attitude towards a technology can predict consumers behavioural intention to use that technology; they further went on to contend that the TTF model takes a different approach in that it assumes that users will use a technology if it provides job performance benefits no matter their attitude about the technology. Combining the two models would provide better insights into technology acceptance.

From figure 7 ease of use influences usefulness, hence amplifying the following factors would have an indirect impact on usefulness:

- **Technology experience** to be able to use the technology effortlessly.
- **Task technology fit** will enable the technology to improve one's job performance needs.
- **Tool functionality** the technology should function in a way that meets expectations.

Chung, Park, Wang, Fulk, and McLaughlin (2010) disputed the direct relationship between ease of use and usefulness in a study on age as a determinant of technology acceptance. The study concluded that this was because when people are familiar with a technology, perceived ease of use ceases to influence perceived usefulness. Ong and Lai (2006)'s discussion on how gender differences influence perception of e-learning, noted that usefulness was less significant for male participants compared to female participants who found gender to be a contributing factor to their attitude towards e-learning.

Marketers therefore need to show consumers how cell-phone banking satisfies their needs and lifestyle and how it creates value within that lifestyle, by emphasising the value of cell phone banking, such as convenience, flexibility and ubiquity (Wessels & Drennan, 2010).

2.9 Factors inhibiting adoption of cell phone banking

These are factors that inhibit the adoption of cell phone banking amongst consumers; perceived risk (Abadi et al., 2012), perceived trust (Gu et al., 2009) and perceived financial cost (Wessels & Drennan, 2010).These will be looked at, together with supporting studies in the section that follows.

2.9.1 Perceived risk

Schierz, Schilke, and Wirtz (2010) noted that perceived risk conceptualised as the probability of invasion of privacy, is a factor that has a negative relationship to consumers' attitude towards cell phone banking. Brown et al. (2003) established that ensuring the security of consumers' personal and financial information is important for the successful implementation of cell phone banking and that the less risky consumers see cell phone banking to be, the more they will be to accept it.

Wessels and Drennan (2010) argued that perceived risk has a negative impact on consumers attitude towards cell phone banking, hence it is crucial to reduce the risk factor to ensure the successful implementation of cell phone banking. The researchers also found out that there is a need to make the consumers aware of the security systems in place to safeguard against financial loss. Perceived risk impacts attitude towards a technology when it creates beliefs of uncertainty,

discomfort, conflict, concern, psychological instability and pain from anxiety (Featherman & Pavlou, 2003).

According to Abadi et al. (2012), six dimensions of risk exist : financial loss, performance degradation, security and loss in time. Featherman and Pavlou (2003) identified two categories of perceived risk which they described as performance and psychosocial; they further broke these categories into sub categories as shown in Figure 8.

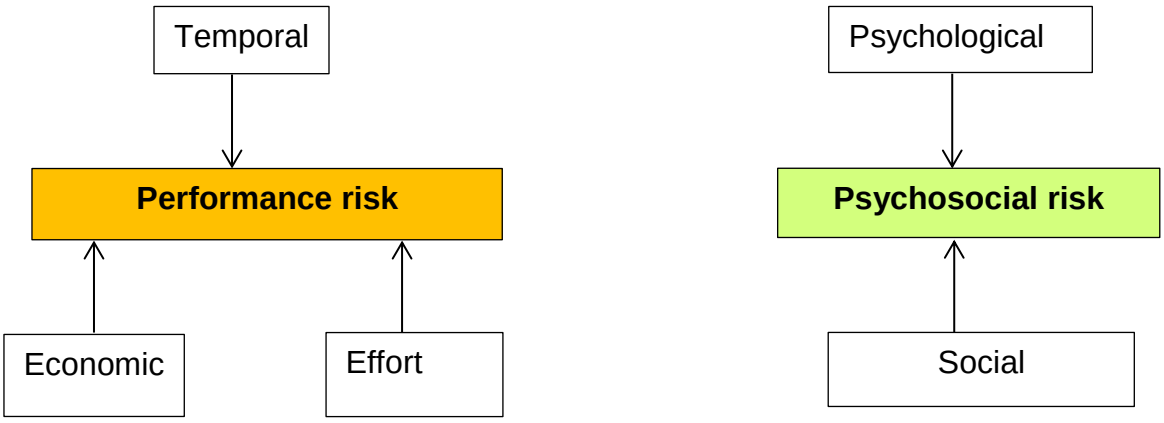


Figure 8 Categories of perceived risk (Featherman & Pavlou ,2003)

The authors identified six facets of risk:

- **Performance Risk -** the probability of the service malfunctioning and not meeting user expectations.
- **Financial Risk -** the possibility of financial loss.
- **Time Risk -** Users spend time learning a technology and if that technology does not meet their expectations, they may end up replacing it.
- **Psychological Risk -** loss of self-esteem due to a provider not meeting users' expectations.
- **Social Risk -** loss of social status from peers due to a technology not looking trendy.

- **Privacy Risk -** Potential loss of personal information due to hacking or "spoofing".

In their study on cell phone banking adoption in Iran Abadi, Ranjbarian and Zade (2012) noted that perceived risk plays a negative role in encouraging users to accept cell phone banking and was the most significant factor that inhibited its adoption. The authors further argued that cell phone banking services are paperless, hence when a user needs to query a transaction , it is difficult as they do not have proof of the transaction. Contrary to findings by other authors, Wu and Wang (2005) established that perceived risk had a positive influence to users' adoption of mobile banking in Taiwan; the reason could be that more than 60% of the participants in the study had experience transacting online and they believe the benefits of using online banking were greater than the risks.

Research conducted by Brown et al. (2003), in South Africa on cell phone banking echoed the same views as those by Abadi, Ranjbarian and Zade (2012), where perceived risk was seen as a major inhibitor to acceptance and fewer than 6 percent of the participants in the survey admitted to having used the technology. Cho (2010) postulated that consumers' perceived risk of a service is influenced by uncertainty and the possibility of unlikely consequences of using the service, hence the more risk they perceive the less likely they will use the product.

2.9.2 Perceived trust

Lin (2011) defines one facet of trust, knowledge based trust, as the belief of a user in the trustworthiness of people based on their perceived competence, benevolence and integrity. The author also states that knowledge based trust has explained and shaped consumer technology adoption. Gu et al. (2009) define trust in e-commerce as the willingness of vendors to act in the best interest of the user and avoid opportunistic behaviour which leads to users getting reliable services from honest vendors. The author also notes that perceived ease-of-use helps in building trust. Trust of cell phone banking is the biggest challenge to its adoption because of lack of a physical branch or face-face contact with the bank.

Trust has the potential to reduce opportunistic behaviour and afford the consumer the opportunity to get reliable services from honest financial institutions. When consumers trust financial institutions, they will believe cell phone banking to be a useful technology and hence adopt it (Gu et al., 2009). Another dimension of trust, that has led to low acceptance of cell phone banking, is the absence of face-to-

face contact in self-service technologies, such as cell phone banking (Lin, 2011). Reputation has also been seen to influence trust in mobile banking (Zhou, 2012). The implication of all of this is that providers of cell phone banking need to increase perceived trust to an acceptable level by the consumer.

Self-service technologies, such as cell phone banking, require the consumer to be a co-producer, as consumers are expected to execute transactions themselves and in the end become custodians of their own satisfaction (Johns & Perrott, 2008). In a study on behavioural intention to use mobile banking, Gu et al. (2009) established that structural assurances are significant in influencing user satisfaction of cell phone banking; these assurances came in the form of legal claims, guarantees and basic financial regulations. The effect of these assurances was that consumers felt confident to use the technology, through knowing that in the event of them making mistakes or the service becoming unavailable during a transaction they would be compensated or the transaction would be reversed.

For the purpose of this research, the perception of a consumer with a positive attitude towards cell phone banking is likely to be influenced by:

- low risk of using cell phone banking because of measures, controls and assurances that the bank has been put in place to reduce uncertainty i.e. when a consumer makes a genuine mistake whilst using cell phone banking, the bank will reverse or compensate the consumer against loss.

- The service provider assurances to do its best to meet users' expectations through structural assurances i.e. service availability is guaranteed through partnerships with reliable network operators.

- Constant communication between the consumer and service provider to make up for the lack of face-face interaction i.e. emails, courtesy calls, feedback surveys.

Hanafizadeh et al. (2014) noted that trust has no direct relationship to behavioural intention to adopt cell phone banking, rather it is an antecedent of other factors, such as perceived risk, which influence intention and attitude.

Service providers of cell phone banking need to form and maintain trust with consumers in the long term, hence there is a need to understand the factors that

make cell phone banking unfavourable, and removing them (Hanafizadeh et al., 2014).

2.9.3 Perceived Financial Cost

Wu and Wang (2005) defined perceived cost as the anticipated cost of using mobile banking, such as equipment costs, access costs, and transaction costs. Luarn and Lin (2005) explained perceived cost as the extent to which individuals believe that using mobile banking will cost them money through (transaction fees, access fees and equipment fees) , the authors concluded that perceived cost had a negative effect on the adoption of mobile banking .The higher the perception of financial costs involved with using mobile banking the lower the rate of adoption .

The negative effect of cost was supported by Chitungo and Munongo (2013), who did a study on rural communities in Zimbabwe on the adoption of mobile banking and explained that cost was a significant factor because of the low income levels of the respondents who earned between USD$100-USD$300.

Wu and Wang (2005) questioned the original TAM model and explained that to accurately predict users attitude/beliefs about a technology, there was a need to integrate it with other variables .They argued that a cost-benefit link is important to perceived usefulness and perceived ease of use of technology because consumer experiences such as system outages and errors lead to frustrations for which they have to pay.

The model proposed by Wu and Wang (2005) incorporating the variable cost is shown in Figure 9.

