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Risks Associated with Payment Banks and Mobile-Based Money Platforms

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Abstract- Mobile-based money platforms are considered as one of the determinants of economic development in most developing and under developing countries of the world. The usefulness of payment banks and other mobile-based money platforms could be traced to the fact that it provides easy access to money, ease money sending difficulties, the speed of sending and receiving money, mobile access, and other usefulness (Cudjoe, A., Anim, P., & Nyan, J., 2015). However, there are certain risks that are associated with payment banks and mobile-based money platforms that most of the previous authors never write upon. This is a research gap observed. This research intended to close the gaps by presenting a complete journal report on not only related to the benefits, but the risks related to the payment banks and mobile-based money platforms. This paper discovered that the risks associated with payment banks and mobile- based money platforms pose a minimal threat and that was the reason why previous authors decided not to mention through its data collection methodology of 400 questionnaires collated from respondents. That is customers will continue to patronize mobile-based money platforms despite its minimal threat.

Key Words- unbanked, banked, perceived risk, variables, mobile-based money platforms, payment banks.

1. INTRODUCTION

Technology enhancement changes the batch processing system of the bank in the real-time processing system. This includes mobile banking, Automated Teller Machine (ATM), plastic money, and internet banking is some of the new emerging technology, which rendered mass mobile money payment services (Shankar, A., & Kumari, P., 2016). Therefore, the Reserve Bank of India (RBI) provides policies and guidelines that regulate the banked population in India. This leads to the provision of MFS to unbanked areas to pave way for financial inclusion and bank accounts for the traditionally unbanked (IFC, 2013). These mobile-based platforms and payment banks had been successful in certain regions of the world like India and Kenya, but at the same time; are faced with risks and setbacks. The major aim of this paper is to bridge the gaps by highlighting weakness, setbacks, and risk associated with mobile-based platforms and payment banks, which will make a complete investigation on mobile-based platforms and payment banks.

There have been numerous advantages associated with payment banks and mobile-based money platforms like perceived usefulness, mobile access, perceived ease of use, relative advantages, personal innovativeness, and social norms have a significant influence on the user's choice of mobile banking, whilst perceived risks and costs determine the use of these platforms (Shallone and Simon, 2013). Apart from the financial costs, there are other associated risks like the resistance of technology, lack of public awareness and resistance of modern money-based platform will be another setback or risks when introducing mobile-based money platform in certain areas where such access to traditional banking facilities are grossly inadequate. This paper intends to emphasize that the risks associated with

mobile money payment platforms based on the questionnaire's collation mechanisms.

1.1 Research Importance

Transactions through mobile money banks and mobile-based platforms like Mobile Telephone Set, Automated Teller Machine (ATM), Point-Of-Sale (POS) machines, Internet Banking, E-commerce, and many others are creating a revolution in the world of digital payments (Kevin, 2012). These are eliminating the need for withdrawing physical cash or queuing in the banks for money (Cudjoe, A., Anim, P., & Nyan, J., 2015). Not only this but also continuous monitoring of balances and transactions and easy payment through online methods for various services also amicable to the customers (Aker & Mbiti, 2010). Most mobile money users are on the increase in India due to many factors ranging from quick return on investment, customer friendliness, flexibility in receiving payment from customers or clients (Yunus et al., 2016). Other benefits include enabling payment to suppliers by businesses, inter-banks transfer, confirmation of payments made to the banks through SMSs, security facilities on credit and debit cards (Shankar, A., & Kumari, P., 2016). Again, receiving a statement of the bank account by email and SMS, chatting with bank customers care to resolve issues quickly, 24 hours online (Hiram et al., 2016). Therefore, banking platforms and much more are driving the taste for such revolution at an uncontrollable rate that appreciable by Indian economist as healthy for the economy, but some researchers failed to research on certain importance this has on the economy as a whole (IFC, 2013).

1.2 Problem Statement

There had been quite a number of previous publications on mobile-based platforms and payment banks on a wide range of topics, but none of these authors had taken their time to investigate the risks, setbacks or lapses of mobile-based platforms and payment banks. That is, there have been omissions by previous authors who had published in topics related to mobile-based platforms and payment banks to mention the risks associated with mobile- based platforms and payment banks in some of their write-ups. Those who tried to investigate setbacks related to mobile-based platforms and payment banks do not carry-out enough research. This paper intended to investigate success (strengths), risks associated (setbacks) and future effects of using mobile-based platforms and payment banks' operations. Although more focus will be given to risks associated with mobile-based platforms and payment banks this is because this paper intended to bridge the gaps detected to produce a research on mobile-based platforms and payment banks complete.

1.3 Research Questions

According to the above, this study is conducted to answer these questions:

1. What is the effect of (Awareness, Speed, Perceived Credibility, Perceived Financial Cost & Compatibility) on intention to use?
2. What is the mediation effect of Perceived Risk between (Awareness, Speed, Perceived Credibility, Perceived Financial Cost & Compatibility) and intention to use?

1.4 Objective of the investigation

According to what have been discussed before this section, this research is designed to achieve these objectives:

1. To investigate the effect of (Awareness, Speed, Perceived Credibility, Perceived

Financial Cost & Compatibility) on organizational engagement.

2. To investigate the mediation effect of Perceived Risk between (Awareness, Speed, Perceived Credibility, Perceived Financial Cost & Compatibility) and intention to use.

2. LITERATURE REVIEW

There are previous literature reviews and the terminology used for characterizing them includes terms such as systematic review, meta-analysis, narrative review, research synthesis, and structured review. Recently, related authors have exhibited a preference for systematic literature research (Kitchenham, 2004) and meta-analysis rather than traditional narrative reviews (Bem, 1995; Webster and Watson, 2002). This paper uses a survey of the past theoretical and related financial technology literature, combined with current business press articles that reveal the problems with mobile payments technologies and solutions, to support relevant theoretical predictions and managerial findings (Yoris and Robert, 2017 p3). This research seeks to analyse the necessary documentation of previous researchers and findings that are vital to accelerating the research and its ability to analyse the outcome, it seeks to accomplish, that is, the theoretical literature and the empirical literature (Cudjoe, A., Anim, P., & Nyan, J., 2015). Investigations will never be complete without enough research into the success (strengths), the risks associated (weakness, lapses, shortcoming, etc.) and effects of mobile- based platforms and payment banks. The review of past research has been used to establish a hypothesis, exploratory factor analysis, and multiple regression analysis have been used to examine the significant factors that boost mobile banking usage in India (Shankar, A., & Kumari, P., 2016).