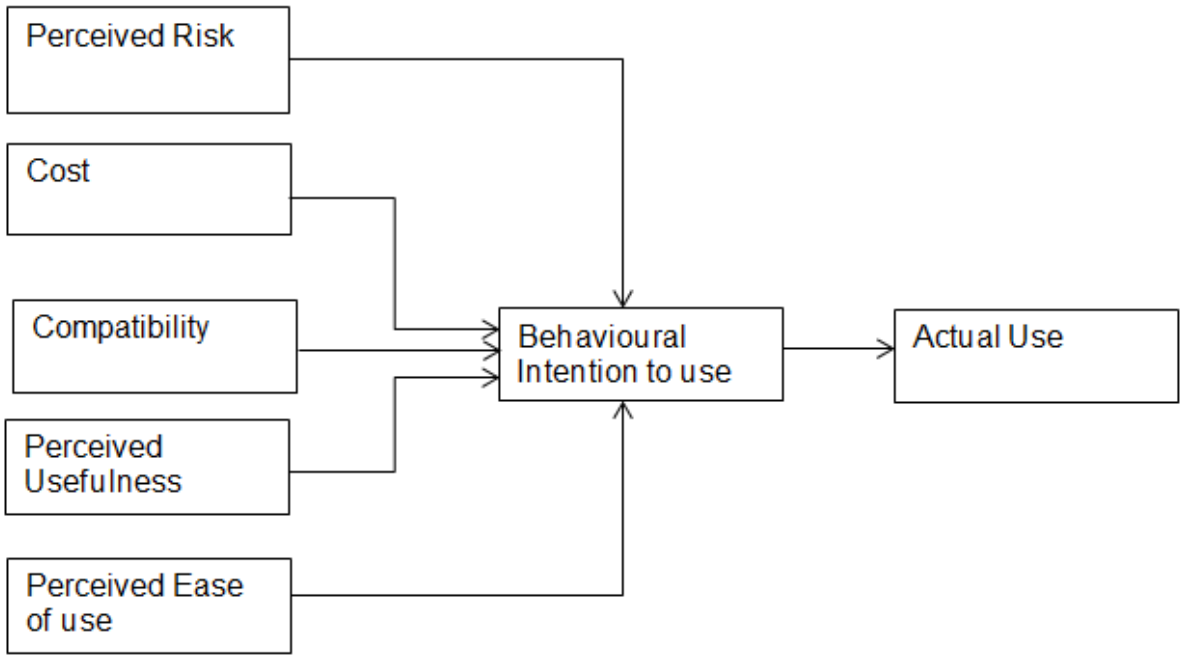


Figure 9 Proposed model for adoption of technology (Wu & Wang , 2005)

Overall providers of cell phone banking need to find ways to lower the costs of using the technology (hardware/software, transaction fees, and switching costs) for users to see it as a low cost channel for transacting on their accounts and hence adopt it.

2.10 Moderating factors

Research by Venkatesh, Morris, Davis, and Davis (2003) posits that there are four determinants of intention and use of technology and four moderators of the determinants which include gender, age and experience.According to (Venkatesh et al., 2003), the effect of financial cost of a technology is expected to be moderated by gender. Riquelme and Rios (2010) discovered that gender has moderating effect on perceived ease of use and that ease of use has a greater effect on women than men. The practical implication is that providers of cell phone banking services need to target their communications according to gender.

Research Question 2
What are the critical success factors for the implementation of cell phone banking in Zimbabwe?

The literature review has revealed that determination of the factors influencing consumer attitude towards cell phone banking is important to financial institutions who are seeking to lower their costs and provide more innovative services to their clients. These factors influence corporate and marketing strategies for these firms to be able to modify these factors. The original technology acceptance model (TAM) by Fred D Davis (1989) can be used with factors such as perceived ease-of-use and perceived usefulness, being integrated with additional constructs such as perceived risk, perceived cost and perceived trust to determine some of the variables that influence consumer perception of cell phone banking in Zimbabwe.

The literature review has developed the following research questions related to consumer perception of cell phone banking in Zimbabwe.

Research Question 1 What is the consumer attitude toward cell phone banking in Zimbabwe?

Research Question 2 What are the critical success factors for the implementation of cell phone banking in Zimbabwe?

3 CHAPTER 3: RESEARCH METHODOLOGY

Kothari (2000) defined research methodology “as a way to systematically resolve the research problem” (p. 8). This section describes the research methodology used to address the research problems and the objectives, as well as the instrument used to gather information from participants.

3.1 Research paradigm

The research seeks to explore the factors influencing consumer perception of cell phone banking in Zimbabwe and hence will be exploratory in nature with a qualitative approach being employed. According to Merriam (2009), qualitative research has three key characteristics: understanding, process and meaning; the researcher is considered the main instrument for data collection and interpretation. Qualitative research is an inductive process with a descriptive product being the result. Prior research on cell phone and mobile banking adopted an exploratory approach (Brown et al., 2003; Donner, 2008; Mallat, 2007a; Rotchanakitumnuai & Speece, 2003)

Qualitative research has the advantage of providing in-depth and subjective views about the consumer, critiques of the technique however , state that the technique can be overly subjective and the responses might be influenced by setting, different moderators or different participants (Bobby, 1977). Qualitative research is an inductive process that uses a research question to move from perspectives gained from data.

3.2 Research Design

Because there is little literature on the topic in Zimbabwe, an exploratory, research was employed on consumers and subject matter experts of cell phone banking to investigate the questions: What is the consumer attitude towards cell phone banking in Zimbabwe?; What are the critical success factors for the implementation of cell phone banking in Zimbabwe?

The research followed a semi-structured interview survey approach. Semi-structured interviews were selected for the purpose of this research because of two primary reasons. Firstly, they are suitable for exploring consumer perceptions and beliefs concerning issues regarded as complex or sensitive. Secondly, the demographic profiles of the respondents (education, gender, history) precluded

the need for a standardised interview questionnaire (Louise Barriball & While, 1994).

The advantages of using semi-structured interviews for data collection, according to Louise Barriball and While (1994) are that:

1. The technique avoids a poor response as is the case with questionnaires.
2. Suitable for the investigation of user's attitudes, beliefs, perceptions and values
3. Non-verbal answers can be observed, particularly when discussing sensitive issues, allowing for validity of the participants responses.
4. Participants cannot receive assistance in answering questions hence ensuring validity.

Pertaining to the study, the disadvantages of semi-structured interviews were:

Some respondents showed a lack of knowledge of some of the questions being asked , hence this compromised the accuracy of the answers provided.

3.3 Population and sample

3.3.1 Population

The population for the survey consisted of potential users of cell phone banking and subject matter experts who work in different roles in cell phone banking, the distribution of the respondent's is shown in Table 2:

Table 2 Profile of respondents

RESPONDENTS OF SURVEY	
Potential Consumers of Cell Phone banking	15
Subject Matter experts	6
Total	**21**

3.4 Sample and sampling method

The study used a non-probability (convenience) sampling technique. According to Robson (2011), non-probability sampling is a technique where it is not possible to include all units of study in the sample. The author further goes on to say that this sampling technique is less complicated to set up and "involves the researcher using her own judgement to achieve a particular purpose" (Robson, 2011, p. 274) .The research targeted a sample size of 21 respondents .The participants were chosen from two profiles, potential users of cell phone banking and subject matter experts in cell phone banking. The nature of the research was considered to be sensitive by some subject matter experts and hence the researcher in the end interviewed 6 subject matter experts and 15 potential users. The aim of the survey was to collect data on cell phone banking; the following criteria was used to identify potential respondents; the participant should have a cell phone, the respondent had to be over 18 years for ethical reasons and the respondent had to have a bank account.

The subject matter experts came from different areas and their profiles are shown in table 3.

Table 3 Job profiles of subject matter experts

Respondent role	Number of sampled	Company
Anonymous	1	Mobile Network Operator
Project Director-mobile payments	1	Consulting
Implementer	1	Financial Institution
Account Executive	1	Financial Institution
Software Engineer	1	Consulting
Project Manager	1	Consulting

3.5 The research instrument

The research instrument consisted of semi-structured interviews one for the potential user and the second for the subject matter expert, with an introductory letter as shown in Appendix A. The instruments for both profiles of respondents were divided into two sections:

Section A: Respondent Information - this elicited information on the user, for the potential consumer instrument the participant was asked information on their name, age group, gender, educational level and their use of cell phone banking. The subject matter expert's instrument requested information on their role in cell phone banking and their experience with cell phone banking.

Section B: The potential consumer's instrument probed questions related to their beliefs and perceptions about cell phone banking - the questions were informed by prior literature and theories in the study. The subject matter experts were asked questions to identify what they believed were critical success factors for the implementation of cell phone banking.

3.6 Procedure for data collection

Data was collected by way of in-depth interviews of participants identified using a semi structured interview approach. Interviewees were contacted telephonically and electronically and permission requested for participation. After which, an appointment was scheduled that was convenient to the participant.

The interviews were conducted via Skype, using two research instruments - one for potential users and the other for subject matter experts .The interviews were recorded for transcription and reference purposes should that be requested.

3.7 Data analysis and interpretation

The data analysis approach was qualitative in nature which Miles, Michael, Huberman and Saldana (2014) described as focused on text, rather than numbers, from transcribed interviews and notes from respondent observations. This way, the authors further say, allows the researcher to understand respondents' attitude, beliefs and values. Qualitative data analysis becomes an inductive process - the researcher identifies categories, patterns and themes in the transcribed text (Miles, Michael, Huberman & Saldana, 2014), a process also known as thematic content analysis.

With reference to this study, the first step in analysing the data was to transcribe the interviews from the audio recordings and observations during the interviews. This was done to identify patterns in the conversations. Codes were defined which formed a basis for the further analysis of the key themes in the interviews.

The second phase involved the sorting of the codes into potential themes as well as re-examination of the data to identify missed codes. Identification of patterns was done at this stage and these patterns were then expanded further. This stage also involved the combining and cataloguing of similar patterns into sub-themes (Aronson, 1994). This was done to create a cohesive story of the participant's perception of cell phone banking.

The final step in the process was to relate the themes identified with the literature review, this assisted in creating a valid argument on the causes of the participant's attitude and beliefs about cell phone banking. The main purpose of this is to tell a compelling story which Braun and Clarke (2008) said "convinces the reader of the merit and validity of your analysis" (p. 23).

Data collected was transcribed and thematic content analysis employed to identify themes in the responses in the answers. Descriptive analysis was used to summarise the demographics of the participants, categorisation of data was done to identify themes.

3.8 Limitations of the study

Three major limitations were identified in the study:

- There is very little information available on adoption of cell phone banking in Zimbabwe; this is mainly due to the fact that the technology is still in its embryonic stages of development.

- Qualitative exploratory studies use small sample sizes, therefore it is difficult to generalise the findings to the larger population, but enough to provide user experiences, which can be invaluable for further research or used in campaigns by providers of the service.

3.9 Validity and reliability

According to Field (2009), an instrument exhibits validity if it is able to measure variables that it is designed to measure. Robson (2011) has noted that tests of

reliability give researchers the extent to which the results can be replicated to the larger population.

3.9.1 External validity

External validity refers to the generalisation of a causal relationship to different people, time and measures (Bobby, Phillips, & Tybout, 1982). The external validity is expected to be high because the research is based on extensive literature on the topic (Brown et al., 2003; Fishbein & Ajzen, 1975; Mattila, 2003; Pai & Huang, 2011).However, the researcher cautions against using the results to infer the results to consumer perceptions of the unbanked population or banked consumers who live in the rural communities.

3.9.2 Internal validity

Johnson (1997) described internal validity as “the degree to which a researcher is justified in concluding that an observed relationship is causal” (p. 2). Internal validity will be ensured by the use of a well-known theory - the Technology Acceptance Model (TAM) (Fred D Davis, 1989), which has been widely used by researchers to test the factors influencing adoption of technology (Chitungo & Munongo, 2013; Lee, 2009; Lule et al., 2012)..

3.9.3 Reliability

One way to ensure reliability of a survey instrument is to do a survey of the same sample a second time (test-retest reliability) (Field, 2009). Although a second survey was not conducted, it is believed that the consistency of the answers across the different participants provided reasonable evidence to measure the reliability of the instrument.

The TAM (Fred D. Davis, 1989) has been used previously across different studies to test consumer perception , attitude and belief about cell phone banking. The research studies were completely independent of one another and provided consistent results.

4 CHAPTER 4: PRESENTATION OF RESULTS

4.1 Introduction

In this section the results of the study are presented. Information was collected through in-depth interviews and analysed using content (thematic) analysis. The first part is a description of respondent profiles, followed by a presentation of respondent demographic information. The second part lists the themes identified in relation to the literature review.

4.2 Respondent profiles

The sample survey consisted of two groups, from which insights on cell phone banking were probed, using two different instruments. The groups identified for the research were:

- **Potential Users of Cell Phone Banking**: participants with bank accounts who have the potential to use cell phone banking in the near or long term.
- **Subject matter experts**: This group was comprised of participants who have been, or are currently involved with, the implementation/administration of cell phone banking

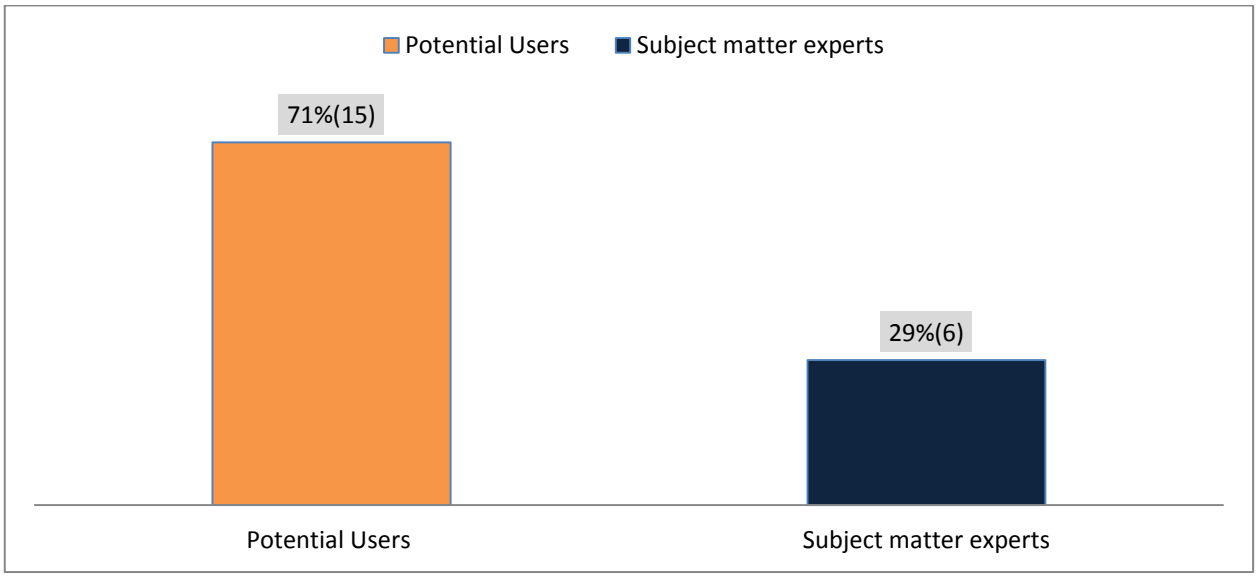


Figure 10 Respondents by profile

Figure 10 shows the number of respondents who participated in the survey by profile. A total of 21 respondents participated with 15 (71%) potential users of cell phone banking and 6 (29%) subject matter experts. Information regarding cell phone banking strategy was considered sensitive by several senior decision makers who were approached, hence the small number of subject matter experts who participated.

4.3 Demographic profile of respondents

This section describes the demographic profiles of both potential users and subject matter experts of cell phone banking through bar graphs.

4.3.1 Question 2: Gender

Question 2 in the potential user of cell phone banking research instrument, elicited information on the respondent's gender and 73 per cent of respondents were males with females constituting 27 per cent of the sample. The study used random sampling to identify participants no effort was put into obtaining equal gender representation .The results are depicted in Figure 11.

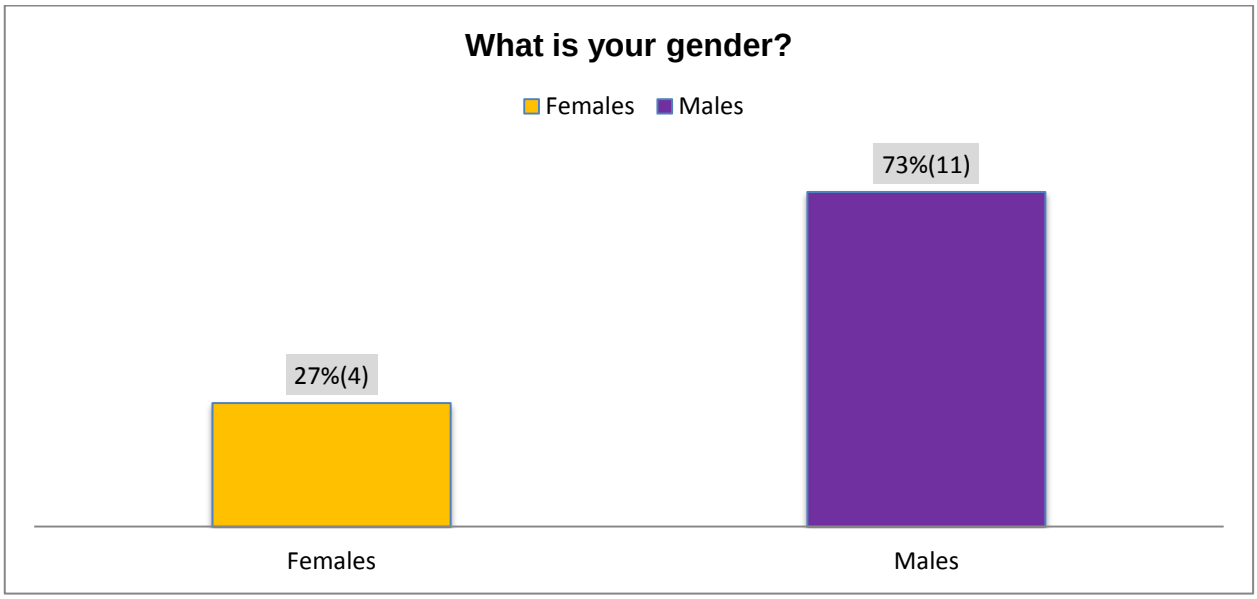


Figure 11 Potential users of cell phone banking gender responses

4.3.2 Question 3: Educational qualifications

The third question of the survey asked the respondents their highest educational qualification attained. A summary of the results shows that the majority of respondents have an honours degree (67 per cent), followed by certificate holders (27 per cent) and then diploma holders (7 per cent) . The bar graph in Figure 12 shows a summary of the qualifications.