2.1 Reviews of Past Studies

Perekwa et al. (2016) focused on mobile technology, which relates to Micro and Small Enterprises (MSEs) in Africa. The paper's data collection was based on 114 MSE owners within the capital province of Zimbabwe making of descriptive quantitative survey methods using variables such as usefulness and awareness. The paper pin-pointed findings suggest that mobile technology has incremental, transformational and production influence on MSEs in Zimbabwe. Aker and Mbiti, (2010), write on the effects of mobile phones as it related to Africa economic progress. The paper's data collection method was based on panel data and Quasi-experimental using keywords such as banked and unbanked. The paper's finding was based on cost-effective and pros of mobile-based money payment platforms on the continent. Albuquerque, P. (2014), this paper seeks to obtain the literature gap published between 2001 and 2011. The paper's data collection was based on analyses such as primary studies cases, investigation of 94 peer-reviewed papers and experimenting processes making use of variables like usefulness and awareness. The paper provided a comprehensive picture of the knowledge, production, and dissemination about mobile payments. Cudjoe, A., Anim, P., & Nyan, J. (2015), investigated the determinants of mobile banking adoption in the Ghanaian banking industry. The paper's data collation method was based on questionnaires sampling of 150 sampled customers from selected bank branches using keywords like traditional banks and mobile phone users. The paper concluded that the effectiveness of mobile-based money platforms will reduce manpower labour and reduce congestion at the banking hall. Deshmukh et al. (2014), wrote on 'mobile money: the m-payment system for India'. The paper pin-pointed

that mobile-based money platforms in India offered by banks make use of credit/ debit cards or net banking without considering the unbanked people who are totally ignored for these services. The paper's data collation mechanism is based on a sampling technique using cryptography, mobile banking, and mobile payment. This paper tells that the highly personalized, context-aware, location –sensitive, time-critical, pinpoint information presentation forms the basis upon which promising M-Commerce applications can be built. Yunus et al. (2016), worked on the topic, 'innovation and entrepreneurship: Are we ready to adopt mobile money in the non-profit sector?' The paper focuses on staff and clients' opinions about using mobile money specifically focusing on reliability, efficiency, and quality using interviews, quantitative data, and purposive sampling techniques as its data collection mechanisms. The paper seeks to improve perceived ease of use. Bhavnani et al. (2008), wrote on the role of mobile phones in sustainable rural poverty reduction. This paper seeks to relate poverty reduction and mobile money services using sampling techniques as its data collection mechanisms. Richard et al. (2014) wrote on the preliminary insights into the influence of mobile phones on micro-trading activities of market women in Nigeria. His paper focused on the use of mobile money payment platforms mechanisms by women traders in Nigeria using qualitative data methods. The paper pinpointed the benefits of mobile money payment platforms mechanisms usage by market women in Nigeria. Yeow et al. (2017) wrote on the 'millennial perception of mobile payment services in Malaysia'. This paper studied mobile money payment mechanisms application in Malaysia using sampling methods and questionnaires with payment method as keywords considering perceived usefulness as the strongest determinant. Hiram et al. (2016) wrote on the 'intention to use mobile payment system: a case of developing the market by ethnicity'. This paper seeks to examine attitude on the use of mobile payment system among Malays and Chinese using the quantitative approach. The paper pin-pointed positive attitude effect on intention to use mobile money payment mechanisms. Shankar, A., & Kumari, P. (2016) papers focused on the 'factors affecting mobile banking adoption behaviour in India'. The main reason for this paper is to seek factors affecting mobile money payment mechanisms using data collection from 248 mobile money payment platforms users. The paper pin-pointed usefulness as the main reasons for mobile money payment platforms usage in India. Tania et al. (2016) wrote on 'mobile payments adoption in public transport'. The paper did an empirical examination of factors that determine mobile payments in public transport using sampling method as data collection. The finding indicated the necessities for the adoption of mobile money payment platforms in the transportation systems. Donner, J. 2006) wrote on 'the use of mobile phones by micro- entrepreneurs in Kigali, Rwanda'. This research indicates the impact of mobile ownership of the social networks of micro-entrepreneurs in low-density areas, focusing on the evolving mix of business and personal calls made by users. The paper pin-pointed future research on mobile payment platforms on the Rwandan economy. Shallone, C. and Simon, M. (2013) wrote on the 'extending the technology acceptance model to mobile banking adoption in Rural Zimbabwe'. The paper deals on how the Technology Acceptance Model (TAM) impact on mobile-based platform's usage using sampling methods as its data collection methodology. Flood, D. and Wheadon, D. (2013) wrote on the 'trends in mobile payments in developing and advanced economies, Reserve Bank of Australia'. The paper pin-pointed that the developing economies had benefited from mobile money while the advanced economies had benefited from internet banking and mobile banking. Miao, M. and Krishna, J. (2016) wrote on the 'mobile

payments in Japan, South Korea, and China'. The objective of this paper was to find possible evolutionary paths of operational models for mobile payments in China, comparing it to the long-established and more advanced models in Japan and South Korea. The paper draws an extensive literature on Japan's and South Korea's mobile payment industry allowed the identification of mobile payment operating models prevalent in those countries. Kishore and Sequeira (2016) wrote on 'an empirical investigation of mobile banking service adoption in Rural Karnataka'. The paper used a mixed sampling technique and probabilistic sampling methods that helped to reach 959 samples using most variables as its keywords which findings were based on mobile money payment mechanisms. Maurer, B. (2012) wrote on the 'mobile money: communication, consumption, and change in the payments space.' This research the financial inclusion as it consigned unbanked using case study data collection methodology. This finding discovered how mobile phones fit into mobile money design. Ruben, K. and James, B. (2017) wrote on the 'mobile payments, social money: everyday politics of the consumer subject, new political economy'. This paper pinpointed that mobile payments play a vital role in the political economy using the case study as data methodology. The paper established a role for mobile carriers in the financial sector by providing both a narrative of its profitability and a wider network to develop profitable ideas. Muhammad, S. and Zarina, S. (2017) wrote on 'the role of the telecom industry in promoting mobile money transfers and its customer satisfaction in Pakistan'. This paper identifies the different models used for mobile money transfer mechanisms using the case study as data collection methodology with various variables as its keywords. This paper is based on the review of various pieces of literature on empirical studies on mobile money payment platforms mechanisms.

2.2 Problem Identification

This paper based its problem identification on the research gaps detected when ascertaining the secondary data. The secondary data was made up using previous authors that had published journals related to the topic for this paper.