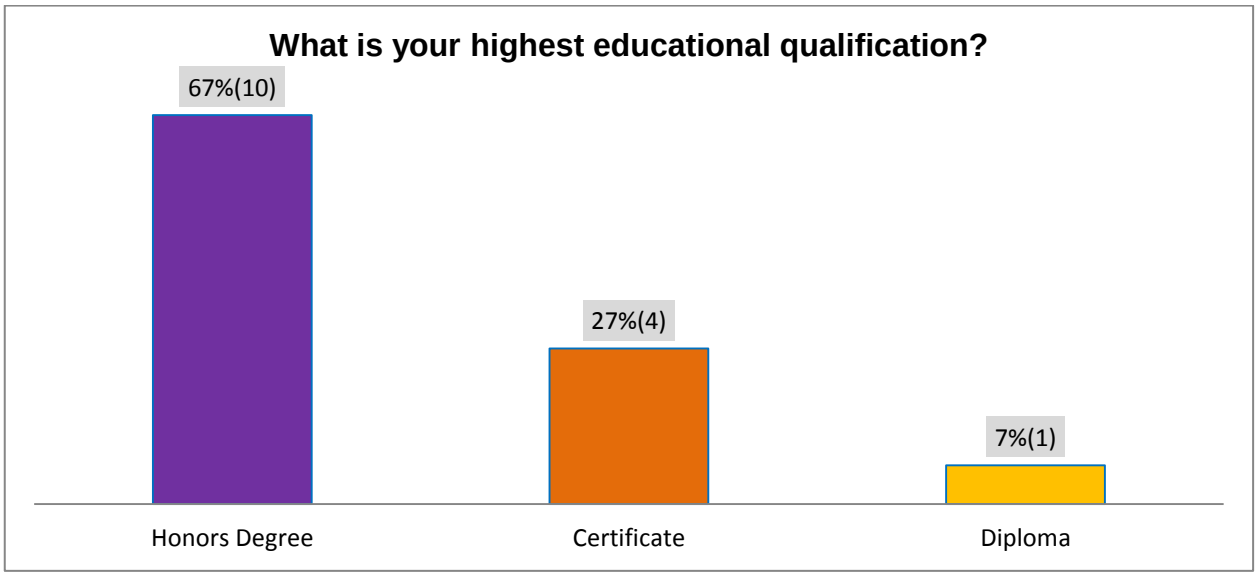


Figure 12 Respondents answers to highest qualification attained

4.3.3 Question 4: Age of respondents

Each potential user of cell phone banking was asked which age group they fall into, the age groups were 18-29 years, 30-41 years and above 42 years, 60 per cent of the participants indicated that they are in the 30-41 years age group, with 40 per cent being in the 19-29 years category. Figure 13 depicts the answers submitted.

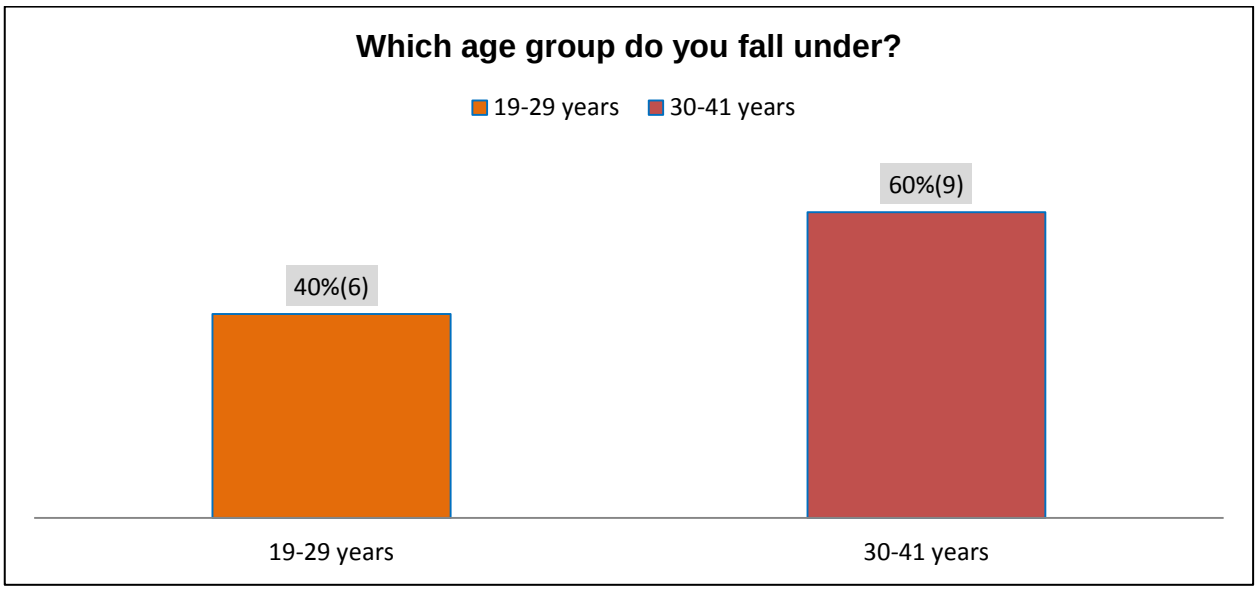


Figure 13 Respondents age

4.3.4 Question 5: Cell phone banking use

The question asked the potential users of cell phone banking if they currently use cell phone banking to transact on their bank accounts. The majority indicated that they are registered for the service and use it for performing transactions such as bill payments, inter-account transfers and checking balances - the percentage of these respondents was 67 per cent , with the rest (33 per cent) saying they are not registered for the service but have bank accounts. Figure 14 shows the results of this question.

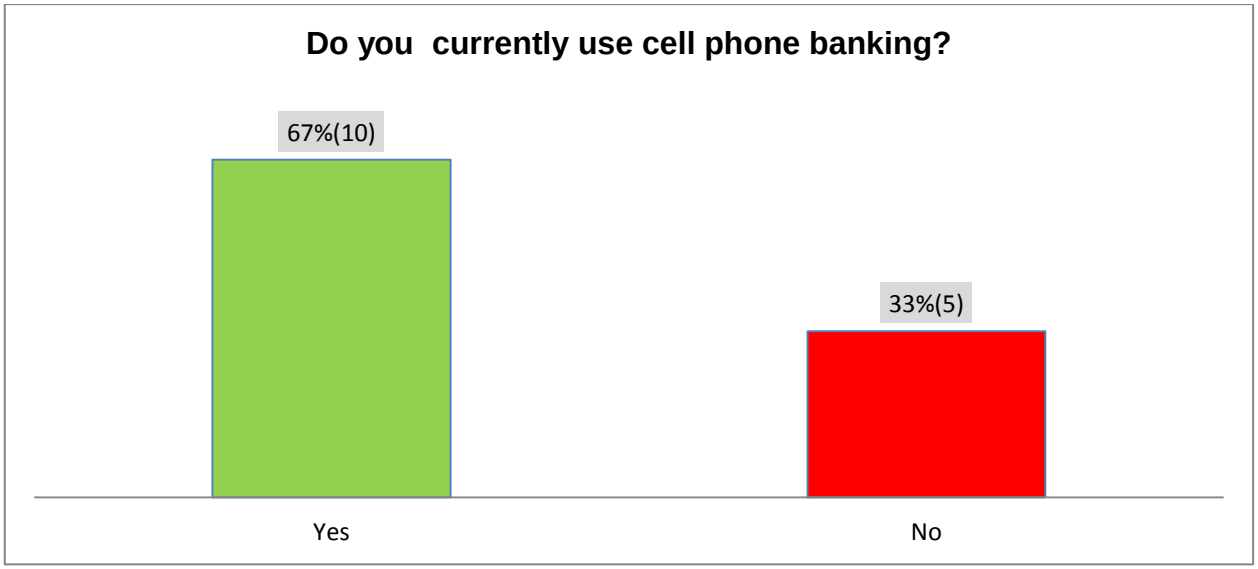


Figure 14 Cell phone banking use

4.3.5 Profile of subject matter experts

The subject matter experts who participated in the study had various levels of experience as shown in Figure 15, with 2 (40%) having more than 10 years exposure to cell phone banking. Forty per cent indicated they have between 2-5 years' experience and 1(20%) having 6-9 years exposure.

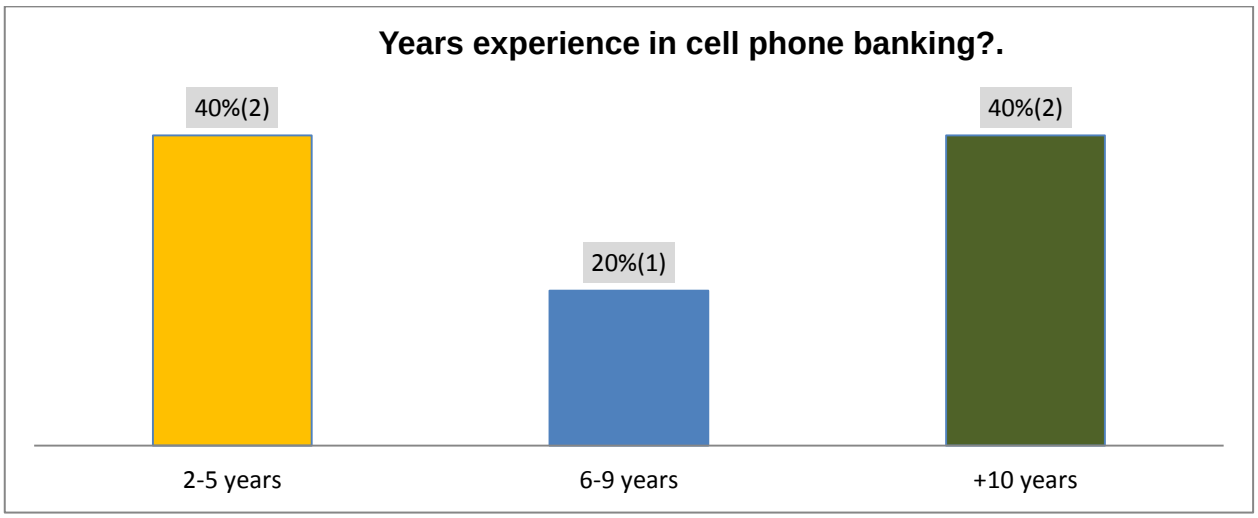


Figure 15 Subject matter experts experience in cell phone banking

The subject matter experts came from different backgrounds - the majority of the respondents came from the cell phone banking consulting space, involved with the implementation of the service on behalf of financial institutions. Table 4 shows the roles of the respondents as well as the companies they work for. Names and companies have been withheld for confidentiality purposes.

Table 4 Profile of subject matter experts in cell phone banking

Respondent role	Company
Anonymous	Mobile Network Operator
Project Director-mobile money payments	Consulting
Implementer/Administrator	Financial Institution
Account Executive	Financial Institution
Mobile Payments Software Engineer	Consulting

4.4 Results pertaining to Research Question 1

Research Question 1
What is the consumer attitude towards cell phone banking in Zimbabwe?

The section below examines views expressed by consumers on each of the factors identified as influencing perception of cell phone banking .The semi-structured interview instrument (Appendix A) for potential users of cell phone banking was used to collect data on user attitude.

4.4.1 Consumer views on Usefulness of Cell phone banking

The majority of potential users highlighted that cell phone banking offers the convenience needed to perform tasks anywhere and anytime, without being restricted by business hours or holidays. Some users mentioned it is useful

because they can send money from their bank account to their mobile money wallet and then withdraw from an agent station without going to a bank. Table 5 shows the rank order of the views that came out as well as the frequency.

Table 5 Usefulness of cell phone banking views of potential users

Rank	Theme	Frequency
1.	Convenience	9
2.	Low cost channel	4
Total responses		**13**

4.4.2 Consumer views on Cost of cell phone banking

The participants all agreed that cell phone banking is associated with low costs as it eliminates a number of costs for the user as well as for the bank. The majority of the people said that it lends itself to be a cheaper banking channel because their bank incorporates the fee for cell phone banking into their monthly bank account fee , hence they are not charged per transaction. Table 6 shows the views expressed and the frequency.

Table 6 Financial cost of cell phone banking views

Rank	Theme	Frequency
1.	Transaction fees are lower compared to traditional banking channels.	6
2.	It eliminates travel costs	3
3.	Operational costs for the bank are low.	2
4.	The cost is low for transacting on small	1

	amounts.	
5.	No internet bandwidth is needed making it cheaper	1
Total responses		**13**

4.4.3 Consumer views on Security of Cell phone banking

The majority of the users expressed the view that the passwords and pin codes provided in cell phone banking make it secure as long as they are not compromised by hackers and kept safe. Other users mentioned a number of aspects that make it a secure platform for transacting; the session-based communication used by USSD which prevents the storage of personal information on one's device and the reputation of the provider of the service results are shown in Table 7.

Table 7 Views on security in cell phone banking

Rank	Theme	Frequency
1.	The passwords and pins make cell phone banking secure	7
2.	USSD does not store personal information on device.	2
3.	Reputation of provider influences security	1
Total responses		**10**

4.4.4 Consumer views on Ease of use of cell phone banking

There were different views on the ease of use of cell phone banking expressed - a significant number of participants mentioned that cell phone banking is easy to use

because it requires one USSD code to log in, after that one just has to read the instructions. One view was divergent from the rest in that the user mentioned that there are too many codes to remember which does not make it user friendly. Table 8 depicts the frequency of the responses

Table 8 Views on cell phone banking ease of use

Rank	Theme	Frequency
1.	Little effort is required to learn it, very easy.	9
2.	The codes are too complex to remember	1
Total responses		**10**

4.4.5 Consumer views on trust issues in Cell phone banking

When consumers were asked about how they trust providers to provide a service that meets their expectations, a significant number of the respondents said they trust their bank because they have been with them for years Table 9 shows views on trust and the frequency.

Table 9 Consumer views on trust in cell phone banking

Rank	Theme	Frequency
1.	Trust my bank from past experiences	7
Total responses		**7**

4.5 Results pertaining to Research Question 2

Research Question 2
What are the critical success factors for the implementation of cell phone banking in Zimbabwe?

The survey consisted of 6 respondents from various industry sectors but all having worked with cell phone banking technology. The following section represents what they had to say on the factors influencing successful implementation of cell phone banking in Zimbabwe.

4.5.1 Subject matter experts views on usefulness

All the subject matter experts interviewed mentioned that the most important benefit of cell phone banking to the consumer is its convenience and that is why the service was introduced this has made it a usefulness technology to accept. Table 10 shows the results obtained.

Table 10 Subject matter experts' views on usefulness of cell phone banking

Rank	Theme	Frequency
1.	Convenience of cell phone banking	6
Total responses		**6**

4.5.2 Subject matter experts views on cost

There was general consensus that consumers are not worried about the cost, but rather the convenience that the service offers, one respondent mentioned that the transaction costs are lower than using an ATM or going into a bank. Table 11 shows the results.

Table 11 Views on cost of cell phone banking by subject matter experts

Rank	Theme	Frequency
1.	Convenience overrides cost-low cost channel.	3
2.	Low transaction fees	1
Total responses		**4**

4.5.3 Subject matter experts views on security

Half of the respondents mentioned that passwords and pins are crucial to ensuring that consumers have a positive attitude about security towards cell phone banking as consumers have a sense of control of the technology .One respondent mentioned that USSD is a safe technology because it does not store personal information on the phone. Table 12 shows the results that came out of the interviews.

Table 12 Views on security in cell phone banking

Rank	Theme	Frequency
1.	Passwords and pins provide confidence	3
2.	USSD does not store information on device	1
3.	Transaction confirmations reduce uncertainty	1
Total responses		**5**

4.5.4 Subject matter expects views on Ease of Use

Subject matter experts agreed that cell phone banking should be easy to use - a count of 5 was recorded, with one expert mentioning that USSD codes are quite easy to use for any user. Table 13 shows a summary of the results.

Table 13 Views on ease of use of cell phone banking

Rank	Theme	Frequency
1.	Ensure it is easy to use	5
2.	USSD codes are easy	1
Total responses		**6**

4.5.5 Subject matter experts views on trust

The themes identified in the interviews with the subject matter experts concerning trust are shown below, the frequency of the themes was the same, in this instance it was seen that trust was influenced by a number of factors which the provider had to control for successful implementation - these are depicted in Table 14.

Table 14 Trust in cell phone banking

Rank	Theme	Frequency
1.	Strong brand	2
2.	Zimbabwe financial system perception	2
3.	Mistrust of technology by older generation	2
4.	Network availability	2
Total responses		**8**

4.6 Summary and Conclusion of results

The themes that came out from the potential users and subject matter experts are summarised below in Table 15 and their relevance to the literature highlighted. The majority of the respondents agreed that Value was the most critical factor in

driving perception as well as being a critical success factor for the implementation of cell phone banking. Threat in the form of risk that comes with personal information being compromised was also identified as a determinant of consumer perception, followed by the effort required to learn cell phone banking.

Table 15 Summary of key themes from survey groups

Rank	Potential Consumers Themes	Applicability
1.	Perceived Value	Yes
2.	Perceived Threat	Yes
3.	Perceived Effort	Yes

5 CHAPTER 5: DISCUSSION OF THE RESULTS

5.1 Introduction

This chapter discusses the results of the survey. The chapter begins by describing the demographic profile of the respondents: subject matter experts and potential users of cell phone banking. The chapter also reviews the respondents' perceptions about cell phone banking in Zimbabwe in relation to the research questions in the literature review by analysing the common themes identified.

5.2 Discussion of demographic profile respondents

The sample of potential consumers consisted of 73 per cent males and 27 per cent females; there was no particular preference for gender as the survey targeted participants who were available and most likely to participate in the survey and no attempt was made to ensure that sample was representative of the entire population in Zimbabwe. All respondents classified as potential consumers had bank accounts with 67 per cent indicating that they are registered for cell phone banking. The consumers were largely identified through friends who then referred the researcher to other participants.

The majority of the consumers interviewed were in the 30-41 age group, this group had knowledge of cell phone banking and required little assistance in answering the questions. It was also discovered that a significant number of the consumers who participated had honours degrees and were likely to be more aware of technology trends such as cell phone banking.

A total of 6 subject matter experts were interviewed, who had experience implementing/administering cell phone banking in Zimbabwe. The greatest number of respondents was cell phone banking consultants working for independent organisations; this group was willing to share information as compared to experts in the financial sector who indicated that the information was restricted because of the competition in the industry. Two participants were from a mobile network operator that had acquired a bank that was implementing cell phone banking for its users, accepted to participate.

5.3 Discussion pertaining to Research Question 1

The research identified themes through discussions with potential users, which are supported by prior research on technology acceptance (Fred D Davis, 1989; Venkatesh & Davis, 2000; Zhou et al., 2010). The interviews revealed that attitude, and hence perception, about cell phone banking was influenced by:

- **Perceived value:** the overall benefits of using cell phone banking i.e. convenience, time and cost savings
- **Perceived effort:** the effort and time one needs to put into learning how to use cell phone banking
- **Perceived threat:** seen as risk that comes with using cell phone banking that may cause financial loss.

5.3.1 Perceived Value

The content analysis revealed that consumers had adopted cell phone banking because of the benefits that it offers which include its ubiquity, convenience, low cost and ease of use .These benefits were revealed when the participants. Convenience was identified as the greatest value proposition for using cell phone banking with consumers mentioning that they are able to perform daily or monthly transactions such as buying airtime, checking balances and transferring money between accounts from the comfort of their home. The ease of use of cell phone banking was another value proposition that allowed cell phone banking to be of value due to the fact that little effort was required on the part of the consumer to transact; this saved the consumers time as well as cost to travel to the nearest branch to obtain banking services. Ubiquity was identified as being able to transact anywhere anytime ,the consumers found this to be important because sometimes do not get the time to visit the bank because of work pressure so having cell phone banking allows them not to be restricted by time.