2.3 Theoretical Framework

Quite a good number of researchers limit the number of theories which is not enough to provide any theoretical foundation explicitly. For instance, many of the reviewed papers depend on the theoretical models like (Technology Acceptance Model) and its variations in order to determine the factors that may boost the use of payment systems by users (Shallone and Simon, 2013). Check the Table1 above. Therefore, this research carried out intensive and comprehensive sampling, which was similar to Duncombe and Boateng (2009) in order to fill the gaps by using more theories to explicitly explain the potential impact of mobile money in India. This is similar to an in-depth empirical investigation of mobile money will enable many benefits that were recommended by Albuquerque (2014) for future investigations. These benefits include: The provision of banking services to new users. The expansion of economic opportunities and its implications for local development.

The Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) is an updated version of the Theory of Reasoned Action (TRA) (Lee, 2009). The TRA pinpointed that a user intention is directly influenced by the actual behaviour, attitude and subjective norms necessary to create an intention to use. This particular theory uses a wide range of technological devices which can predict and influence a user to accept any information technologies just like our research that is focused on mobile money. The overall aim of this theory is to determine the cause of technology acceptability by users. The TAM suggests that perceived usefulness and perceived ease of use are two important constructs for determining the use of a system in an organization (Cheng et al., 2006). According to Isaiah et al., 2012, the TAM constructs are valid, robust and powerful mechanisms for predicting user acceptance. Davis, F. (1989) pinpointed that users' motivation is determined by an attitude which is influenced by Perceived Usefulness (PU) and Perceived Ease of Use (PEOU). This fact is supported by other authors (Luarn, P., & Lin, H.-H., 2005; Mathieson, K., Peacock, E., & Chin, W., 2001; Chin, W., & Todd, P., 1995; Doll, W., Hendrickson, A., Deng, X., 1998). These two mentioned constructs in the TAM makes it the best model. This is because the perceived usefulness demonstrates a user's salient belief as a technological user improve performance while perceived ease of use determines an individual's salient belief that the technology will be free of effort (Taylor & Todd, 1995).

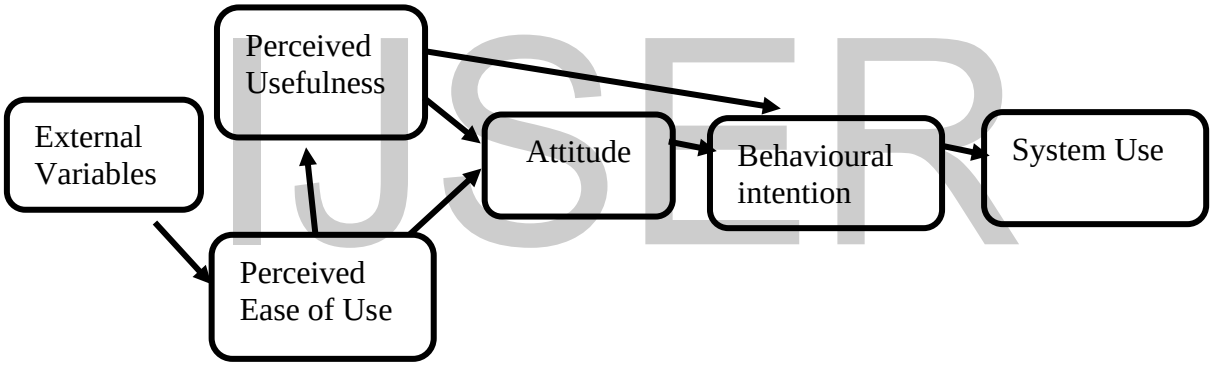


Figure 2.1: Technology Acceptance Model (Davis, F., 1989)

The information provided by Davis, F. (1989) indicated that attitude will influence Intention (INT) to use, which interconnected to two essential beliefs known as perceived ease of use and perceived usefulness (Cheng et al., 2006). This process had led to the adoption of the TAM model for the predicting the acceptance of internet systems, e-commerce, mobile money and online banking adoption (Cheng et al., 2009; Lee, 2009; Lederer et al., 2000; Moon & Kim, 2001). The numbers of empirical studies adopting TAM are at the increased due to its adaptability of core values associated with behavioural.

2.4 Research Gaps

The research analysed and revealed some clear gaps in the general perception, application, and knowledge (strengths or success and weakness or setbacks). The research gaps were summarised as follows:

Research Gaps: Previous researchers restricted their researches to a limited number of theories their researches on theoretical models like (Technology Acceptance Model). This is not enough to provide in-depth case studies that will analyse mobile money platforms

and payment banks on users at a micro level in India.

Research Gap: Analytical research in the literature concentrates on only a few regions or countries, with a clear emphasis on Kenya and the Philippines. This is clearly supported by Duncombe and Boateng (2009) and Albuquerque (2014).

Geographical Gap: There is a wide geographical gap which limited primary data that is geographically concentrated. Although, Beshouri et al. (2010) claimed that mobile money is spreading throughout the world. This research found out that mobile money is spreading at a very slow rate and intended to fill this gap, especially in India. The table on pages 16 to 18 indicated that there had been a case study of the mobile money introduction and research by some researchers in some regions and countries like Zimbabwe by Perekwa et al. (2016) and Ghana by Cudjoe, A., Anim, P., & Nyan, J. (2015). This research intends to fill the geographical gaps by using face to face and discussions with end users by creating awareness of mobile money as a way of reducing the geographical gap in India.

Research Gap: The review of various case studies has exhibited that the information provided by previous researchers is insufficient that lack in-depth case studies.

Methodological Gap: The review of various case studies has exhibited that the information provided by previous researchers is insufficient to provide solid bases for more general theorizing that lack in-depth case studies. That is, there is a visible lack of in-depth research that closely analyses the wider socioeconomic implications. This matter was of particular concern for the stakeholders with which we interacted during the consultation phase. They emphasized that there was a need for an intensive future research to examine the success of mobile money platforms not only by depending upon technical factors, successes, or the size of the achieved user base but by providing rigorous evidence of the effects of reducing the total transaction costs and fostering local development. Although this research shares almost the same perception as Albuquerque (2014), his analyses are still insufficient to provide the socioeconomic implications of mobile money to end users.

2.5 Hypotheses Development

The hypotheses based on this journal are related to the research gaps discovered. That is hypotheses used are prepared from the research gaps obtained.

Hypothesis 1 (H1): Perceived Risk (PR) has a negative significant relationship with consumers' intention to use mobile-based money platforms.

Perceived Risk: Perceived risk is related to risk and uncertainty about the possible results associated with using mobile-based money platforms (Gerrard and Cunningham, 2003). This includes common and uncommon risks such as privacy, password integrity, hacking, personal information protection, data encryption and so on (Benamati and Serva, 2007). Others risk associated with perceived risk includes loss of vital as a result of using mobile-based money platforms are considered as perceived risks (Gu et al., 2009: Laforet and Li, 2005; and Mallat 2007). It is supported that perceived risk has a negative influence on mobile based money platforms (Shallone and Simon, 2013).

Hypothesis 2 (H2): Perceived Usefulness (PU) has a positive significant relationship with the customers' intention to use mobile-based money platforms.

Perceived Usefulness: Perceived Usefulness as the level to which a user believes that using a specific mechanism would boost outcome (Davis, F.D., 1995). Individuals adopt any innovation only when they perceive that using a specific technology is used in daily life (Shankar, A., & Kumari, P., 2016). Tan, M. and Teo, TSH. (2000), Wang et al, (2003) and Hernandez, JMC. and Mazzon, JA. (2007) emphasized perceived usefulness as a vital construct of electronic mobile money payment services. If consumers perceive that the utilization of mobile banking platforms will provide them better and quality service, then only they can accept new technology (Lu et al., 2003); Nor, K. and Pearson, J. (2007); Khalifa, M. and Shen, KN. (2008). 'Technology acceptance model for the wireless Internet. Also, the outcomes proved that perceived credibility and perceived financial cost have a successful impact on consumer intention to apply and utilize mobile money payment services than perceived usefulness and perceived ease of use (Cudjoe, A., Anim, P., & Nyan, J., 2015). Davis (1989) upgraded TRA framework to Technology Acceptance Model (TAM) using Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) as main factors. Finally, variables such as perceived usefulness, perceived ease-of-use, perceived credibility, and social influence were examined to identify the relationships with the consumers' intention to utilize mobile money payment platforms in India (Yeow et al., 2017).

Hypothesis 3 (H3): Perceived Ease of Use (PEOU) has a positive significant relationship with the customers' intention to use mobile-based money platforms.

Perceived Ease of Use: It is widely accepted that the customers' intention to utilize any innovation or a particular system depends greatly on ease to learn like the perceived ease to utilize (Rogers, M., 1983). If any technology is very complex and consumer not able to learn and use it easily, there are fewer chances of adoption (Davis, 1989). That is the customers' intention to utilize any innovation depends on the basis that applying that specific technology will reflect positively on their daily life and perceived to be easy to use (Shankar, A., & Kumari, P., 2016). Teoh et al. (2013), stated that perceived ease of use as an essential determinant variable that predicts Intention (INT) to utilize mobile money payment in Malaysia. Other authors like Cudjoe, A., Anim, P., & Nyan, J. (2015), also emphasized that perceived financial consideration, risks, social influence, mobility, perceived credibility, Usefulness, advantages, perceived ease of use, and awareness are variables that influence customers' intention to utilize mobile money mechanisms. Perceived ease of use is a cogent successful feature that encourages customers' intention to accept technology mechanisms in India as supported by (Shankar, A., & Kumari, P., 2016). Bradley, L. & Stewart, K. (2003); Kolodinsky (2004); Eriksson et al. (2005); Mukherjee, A., & Nath, P. (2003); Poon, WC. (2008).

Hypothesis 4 (H4): Perceived Financial Cost has a positive significant relationship with the customers' intention to use mobile-based money platforms.

Perceived Financial Cost: The perceived financial costs of using an innovation are very important, especially as it applies to the use of the mobile device in mobile banking and

the price of using such technology should be affordable to boost the customers' intention to utilise mobile money payment mechanisms (Min et al., 2008). This had impacted on Indian consumers' intention to apply mobile payment mechanisms which are based on perceived financial costs of new technology services (Shankar, A., & Kumari, P., 2016). Finally, the outcomes exhibited that, perceived credibility, attitude, and perceived financial consideration to reflect on consumers' intention to apply and utilize mobile money payment mechanisms than perceived usefulness and perceived ease of use (Cudjoe, A., Anim, P., & Nyan, J., 2015).

Hypothesis 5 (H5): Perceived Credibility has a positive significant relationship with the customers' intention to use mobile-based money platforms.

Perceived Credibility: Wang et al (2004) endorsed perceived credibility as an important relationship with the technology that encouraged intention to utilize mobile money payment platforms. This is supported by Fornell, C. and Mark, J. (1992), the perceived credibility, perceived financial cost, and perceived self-efficacy was accepted base with the customers' intention to utilize mobile money payment services. The customer's choice to use mobile platform devices depends on security and privacy that support perceived credibility (Luarn, P. and Lin, H. -H. 2005).

Hypothesis 6 (H6): Compatibility has a positive significant relationship with the customers' intention to use mobile-based money platforms.

Compatibility: Technology ought to constantly good with the need of the client. M-saving money can acknowledge by the buyer since it is good with the managing an account needs of the customer (Shankar, A., & Kumari, P., 2016). In the event that innovation progression in versatile managing an account is good and renders the best portable keeping money to clients that the lift aim to use versatile cash instalment components (Agarwal and Prasad, 1999). It is for the most part acknowledged that the craving to use versatile cash instalment administrations would quicken when it had with similarity highlights with the client's bank exchange needs (Mattila, M., 2003). Chen et al. (2009), Corrocher (2011), Wu and Wang (2005), Mallat (2004), Schiertz et al. (2010), it is, hence, an acknowledged factor that similarity specifically or in a roundabout way effect on clients' decision toward and general acknowledgment of data innovation.

Hypothesis 7 (H7): Perceived Risk significantly mediates the relationship between Perceived Usefulness and customers' intention to use mobile-based money platforms.