These findings support what H.-W. Kim, Chan, and Gupta (2007) posited in their study of value perception that perceptions of value are driven by usefulness, cost and technicality of a technology.

Responses obtained that highlighted the value of cell phone banking included:

"I can transact on my account whether the bank is open or closed"

"It is much cheaper to transact using cell phone banking as my bank charges me a fixed fee no matter how many times I use it"

"cell phone banking is useful because I can buy airtime and make payments on the go"

The research used an expanded view of cell phone banking costs that included equipment costs, access cost and transaction costs (Kuo & Yen, 2009). The majority of the respondents agreed that access costs to one's account are lower, compared to traditional channels of banking, such as going into a banking hall or using an ATM. One respondent mentioned that cell phone banking eliminates the need to travel to a bank to perform normal transactions. The cost to connect to a bank account via a cell phone was also identified as being low, i.e., no internet connection is needed as cell phone banking uses the existing GSM network to transmit data as opposed to internet banking which requires one to establish an internet connection. One respondent mentioned that bandwidth for cell phone banking is expensive and that is why they do not use the technology - upon being informed that cell phone banking does not use bandwidth, the user had a change in attitude about the cost factor.

In terms of the effect of financial cost on a user's intention to use cell phone banking, the majority said that the convenience offered by cell phone banking overrides the cost, making the financial cost less of a factor that influences their intention to use the technology - this disputes findings by Luarn and Lin (2005), who observed that financial cost had a significant role to play in driving adoption. The reason for this could be that banks in Zimbabwe do not charge for cell phone banking separately, but this is incorporated into users' monthly bank charge.

To conclude the perceived value benefit of using cell phone banking is likely to influence consumer's perception of cell phone banking in Zimbabwe through the antecedents convenience, ubiquity, ease of use and low cost.

5.3.2 Perceived Effort

Providers of self-service technologies are able to reduce capital costs of implementing such technologies by allowing consumers to access the services

from their own personal devices. Consumers are familiar with their technology devices and hence this enables less effort to be put in by the consumer to learn and transact.

The general belief by consumers is that the effort put in should be as minimal as possible through use of easy-to-understand graphical interfaces and commands. The interviewees mentioned that their attitude about cell phone banking has been influenced by the relative ease with which one can transact fast using USSD menus. USSD menus are accessed by using menu codes such as *123# these codes are similar to codes used to recharge airtime or check balances. The interviewees mentioned that they are familiar with these commands and this enabled them to learn how to use cell phone with relative ease. Of the participants who spoke about ease of use, 90 per cent agreed that cell phone banking is easy to use two respondents had this to say:

> *"It is very easy to use and straightforward it took me less than 10 minutes to learn how to use cell phone banking…….this made me feel confident about the service to meet my needs"*

> *"The codes are not different from airtime re-charge codes; this makes it easy to use"*

The more users are familiar with a technology, the less they find it to be difficult to use - one user mentioned that:

> *"It is easy because everyone uses USSD to check balances and make payments"*

Gu et al. (2009) supported this view by noting in their study that self-efficacy increases behavioural control as users become more experienced with USSD technology. Venkatesh and Davis (2000) posited that perceived ease of use has a direct link to intention to use and perceived usefulness. To support this, one respondent mentioned that they are currently not using cell phone banking because:

> *"If I did not have to remember codes to use cell phone banking, I would use cell phone banking"*

The user's belief was that cell phone banking requires one to remember complex codes which would increase the level of effort required to use the technology. Research by Luarn and Lin (2005) indicated that to prevent the " underutilisation" problem of a system, the technology needs to be effortless to learn and easy to use.

The determinants of perception on effort required from the interviews included an easy to understand menu, one USSD code to remember and one security pin code to log in with. Another user mentioned that although the menus were easy to understand, there was a need to shorten the number of steps to perform a transaction.

5.3.3 Perceived Threat

Consumers of banking services fear financial loss due to their accounts being compromised; this risk is brought about by an unsecure system and opportunistic behaviour on the part of the provider of the self-service. The interviewees mentioned that there needs to be; controls such as passwords and pins to prevent unauthorised access, although they believe these can still be hacked and a level of trust between the consumer and the provider which they highlighted as important to prevent opportunistic behaviour on the part of the provider of the service.

According to Brown et al. (2003), one of the critical success factors for the implementation of financial systems, is the establishment of security to safeguard personal information and account information. The author further postulates that lowering the perception of security will increase acceptance of cell phone banking. The respondents interviewed believe that security in cell phone banking is adequate, with one respondent saying that the pins and passwords that one has to enter before transacting made them feel safe that their personal information will not be compromised. Two other respondents also mentioned that USSD does not store information on the device, hence making it a secure channel for performing financial transactions.

One of the facets of risk is lack of trust according to Luo et al. (2010) trust plays an important role in relations that involve exchange transactions where unknown risks are prevalent. The author identified three dimensions of trust: disposition of

trust, structural assurance and trust belief. Based on these three dimensions of trust, respondents were asked questions related to the trust they have for their provider of cell phone banking i.e. quality service and opportunistic behaviour. The response was that Zimbabwe had problems with network availability in the past, however this had improved significantly and this made consumers have a positive attitude about service availability.

Another dimension of trust that was probed is disposition of trust respondents mentioned this trust had been built because they have been with their bank for a while and they trusted them not to take advantage of any situation. Two respondents said:

> *"My bank has been around for a while and I have also been with my bank for a number of years allowing me to trust them"*

> "*My bank is an international bank that has implemented this technology before hence I trust it because it has experience"*

The findings above are supported by Gu et al., (2009), who identified that the perception of trust is determined by previous satisfaction with a service and service providers' reputation.

Structural assurance is the perception of trust on the institution and its environment in cell phone banking, determinants of this trust include availability of legal and technical controls, such as passwords, encryption, guarantees/insurance that facilitate successful financial transactions using a cell phone. One respondent mentioned that their bank has insurance and hence if their account is compromised they are likely to be compensated for the loss, the respondent's response was:

> *"My bank has insurance to cover loss due to fraudulent activities so I believe I can trust them"*

The threat that comes with using cell phone banking therefore influences consumer's perception and determinants of threat include trust, security controls and structural assurances these factors are therefore likely to influence consumers perception of cell phone banking in Zimbabwe.

5.4 Conclusion of Research Question 1

The major factors found to influence consumer's perception of cell phone banking include "perceived value", "perceived effort" and "perceived threat". Perceived value had a direct positive relationship with intention to use (perception) cell phone banking. Perceived effort and threat as corroborated by previous studies made cell phone banking unfavourable.

The respondents mentioned that the greatest value of cell phone banking is its ability to offer convenience, allowing consumers to access their accounts without restrictions. The aspects of convenience expressed by most users included the availability of the service anytime and anywhere to pay bills, make transfers and check balances.

Cell phone banking was considered to be effortless to use and the majority of the respondents believe that cell phone banking is not complicated, because the menus and instructions are straightforward and if one is familiar with recharging airtime and checking balances, there should be no challenge in using the technology.

Respondents believed trust was important in influencing their decision to use cell phone banking, with the majority expressing the view that the reputation and brand of the provider is important in influencing their trust. Respondents expressed the view that because they have been with their bank for a long time and the bank had previously met their expectations in the past, they trusted them. The ability to provide passwords and pin codes to log in to access cell phone banking influenced users' perception of security and this led to users feeling safe about the expectation of a loss.

5.5 Discussion pertaining to Research Question 2

This section discusses responses from interviews with cell phone banking subject matter experts, who were able to talk about their experiences with designing and implementing the technology and what they believed as critical success factors of cell phone banking implementation. The themes identified from the interviews with subject matter experts included consumer value, threat, user experience and

financial cost of using cell phone banking. Commonalities are then identified between themes from potential consumers and subject matter experts.

5.5.1 Consumer Value

Subject matter experts expressed the view that one of the reasons why cell phone banking has been successful is its convenience to perform daily normal banking transactions such as payments, bill payments and transfers anytime and anywhere with respondents mentioning that:

> *"A provider should ensure there is so much convenience to perform financial transactions"*

> *"Mobile banking came about as a convenient tool for the banked so that they could access their accounts to do balance enquiries and make payments."*

According to C. Kim et al. (2010), users will use a mobile payment system if they perceive it to be useful for their daily financial transaction needs. The author further goes on to say that usefulness of a product has a positive influence on a user's intention to adopt mobile payments. One respondent from the survey also mentioned that when a user initiates a session using USSD, the response is usually fast. This aspect of cell phone banking made it useful when one needed to transact fast..

Another factor that was mentioned was the fact that the cost of using cell phone banking was lower compared to other banking channels especially when one needed to transact on very small amounts. This factor made cell phone banking a convenient technology.

Therefore, cell phone banking generates value for the consumer in that the service provider ensures factors such as convenience, speed and low cost are incorporated into the design and implementation.

5.5.2 Threat

Users face a level of uncertainty when using a technology and this uncertainty is influenced by threats or risks that emanate from technology and the relationship between the consumer and the provider. The technology aspect has to do with

how the platform ensures that the consumer's information is not compromised and this is done through encryption and passwords. The risk of opportunistic behaviour arises from trust belief which the provider has to manage through marketing and awareness.

Access to ones account via a cell phone using passwords and pin codes was considered to be important in the success of cell phone banking , as users feel more confident about the service when they are asked to log in with private codes.

> *"Security is quite important to ensure that users trust our platform, hence we have put in place measures such as pin codes to ensure that no unauthorised access to consumers accounts occurs"*

Another aspect of security that was mentioned was the storage of personal information on one's phone which can potentially lead to one's account being hacked into when they lose their device. One respondent mentioned that USSD does not store personal details compared to other forms of mobile banking; this gave consumers assurance of its safety in the event they lose their device.