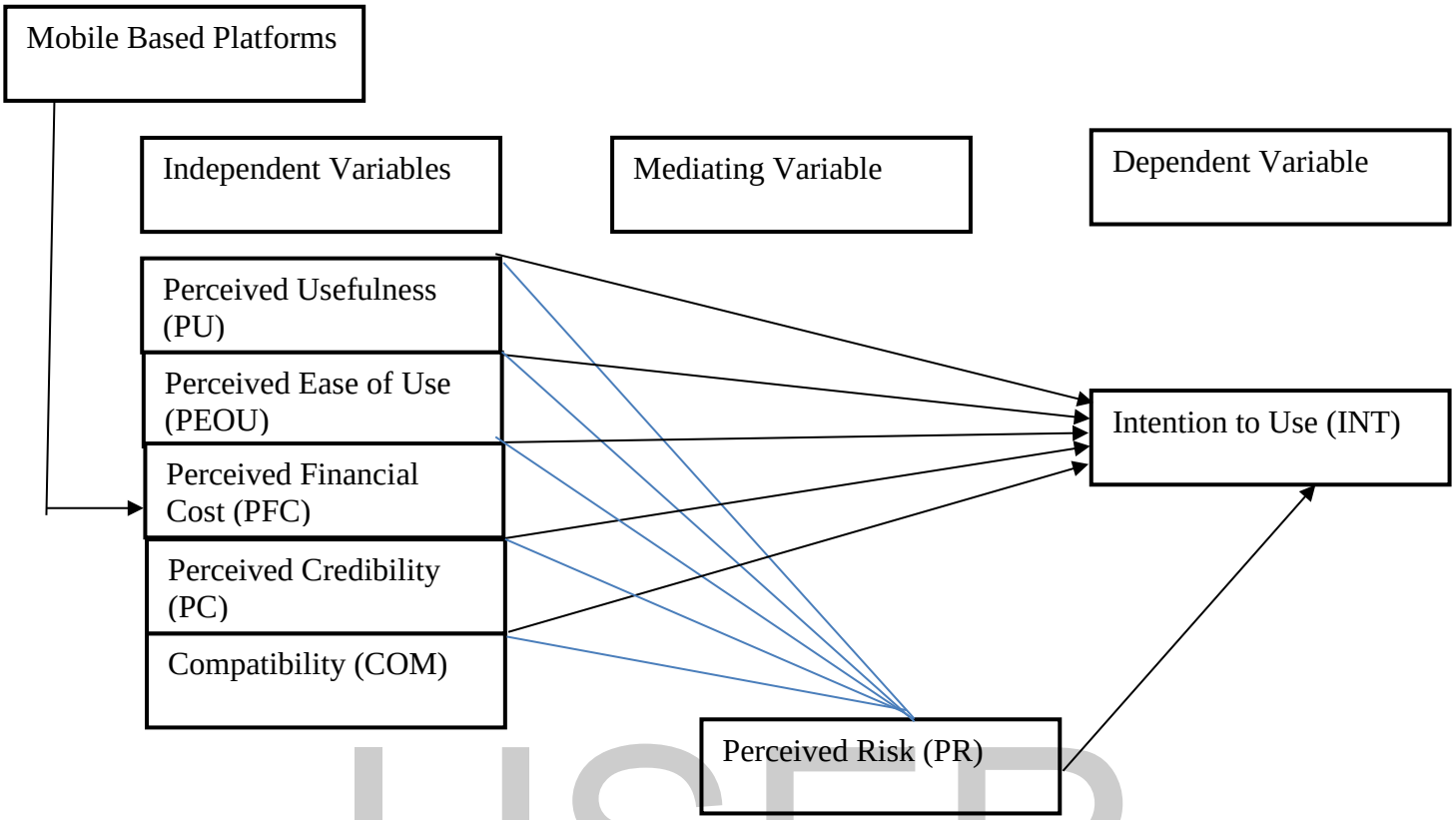
Hypothesis 8 (H8): Perceived Risk significantly mediates the relationship between Perceived Ease of Use and customers' intention to use mobile-based money platforms.

Hypothesis 9 (H9): Perceived Risk significantly mediates the relationship between Perceived Financial Cost and customers' intention to use mobile-based money platforms.

Hypothesis 10 (H10): Perceived Risk significantly mediates the relationship between Perceived Credibility and customers' intention to use mobile-based money platforms.

Hypothesis 11 (H11): Perceived Risk significantly mediates the relationship between Compatibility and customers' intention to use mobile-based money platforms.

The Conceptual Model



Hypothesis Development:

H1: PR → INT
H2: PU → INT
H3: PEOU → INT
H4: PFC → INT
H5: PC → INT
H6: COM → INT
H7: PR — PU → INT
H8: PR — PEOU → INT
H9: PR — PFC → INT
H10: PR — PC → INT
H11: PR — COM → INT

3. METHODOLOGY

The methodology used to achieve the aim and objectives of this thesis. This research study aimed to examine how predictors variables effect on the intention to use mobile money, and the mediating role of Perceived Risk (PR), to extend the body of knowledge regarding intention in this context. By reviewing previous studies, a research framework and hypotheses regarding intention in mobile money was developed. Perceived Risk (PR) used as mediator.

To examine the hypothesis of the study, a survey questionnaire was created and distributed to users. First of all, participants were asked to respond to questions measuring Perceived Risk (PR). After that, users were asked to complete the survey by answering the questions related to the five constructs included in the research framework. These constructs are Perceived Usefulness (PU), Perceived Ease of Use (PEOU), Perceived Financial Cost (PFC), Perceived Credibility (PC), Compatibility (COM), and intention to Use (INT). This study collected the data regarding the intention to use in risk associated with payment banks and mobile based money platforms by using a quantitative data collection approach.

Based on the previously validated scales and survey tools, the survey questionnaire was created. By using multiple-item perceptual scales from previous studies wherever possible, all constructs were measured. Minor changes were made to fit the mobile money context. The data collected is ordinal, quantitative and numerical, thus data analysis is based on a quantitative method. SPSS version 23 was used for the data analysis.

The data was obtained by using the survey method with mobile money users. The respondents had to be mobile money users for at least two to six months. Participation was voluntary.

For this research, 220 questionnaires were distributed, although only 154 questionnaires were returned, making the response rate of 70.45%.

3.1 QUESTIONNAIRE SURVEY

The survey questionnaire was divided into three main sections, as mentioned earlier. In the first section of the questionnaire, the participants had to answer questions regarding their demographic data, such as age, gender, education, and occupation. Moreover, the researcher asked the participants to answer questions regarding their background information related to payment banks and mobile based money platforms and whether they are using services or not. If their answers were NO, they were asked to stop answering the survey. If their answers were YES, then they could continue answering the survey questions in part two and three, as mentioned earlier. The five-point rating scale was chosen as it is commonly used and applied in different studies on information systems. This scale makes the survey quite easy to collect data from participants (Sekaran, 2006; Preston and Colman, 2000).

3.2 Demographic Characteristics and Relationships

Table 3.1

Demographic Characteristics of the main Survey Respondents

Variable	Category	Frequency	%
Demographic Characteristics of the main Survey Respondents (n=154)			
Gender	Male	98	63
	Female	56	37
Age	20 or under	15	9.7
	21-30	63	40.9
	31-40	54	35.1
	41-50	14	9
	51-60	8	5.2
Marital Status	Single	52	33.8
	Married	102	66.2
Education	Less than High School	37	23.5
	High School	76	24
	Diploma	25	16.2
	Bachelor	14	9
	Postgraduate	2	1.3
Occupation	Employed	34	22
	Self-employed	76	49.4
	Professional	23	14.9
	Academics	12	7.8
	Students	3	1.9
Internet Experience	<1 Year	8	5.2
	1-2 Years	29	18.8
	3-4 Years	42	27
	5-6 Years	54	35.1
	6> Years	21	13.6
Using Mobile Money	Only when I need it	55	35.7
	Less than once a month	39	25.3
	Once a month	23	14.9
	Two or three times a week	15	9.7
	Once a week	13	8.4
	Daily	9	5.8

3.3 Reliability

This study tested the reliability of the items analysed in this pilot study. This included the utilization of internal reliability test Cronbach's alpha. According to Glieman & Gliem (2003) pinpointed that the Cronbach's alpha coefficient normally state between 0 and 1. However, there is no lower limit to the coefficient. When the Cronbach's alpha coefficient is close to 1.0, it means that there is a greater internal consistency of the items in the scale. This means that the reliability will be accepted when the Cronbach's alpha is range is nearer to 1.0. George & Mallery (2003) pinpointed that the result of 0.7 is good. Table 3.9 indicated pilot study reliability test results of the current pilot study for all the constructs (Cronbach's alpha coefficients).

Table 3.2
Cronbach's Alpha

Variable	Cronbach's Alpha
Perceived Risk (PR)	0.824
Perceived Usefulness (PU)	0.806
Perceived Ease of Use (PEOU)	0.807
Perceived Financial Cost (PFC)	0.802
Perceived Credibility (PC)	0.840
Compatibility (COM)	0.845
Dependent Variable Intention to Use	0.781

4. RESEARCH RESULTS

I Correlation Checking

Checking with mediating Variables

H0: There is no relationship between Intention (INT) to use and mediating variable
H1: There is a relationship between Intention (INT) to use and mediating variable

Table 4.1
Mediating Variable Analysis

		Dependent Variable Intention to Use	Mediating Variable PR
Dependent Variable Intention to Use	Pearson Correlation	1	-.110*
	Sig. (2-tailed)		.028
	N	400	400
Mediating Variable PR	Pearson Correlation	-.110*	1
	Sig. (2-tailed)	.028	
	N	154	154

*. Correlation is significant at the 0.05 level (2-tailed).

According to the above significant P values of correlations, P values of perceived usefulness & perceived ease of use are less than 0.05. Therefore, we reject those variables at a 5% level of significance. So, the Intention (INT) to use has a significant relationship with above-mentioned mediation variables.

Checking with Independent Variables

H0: There is no relationship between Intention (INT) to use and independent variables
H1: There is a relationship between Intention (INT) to use and independent variables

Table 4.2
Variables Correlations

		INT	PU	PEOU	PFC	PC	COM
IINT	Pearson Correlation	1	.563**	.670**	.709	.725**	.625**
	Sig. (2 tailed)		.000	.000	.000	.000	.000
	N	154	154	154	154	154	154

According to the above significant P values of correlations, P values of Perceived Usefulness and Perceived Ease of Use, Perceived Credibility, Perceived Financial Cost, and Compatibility is less than 0.05. Therefore, we can reject those variables at a 5% level of significance.

Let the model is:

$Y= \beta0 + \beta1*X1 + \beta2*X2 + \beta3*X3+ \beta4*X4 + \beta5*X5$

II Kaiser–Meyer–Olkin measure of sampling adequacy (KMO) test

The Kaiser–Meyer–Olkin (KMO) and Bartlett's Test of Sphericity should be computed to assess the suitability of the respondent data for factor analysis (Williams et al., 2010). "The KMO index ranges from 0 to 1, with 0.50 considered suitable for factor analysis. Bartlett's Test of Sphericity should be significant ($p< 0.05$) for factor analysis to be suitable" (Williams et al., 2010, p. 5). Table 4.3 presents KMO and Bartlett's Test. The results show that the Kaiser-Meyer-Olkin (KMO) value was 0.848 and Bartlett's test of sphericity value was ($P< 0.001$). Therefore, the data of this study are suitable for using factor analysis.

Table 4.3
KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.848
Bartlett's Test of Sphericity	Approx. Chi-Square	6481.546
	Df	1225
	Sig.	0.000

III Regression Analysis

Examining the Relationship between Independent and Dependent Variable

To test the relationship between Perceived Usefulness and Perceived Ease of Use, Perceived Credibility, Perceived Financial Cost, and Compatibility and Intention (INT) to use This study ran a multiple regression analysis by using SPSS V.23. While Intention (INT) to use is the dependent variable, Perceived Usefulness and Perceived Ease of Use, Perceived Credibility, Perceived Financial Cost, and Compatibility are the independent variables.

Table 4.4
R2 Value for Model Accuracy

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.907[a]	.823	.819	.440

a. Predictors: (Constant), Perceived Usefulness, Perceived Ease of Use, Perceived Credibility, Perceived Financial Cost, Compatibility
b. Dependent Variable: Intention (INT) to use

From Table 4.4, it can be seen that the value of R, which is the multiple correlation coefficient, is 0.907. The value of R2 is 0.823 and the value of adjusted R2 is 0.819. Thus, the predictor variables for Perceived Usefulness, Perceived Ease of Use, Perceived Credibility, Perceived Financial Cost & Compatibility explain 81.9 per cent of the variance in Intention (INT) to use, which is the dependent variable.

Table 4.5 presents the results from ANOVA. Here, the researcher should focus on F - ratio and the degree of freedom from which it was calculated and the corresponding significance value (Field, 2013). Table 4.36 shows that the F-ratio is 181.042 and ($p < 0.05$).

These results tell us that the final model significantly increases the ability to explain the dependent variable.

Table 4.5
ANOVA

	Model	Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	350.853	5	35.085	181.042	.000b
	Residual	75.387	24	.194		
	Total	426.240	25			

a. Predictors: (Constant), Perceived Usefulness, Perceived Ease of Use, Perceived Credibility, Perceived Financial Cost, Compatibility
b. Dependent Variable: Intention (INT) to use

Table 4.6 presents the standardised beta coefficient (β) between Perceived Usefulness, Perceived Ease of Use, Perceived Credibility, Perceived Financial Cost & Compatibility are independent variables, and the dependent variable Intention (INT) to use.