Another factor mentioned which could enhance user confidence, was the availability of an audit trail for users to check their transactions and also ensure that they are notified immediately when someone logs into their account. This gave users confidence in the system to immediately stop any financial loss that may come with unauthorised access.

The issue of trusting the service provider also featured as a factor that influenced user perception as well as a success factor for cell phone banking implementation. Service providers who have a good reputation and brand were considered to provide a secure service as they are considered to have experience with implementing other banking channels for financial transactions (ATMS's, Internet banking, mobile banking, etc.) Therefore the respondent said that marketing campaigns helped in creating a good image.

One aspect that another respondent mentioned was the fear of technology by the older generation who have in the past used traditional means to perform financial transactions. This generation, the expert said, had a negative perception of cell phone banking because they felt it was not secure. Security, hence, influenced the

perceived risk of the technology to this generation. The respondent further went on to say that awareness was key to ensuring older consumers have a positive attitude about the technology.

> *"People above 50 years are sceptical about technology and afraid they will make mistakes and their money will get lost."*

The general view on trust as a factor influencing the success of cell phone banking was that it had to be created for users to have confidence in the system. Consumers trust financial institutions that they deal with on a regular basis as they will have proved that they can meet their expectations. Hence having a trusted brand is important as one respondent mentioned:

> **"***Providers of the service need to be able to meet consumer expectations in terms of having the service available all the time and also doing what it is designed for, hence a strong brand presence will ensure that consumers accept the product."*

Since the financial meltdown in Zimbabwe in 2008, a number of banks have been liquated because they were found to be abusing depositors' funds. One bank had its licence cancelled in 2005, because of what the reserve bank described as imprudent banking behaviour (RBZ, 2013).The reserve bank further went on to inform the public not to deal with the bank for its own protection. This fear of banks being liquidated has cast doubt about the stability of the financial system as one respondent mentioned that

> *"The collapse of the financial system as banks faced liquidity challenges led to people not trusting banks, this trust has seen people moving to other means of paying bills and sending money such as mobile money "*

The views expressed by subject matter experts supported the need for trust as a determinant of user perceptions. Hence, trust has a significant role to play in determining successful implementation of cell phone banking.

Another theme raised was the issue of having the service available all the time. One respondent said that service availability was determined by cell phone network providers, who provide the GSM network for users to connect to their

accounts via USSD. This trust was between the cell phone network and the financial institution - the cell phone provider merely provides a gateway for the financial institutions between the consumer and their accounts. The cell phone provider has to ensure that a user is not disconnected when they are performing a transaction to increase users' trust, as well as to reduce the level of threat brought by service unavailability.

5.5.3 Financial Cost

When users use self-service technologies there are three costs that they are likely to incur (access costs, transaction costs and device costs).These costs influence consumers perception about the financial cost one way of reducing uncertainty about the cost of using these technologies is by making users aware of what costs there are of any when they transact. USSD uses the existing GSM network to transmit information between the user's cell phone and the bank and the consumer does not incur any charges. One expert said that as long as users are made aware of the costs that come with using the technology they most likely would not have issues adopting the service.

In Zimbabwe cell phone banking is part of the value added services banks provide to their consumers when they open an account it is possible that cost is therefore not a huge factor because consumers are not charged per transaction. Two subject matter experts mentioned that the convenience of cell phone banking outweighed the costs of using it and users were not concerned as long as convenience was provided and hence cost did not influence perception towards cell phone banking. This belief, however, contradicts a study by Mallat (2007b) who found that cost has a significant influence on acceptance of mobile banking.

The cost of cell phone banking was not considered a critical success factor for the implementation of the cell phone banking.

5.5.4 User Experience

The complexity of cell phone banking came out as a barrier to acceptance of the technology respondents highlighted that users do not want a complicated service that constantly asks them for pins and codes every time they perform a transaction, as codes could potentially be difficult to remember. Another point

raised was the issue of easy to read and follow instructions, which the subject matter experts said reduced the effort required to learn how to use cell phone banking. The key benefit for service providers in creating a user friendly experience is that it reduces user support costs as consumers become self-sufficient.

> *"Consumers do not want a service that is complicated through long and complicated commands, continuous registrations or change in passwords."*

> *"Cell phone banking should be simple to use if I want to transfer money I should be able to do it in two or three steps."*

Additionally, respondents mentioned that cell phone banking is compatible with all phones and hence this made it easy to use one's device, with which they are already familiar with .If users are familiar with a technology it does not take them time to learn a similar technology. The fact that USSD is compatible with any phone meant that users did not have to worry about learning how to use a new device.

> *"Cell phone banking works on any phone whether you are using a Nokia 3310 or iPhone 5."*

Another aspect of cell phone banking which made it easy to use, is its ability to increase convenience (Mallat, 2007b), as users do not have to carry coins or notes to transact.

Overall the belief was that a system that is difficult to use, prevented users from accepting it, and hence users developed a negative perception about it. This view is supported by prior research which suggested that complexity and usability issues prevented users from using a service (Mallat, 2007b).

5.5.5 Other factors

An additional variable identified as leading to the successful implementation of cell phone banking was awareness , the subject matter expert mentioned that providers fail to drive awareness about the benefits of the cell phone banking during the introduction of the service. This had led to little adoption of the service

because users are not informed enough about the value that cell phone banking can provide to their lives.

5.6 Conclusion of research question 2

In conclusion, the findings support the literature review on the topic. It can also be said that the perceptions that users in Zimbabwe have about cell phone banking are similar to the critical success factors found to affect the successful implementation of cell phone banking i.e. derived value, security, effort and, to a lesser extent, the financial cost.

5.7 Summary and conclusion of results

The research has discovered common themes from each interviewee - this is true for both groups of respondents, the subject matter experts and the potential users of cell phone banking. Although some users had not used cell phone banking before, they were able to articulate their beliefs about the service which echoed with what actual users of the service said.

The findings from both groups of respondents have been seen to be common therefore the factor value made cell phone banking a favourable channel for transacting this is supported by the literature review which identified usefulness and technology task fit as factors which promoted the use of the technology. The factors identified as concerns by literature included threat and effort. However, consumers in Zimbabwe have the belief that providers have put in proper controls to safeguard against loss as well as to make the platform user friendly. The divergent views from prior literature that the consumers expressed were due to the fact that they are familiar with USSD commands and find it easy. The other reason for the view was that the respondents expressed trust in their service providers because they have in the past met their expectations.

6 CHAPTER 6: CONCLUSIONS AND ECOMMENDATIONS

6.1 Introduction

This study had the following objectives; firstly investigate, through interviews, consumer attitude towards cell phone banking in Zimbabwe , secondly explore from subject matter experts the critical success factors for the implementation of cell phone banking and identify the common factors that are likely determinants of consumer perception of cell phone banking in Zimbabwe. The following section will discuss the findings and conclude on whether the research problems have been addressed.

6.2 Conclusion of the study

The research can be summarised as follows:

6.2.1 Consumer perception of Cell phone banking in Zimbabwe

The study used a small sample size to explore the determinants of consumer perception of cell phone banking – it would be incorrect to generalise the results to the larger population. However , the findings are invaluable to providers of cell phone banking as they provide insights into consumers beliefs about the technology in Zimbabwe.

The insights provided support the theory reviewed in the literature review. The value of cell phone banking was seen to be linked to the variables identified by Davis (1989) mainly ease of use and perceived usefulness. The usefulness of cell phone banking included its ability to provide a convenient, low cost, easy to use and secure banking channel for making payments and buying airtime. These factors were corroborated by subject matter experts who expressed the need by providers to amplify these factors to ensure the successful implementation. Another factor that influenced users perception was the effort required to use cell phone banking, consumers agreed that the ease of use of the technology had made the service favourable to use .The belief was mainly driven by the familiar USSD codes that consumers use to recharge airtime as well as the use of their

own personal devices, which provided the self-efficacy to use the service. Threat was also identified as an inhibitor to the use of the technology however , the security controls and the trust belief made the technology a reliable and secure medium for performing transactions this was divergent from prior study by Wu and Wang (2005) who found that security led to resistance to use the technology.

Figure 16 provides an integrated view of the factors; perceived value, perceived effort and perceived threat and their antecedents that influence consumers' intention to use cell phone banking in Zimbabwe. In contrast with other factors, cost had a lesser effect on behavioural intention to use because cell phone banking fees are incorporated into the monthly fee consumers pay for their bank accounts.

The study found that trust is not seen as a driver of cell phone banking adoption, but rather as a conditional factor that must exist before users select to use the service provided by their bank.