Table 4.6
Coefficients a

		Unstandardized Coefficients		Standardized Coefficients		
	Model	B	Std. Error	Beta	T	Sig.
1	(Constant)	-1.267	.153		-8.292	.000
	Perceived Usefulness	.197	.038	.145	5.166	.000
	Perceived Ease of Use	.078	.039	.056	2.020	.044
	Perceived Financial Cost	.303	.032	.266	9.352	.000
	Perceived Credibility	.395	.039	.332	10.109	.000
	Compatibility	.208	.032	.192	6.438	.000

Dependent Variable: Intention (INT) to use mobile money services

Examining the Relationship between Mediating, Independent and Dependent Variable

To test the relationship of mediating role of Perceived Risk between Perceived Usefulness and Perceived Ease of Use, Perceived Credibility, Perceived Financial Cost, and Compatibility and Intention (INT) to use This study ran a multiple regression analysis by using SPSS V.23. While Intention (INT) to use is the dependent variable, Perceived Usefulness and Perceived Ease of Use, Perceived Credibility, Perceived Financial Cost, and Compatibility are the independent variables and Perceived Risk is the mediating variable.

Table 4.7
R2 Value for Model Accuracy

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.907a	.823	.819	.440
2	.852b	.725	.722	.545

a. Predictors: (Constant), Perceived Usefulness, Perceived Ease of Use, Perceived Credibility, Perceived Financial Cost, Compatibility
Predictors: (Constant), Perceived Usefulness, Perceived Ease of Use, Perceived Credibility, Perceived Financial Cost, Compatibility, Perceived Risk
b. Dependent Variable: Intention (INT) to use

Table 4.7 presents the model summary. For model (1), this table shows that the value of the multiple correlation coefficients (R) is 0.907 and the value of the adjusted R^2 is 0.823. Thus, the independent variables are Perceived Usefulness and Perceived Ease of Use, Perceived Credibility, Perceived Financial Cost, and Compatibility explain 81.9 per cent of the variance in Intention (INT) to use mobile money services, which is the dependent variable. In model (2), after adding the Perceived Risk (PR) as the mediating variable, this table shows that the multiple correlation coefficients (R) is 0.852 and the adjusted R^2 value is 0.725. Thus, the adjusted R^2 decreased from 0.819 to 0.722. (See Table 4.7).

Table 4.8 presents the results from ANOVA. Again, the researcher should focus on the F - ratio and the degree of freedom from which it was calculated and the corresponding significance value (Field, 2013). From Table, the results confirm that the F-ratio for the first model is 181.042 and ($p < 0.05$) and the F - ratio for the second model is 207.942 and ($p < 0.05$).

Table 4.8
ANOVAa

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	350.853	5	35.085	181.042	.000b
	Residual	75.387	20	0.194		
	Total	426.24	25			
2	Regression	309.104	5	61.821	207.942	.000c
	Residual	117.136	20	.297		
	Total	426.240	25			

a. Dependent Variable: Intention (INT) to use mobile money services
b. Predictors: (Constant), Perceived Usefulness, Perceived Ease of Use, Perceived Credibility, Perceived Financial Cost, Compatibility
c. Predictors: (Constant), Perceived Usefulness, Perceived Ease of Use, Perceived Credibility, Perceived Financial Cost, Compatibility, Perceived Risk

Table 4.38
Hypotheses Assessment

Research Hypotheses	B	P-value	Results
H1: PU has a positive impact on Intention (INT) to use.	0.145	P***< 0.05	Supported
H2: PEOU has a positive impact on Intention (INT) to use..	0.235	P***< 0.05	Supported
H3: The PFC has a positive impact on Intention (INT) to use.	0.266	P***< 0.05	Supported
H4: PC has a positive impact on Intention (INT) to use.	0.332	P***< 0.05	Supported
H5: COM has a positive impact on Intention (INT) to use.	0.109	P***< 0.05	Supported
H6: PR mediates the relationship between PU and INT	0.192	P***< 0.05	Supported
H7: PR mediates the relationship between PEOUU and INT	0.254	P***< 0.05	Supported
H8: PR mediates the relationship between PFC and INT	0.293	P*** < 0.05	Supported
H9: PR mediates the relationship between PC and INT	0.356	P***< 0.05	Supported
H10: PR mediates the relationship between COM and INT.	0.119	P***< 0.05	Supported

P*** <0.05

5. Conclusion

The practical implication derives the theoretical implications of connecting practical theories to form a conclusion (Lim, C., 2018). According to Quora (2018), the practical implications are the consequences, outcome or results related or implied when organizing the research methodology or scenario into real-life practice. The practical implication allows the testing of a theoretical model, as well as comparisons among competing or alternate theoretical specifications (Kwasi, A. & Salam, A., 2004). The practical implication should always be considered when deciding. According to Cudjoe, A., Anim, P., & Nyan, J., (2015), certain factors such as practical theories were responsible for the adoption of mobile money in India. This thesis concludes with discussions of theoretical and practical implications of the findings followed by direction for future research (Shankar, A., & Kumari, P., 2016).

According to Reuben, A. (2007), the value of communications technology, especially mobile phones, in extending banking facilities through mobile money initiatives will enhance banking cultures in remote areas in India. Due to the availability of mobile money system in India, the unbanked population, most of them live in rural areas has greater access to modern banking technology, the financial inclusion problem will minimize. As a result, it will have a positive impact on society, financially and economically become part of eradicating poverty and building up the nation.

The findings presented in this paper have many different practical implications. Firstly, this study indicates that the users should understand the effectiveness of both Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) of payment banks mobile money systems to understand, utilize and accept technology.

Secondly, the PU of mobile money services works significantly by interacting with PR. Thus, a mediating role of PR of the mobile money system has a greater impact on Intention (INT) to use mobile money services.

Thirdly, the PEOU of mobile money services works significantly by interacting with PR. Thus, a mediating role of PR of the mobile money system has a greater impact on Intention (INT) to use mobile money services. Fourthly, the PFC of mobile money services works significantly by interacting with PR. Thus, a mediating role of PR of the mobile money system has a greater impact on Intention (INT) to use mobile money services. Fifthly the PC of mobile money services works significantly by interacting with PR. Thus, a mediating role of PR of the mobile money system has a greater impact on Intention (INT) to use mobile money services.

Sixthly, the COM of mobile money services works significantly by interacting with PR. Thus, a mediating role of PR of the mobile money system has a greater impact on Intention (INT) to use mobile money services.

Mobile money applications have and continue to hold the promise to improve the standard of living for many in the developing world. By enabling access to a cashless payment infrastructure, these systems allow residents of such countries to reap the benefits of affordable banking (unbanked) (Albuquerque, 2014b). Finally, future research should be based on the evaluation of the development impact of mobile phones that will impact on poverty reduction by helping to identify relevant applications and business models (Bhavnani et al., 2008).