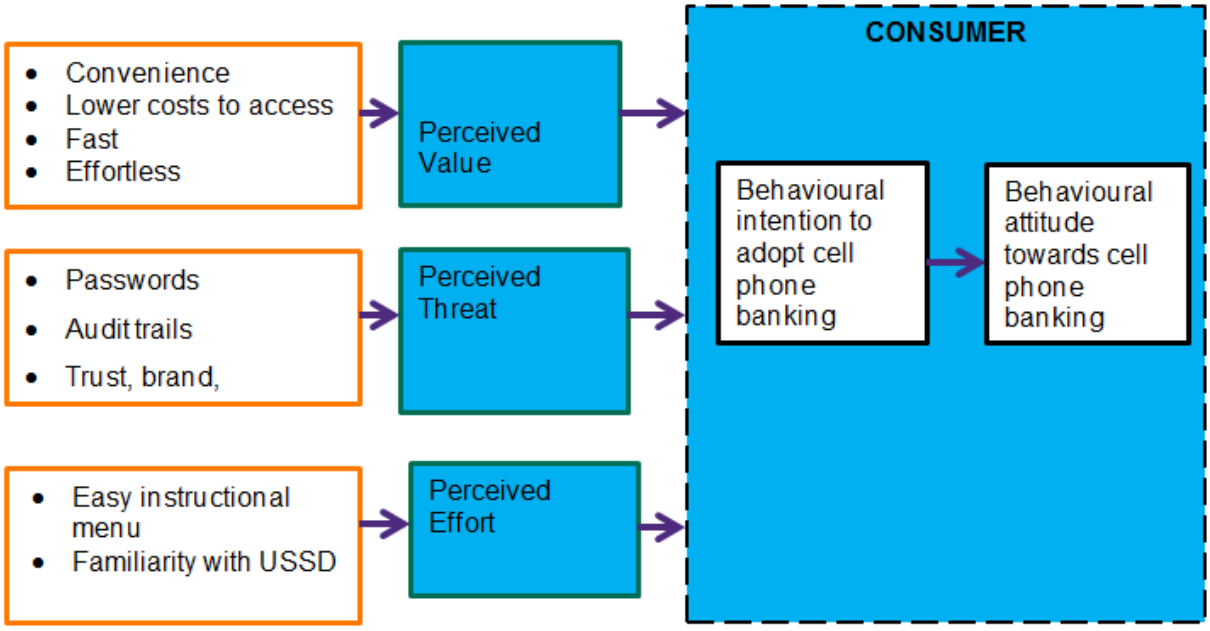


Figure 16 integrated view of determinants of consumer perception of cell phone banking

6.2.2 CSF's for cell phone banking implementation in Zimbabwe

The subject matter experts also echoed the views highlighted by the consumers of cell phone banking, mainly "consumer value", "perceived risk"," perceived cost" and "user experience" as key factors that need to be considered when implementing the service. The views expressed by all the respondents were consistent with the literature review.

The perceived value factor was the most prominent theme which was influenced by the convenience offered by cell phone banking allowing users to transact anytime and anywhere. The mobility of cell phone banking allowed the providers to utilise user's mobile devices to provision the service, users self-efficacy with their mobile devices enabled the technology to be easy to use as consumers felt they had control over their mobile devices. Another factor that influenced the value those users obtained from cell phone was the elimination of travel to a bank which led to lower costs to access the technology.

Perceived risk was also a factor that providers needed to reduce to uncertainty of financial loss and this was mainly done through structural assurances – guarantees, assurances, insurance- that would make users feel confident about the service. Another measure to reduce uncertainty is the setup of a password and pin to access cell phone banking these not reassured consumers of the safety of the service.

Perceived cost did not have much of an effect on users intention as providers believed that consumers were more influenced by the convenience .However , it was mentioned that consumers need to made aware of any charges if any that they are charged for the sue of the service for instance the fact that cell phone banking is an added service to their accounts and that there are no transaction fees as well as access costs for establishing a session suing USSD.

6.3 Recommendations

The need to reduce costs, operate efficiently and remain competitive using innovative products have been the main drivers for banks to push for self-service banking channels to their account holders (Brown & Alemayehu Molla, 2005). Automated teller machines (ATMs) allow customers to have access to banking

services 24/7, however ATMs are only available in specific areas, hence not making them as convenient as cell phone banking.

Motivated by findings of the research, the researcher makes suggestions to cell phone banking role players in Zimbabwe that will allow consumers to change their perception about the service. The suggestions are presented per dimension and summarised below:

6.3.1 Improving derived value

- **Convenience:** One respondent mentioned that if cell phone banking could allow them to make bookings and payments for dinner or movie tickets, they would use the service, as this would save them the time of calling a restaurant and to make a booking. The addition of value added services will enable the service to fit into consumers lifestyles and hence add value. Allowing consumers to apply for loans or increase their overdraft limit would also be seen as useful which makes it convenient compared to going into the bank.

- **Effort required:** Users with disabilities are likely to see the value of cell phone banking more if it is made to cater for their special needs. If cell phone banking is made to recognise voice commands that would be useful for people with physical disabilities, although this might require the users to have more advanced cell phone devices, a cost such consumers would be willing to pay for the convenience.

6.3.2 Improvements to reduce threat of using cell phone banking

- **Security controls**: passwords can easily be compromised as users tend to want to use easy to remember passwords - to avoid this, providers should link the consumers' cell phone banking profile to that of the consumers' cell phone, for instance, if one tries to use cell phone banking on a different phone number that they did not initially register, they will not be able to transact unless if they go into the bank to register the new number. If a cell phone banking session remains idle for a while, the session should be closed and the user asked to re-login.

Another control that would help to reduce the perception around security would be the sending of a confirmation to one's phone after each transaction - this would alert the consumer of any fraudulent activities and allow them to inform the bank.

- **Awareness**: financial institutions must educate users about the security features that come with cell phone banking to safeguard user information, i.e. the pins and passwords, which they should keep safe. There is also a need to inform users about how cell phone banking does not keep user information on the cell phone; in the event a device is lost, they need not worry about losing their money.

- **Guarantees and safety nets,** which are referred to as institutional factors, can help in building consumer trust (Gu et al., 2009) in cell phone banking in Zimbabwe. The guarantees can state that in the case of a session being interrupted by network availability, a transaction will not be completed and a message will be sent to the user informing them of the transaction not being completed, for their records.

- **Cell phone number** being linked to a user's cell phone banking profile in the case that a consumers password is compromised, the account cannot be accessed from another phone.

6.4 Suggestions for further research

Areas for further research could be the influence that gender, age and education have on the perception of cell phone banking - this can allow banks to target specific segments of the market.

Cell phone banking is still a new technology in Zimbabwe and a topic for further research could be the impact of awareness on cell phone banking adoption. This can help providers of such services with information on what they need to educate users about cell phone banking in their marketing campaigns.

Consumer propensity to use internet banking vs cell phone banking technology this can assist providers of these services identify the factors influencing perception of internet banking vs cell phone banking and help in the development of campaigns to target different segments of the market.

Another area for further research could be the influence of age, experience and gender on the acceptance of self-service technologies.

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APPENDICES

APPENDIX A –SURVEY QUESTIONNAIRE

Introduction

My name is Victor Mudyanembwa .I am a final year MBA student at the University of the Witwatersrand, currently undertaking research on “Determinants of Consumer Perception towards cell phone banking in Zimbabwe”. The study seeks to understand the factors that influence consumers’ attitude towards cell phone banking in Zimbabwe.

In this research cell phone banking is defined as the ability to transact on a bank account using a cell phone. Cell phone banking is different from mobile banking and mobile money.

The nature of my research is qualitative and will be conducted through face-to-face or telephonic interviews with participants. I am kindly requesting your participation in this study in order to assist me in achieving the research objective. The research is confidential in nature and no names will be published in the final research paper. Your participation is voluntary and you may select not to participate at any time.

Kind Regards

Victor Mudyanembwa

Consumer of Cell phone banking Questionnaire

Section A: Respondent information

1. Name(Optional)

2. Gender

Male Female

3. Educational level

Honours degree Certificate Diploma Other

4. Age

18-29 Years 30-41 Years 42> Years

5. Do you currently use cell phone banking??

Yes No

Section B: Consumer perceptions of cell phone banking

6. What is your understanding of cell phone banking?

7. Have you ever used cell phone banking and which functionality of cell phone banking did you use?

8. In which way do you think cell phone banking transactions (transfers, payment, etc.) will be useful to you?

9. How easy do you think it would be to transact on your account using cell phone banking?

10. Do you think service providers of cell phone banking can meet your expectations?

11. To what extent do you think cell phone banking is secured?

12. What is your perceptions regarding the cost of cell phone banking?

11. What are the other factors that you would consider when deciding to use cell phone banking? And how important are they to you as a potential user?

Cell phone banking Subject matter expert Questionnaire

Section A: Respondent information

1. What is your title in your organisation?

2. How long have you worked in cell phone banking?

Section B: Success factors for Cell phone banking

3. Does your organisation provide cell phone banking services to consumers in Zimbabwe?
    a. If yes, kindly elaborate the nature of the service
    b. If no, would your organisation consider providing such a service?

4. What led your organisation to providing a cell phone banking service to consumers?

5. What are the salient features in a cell phone banking platform that make it an attractive channel for performing financial transactions for consumers?

6. Do consumers see cell phone banking as a useful technology?

7. Can you comment on any specific level of **trust** that is required between the service provider of cell phone banking and the consumer?

8. How important is **security** in a cell phone banking platform and how does it affect consumer perceptions towards the technology?

9. To what extent is **cost** a determinant of consumer perception towards cell phone banking?

10. What feedback, if any, do you get from consumers in terms of what they need to be improved in cell phone banking technology?

11. In your opinion what do you think are consumers' main concerns about cell phone banking that prevent them from accepting the technology?

12. What do you think can be done by cell phone service providers to improve uptake of cell phone banking by consumers?

Research problem: Investigate the determinants of consumer perception of cell phone banking in Zimbabwe by evaluating consumer beliefs about cell phone banking.

Sub-problem	Literature review	Research questions	Source of data	Type of data	Analysis
Identify factors influencing consumer perception of cell phone banking in Zimbabwe.	(Davis & Venkatesh, 1996; Fishbein & Ajzen, 1975; Luarn & Lin, 2005; Wu & Wang, 2005)	What is consumer attitude of cell phone banking in Zimbabwe?	In-depth semi-structured interviews with potential users cell phone banking	Qualitative	Thematic content analysis
Evaluate whether there are commonalities between the factors influencing user perception and the critical success factors for the implementation of cell phone banking in Zimbabwe.	(Schierz, P. G., Schilke, O., & Wirtz, B. W. ,2010; Lin, H.-F. 2011; Ajzen, I., & Fisbbein, M. 1974; Zhou, T. 2012)	What are the critical success factors for the implementation of cell phone banking in Zimbabwe?	In-depth semi-structured interviews with cell phone banking subject matter experts	Qualitative	Thematic content analysis