6. REFERENCES

Albuquerque, JPd., Diniz, EH., & Cernev, AK. (2014). Mobile payments: A scoping study of the literature and issues for future research. Information Development.

Bandura, A. (1982). Self-efficacy mechanism in human agency. American Psychologist 37:122.

Bem, DJ. (1995). Writing a review article for a Psychological Bulletin. Psychological Bulletin, 118(2): 172–177.

Benamati, B. and Serva, A. (2007). Trust and distrust in online banking: Their role in developing countries. Information Technology for Development, vol. 13, no. 2, pp. 161-175.

Bhavnani, A., Chiu, RW., Janakiram, S., Silarszky, P., & Bhatia, D. (2008). The role of mobile phones in sustainable rural poverty reduction, ICT Policy Division, Global Information and Communications Department, The World Bank, USA.

Cudjoe, A., Anim, P., & Nyan, J., (2015). Determinants of mobile banking adoption in the Ghanaian Banking Industry: A Case of Access Bank Ghana Limited. Journal of Computer and Communications, vol. 3, pp. 1-19 http://dx.doi.org/10.4236/jcc.2015.32001

Deshmukh et al, 2014. 'Mobile Money: M-payment System for India'.

Duncombe, R., & Boateng, R. (2009). Mobile phones and financial services in developing countries: A review of concepts, methods, issues, evidence, and future research directions. Third World Quarterly, vol. 30, no. 7, pp. 1237–1258.

Fergal et al. (2012). Framework for Mobile Payments Integration The Electronic Journal Information Systems Evaluation, vol. 15 Issue (1), pp14 -25, available online at www.ejise.com

Gerrard, P. and Cunningham, J. (2003). The diffusion of internet banking among Singapore consumers. International Journal of Bank Marketing, vol. 21, no. 1, pp. 16-28.

Gu, J. C., Lee, S. C. and Suh, Y. H. (2009). Determinants of behavioral intention to mobile banking. Expert Systems with Applications, vol. 36, pp. 11605-11616.

Hernandez, JMC., Mazzon, JA. (2007). Adoption of internet banking: proposition and implementation of an integrated methodology approach. International Journal of Bank Marketing, vol. 25, pp. 72-88.

Hurley, R.F. and Hult, G.T.M. (1998). Innovation, Market Orientation, and Organizational Learning: An Integration and Empirical Examination. Journal of Marketing, vol. 62, pp. 42-54. http://dx.doi.org/10.2307/1251742

IFC 2013, Access To credit among micro, small, and medium enterprises, International Finance Corporation (IFC), World Bank Group, viewed 16 November 2013,<http://financegap.smefinanceforum.org/documents/Factsheet.pdf

Jagun, A., Heeks, R. and Whalley, J. (2007). Mobile telephony and developing country micro- enterprises: A Nigerian case study. Development Informatics Working Paper 29, Institute for Development Policy and Management, University of Manchester.

Khalifa, M., Shen, KN. (2008). Explaining the adoption of transactional B2C mobile commerce. Journal of Enterprise Information Management, vol. 2, pp. 110-124.

Kitchenham, B. (2004). Procedures for performing systematic reviews, p. 33. Keele University Technical Report TR/SE-0401. Keele, UK.

Kremers, R. & Brassett, J. (2017). Mobile Payments, Social Money: Everyday Politics of the Consumer Subject, New Political Economy.

Laforet, S. and Li, X. (2005). Consumers‟ attitudes towards online and mobile banking in China. International Journal of Bank Marketing, vol. 23, no. 5, pp. 362-380.
Mallat, N. (2007). Exploring consumer adoption of mobile payments: A qualitative study. The Journal of Strategic Information Systems, vol. 16(4), pp. 412-432.
Miao, M. and Jayakar, K. (2016). Mobile payments in Japan, South Korea, and China: Cross-border convergence or divergence of business models?
Min, Q., Ji, S. and Qu, G. (2008). Mobile Commerce User Acceptance Study in China: A Revised UTAUT Model. Tsinghua Science and Technology, vol. 13, pp. 257-264. http://dx.doi.org/10.1016/S1007-0214(08)70042-7
Perekwa, G.B., Prinsloo, T., and Van Deventer, JP. (2016). The Impact of Mobile Technology on Micro and Small Enterprises in Zimbabwe in the Post-Hyperinflation Economic Era. The African Journal of Information Systems: vol. 8: Iss. 3, Article 3.
Rogers, E. M. (2003). Diffusion of Innovations (5th edition). New York, NY: Free Press
Sathye, M. (1999). Adoption of internet banking by Australian consumers: An empirical investigation. International Journal of Bank Marketing, vol. 17, pp. 324-334.
Shallone, K., Chitungo, & Munongo, S. (2013). Extending the Technology Acceptance Model to Mobile Banking Adoption in Rural Zimbabwe. Vol. 3(1), pp. 51-79.
Shankar, A., & Kumari, P. (2016). Factors affecting mobile banking adoption behaviour in India. Journal of Internet Banking and Commerce, vol. 21, pp. 1-24
Venkatesh, V., Morris, M. G., Davis, G. B., and Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. MIS Quarterly, vol. 27 (3), pp. 425-478.
Venkatesh, V., Thong, J., Xu, X. (2012). Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. MIS Quarterly, vol. 36, pp. 157-178.
Wang et al. (2003). Determinants of user acceptance of Internet banking: an empirical study. International Journal of Service Industry Management, vol. 14, pp. 501- 519.
Webster, J. and Watson, RT. (2002). Analysing the past to prepare for the future: Writing a literature review. MIS Quarterly, vol. 26(2), pp. xiii-xxiii.
Wedyan, Lu'ay Mohammad Abdel-Rahman (2012). The Affect of Applying Accounting Information System on the Profitability of Commercial Banks in Jordan. A field study from Management's Viewpoint ISSN 1941-899X2012, vol. 4, no. 2112
Wu, L., & Chen, JL. (2005). An extension of trust and TAM model with TPB in the initial adoption of online tax: an empirical study International. Journal of Human-Computer Studies, vol. 62, pp. 784- 808.
Yeow et al. (2017). Millennials' Perception of mobile money services in Malaysia. 4th Information Systems International Conference 2017, ISICO 2017, 6-8 November 2017, Bali, Indonesia
Yoris, A., & Robert, J. (2017). The economics of mobile payments: Understanding stakeholder issues for an emerging financial technology application. Electronic Commerce Research and Applications, 7 (2008) 141–164