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Predictors of Mobile Payment Adoption among Informal Sector in South-East Nigeria

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ABSTRACT

Mobile phone has advanced to the extent that it has made life more comfortable and efficient. The comfort of being able to pay for goods and services from any point of transaction, using mobile payment system has become a vital issue as it saves a lot of time and the risks involved in carrying cash. However, Mobile payment system have not taken off as fast as expected especially in the Informal Sector in Nigeria. The slow adoption rate of mobile payment system raise many questions about what influences consumer behavioural intention to adopt. The main objective of this study was to ascertain the Predictors of Mobile Payment adoption among informal sector in South-East Nigeria. The study adopted a survey research design and examined the constructs developed from the literature reviewed, which are Perceived Usefulness, Perceived Ease of Use, mobility, payment knowledge, Perceived cost, Perceived Trust and Perceived Risk as regards adoption of mobile payment system, which is supported by the extended Technology Acceptance Model (TAM). The data for this study was collected using a structured questionnaire and out of the 665 questionnaire distributed to the mobile phone users, operating under the informal sector of the capital cities of the five states (Abia=Umuahia; Anambra=Awka; Ebonyi=Abakiliki; Enugu=Enugu; Imo=Owerri) that make up South-East Nigeria, 484 questionnaires were returned. The findings showed that Perceived ease of use, Perceived usefulness, mobility, Perceived Trust and Perceived Risk significantly influence Behavioural Intention to adopt M-payment by the informal sector. While M-Payment knowledge and Perceived cost do not significantly influence Behavioural Intention to adopt M-payment by the informal sector. The researcher therefore recommends that Mobile payment parties should ensure that they offer mobile payment service at cheap cost so that informal sector will feel convenient to use it as they are mostly price conscious.

KEYWORDS: *Mobile Payment, Behavioural Intention, TAM, Informal Sector*

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INTRODUCTION

New technologies are shaping the ways of doing business as well as the behaviors of consumers. In this new digital era, mobile phones have become one of the most prominent consumer products ever to be launched. Mobile phones and the services provided by them rapidly became basic necessities of daily life throughout the world. The increasing popularity of the mobile devices around the globe may be attributed to their Omni-present access to a wide range of services (communication, access to information, entertainment, or commerce). There is a general consensus that the mobile devices are the most promising way to reach the masses and to create a tie-in among current customers, due to their ability to provide services anytime and anywhere; moreover, these devices have high rate of penetration and potential to grow even among the less educated (Agwu, Atuma, Ikpefan&Iyoha, 2014). Agwu (2012) stressed that the mobile phones remain the only and most available feasible means to provide mass marketing and could serve as alternative to branch banking in Nigeria.

This increase in the use of mobile devices in e-commerce coupled with the popularity of mobile phones has led to the emergence of mobile payment (M-payment). Mobile payment is a sub-set of mobile commerce which provides a method for conducting micropayment to facilitate mobile commerce transactions (Zhao &Kurnia, 2014).Mobile payment can be defined as ‘‘payments for goods, services, and bills with a mobile device such as mobile phone etc. by taking advantage of wireless and other communication technologies’’ (Dahlberg, Mallat, Ondrus, &Zmijewska, 2008). M-Payment is considered as an important alternative method of payment to credit cards and cash. M-Payment systems are expected to be major tools in various transactions owing to the increasing popularity of mobile devices and rapidly emerging mobile commerce activities (Ondrus&Pigneur, 2006).

M-payment system offer significant cost-benefit advantages for consumers, business groups and national governments over traditional cash and/or financial card transactions. On the benefit of mobile payment system, Adebiyi, Alabi, Ayo &Adebiyi (2013) assert that mobile Payment will help to curb the problem of long queues in banks and also will be very convenient as the users can have access to financial

services at any time and place. M-payment compared to traditional payment methods, has its benefit in terms of ubiquity coverage, convenience, flexibility and greater accessibility (Fumiko, 2012). Gartner (2015) has stated that m-payment system make payments by phone much safer, easier and less complicated than credit cards, primarily because the private information of customers is not stored directly in the mobile phones but instead in an encrypted 'cloud data' server database that blocks unauthorized access to personal account information.

The Informal Sector refers to economic activities or sources of income that are not fully regulated by the government and other public authorities; this includes enterprises that are not officially registered and workers who hold jobs lacking basic social or legal protection and employment benefits. The informal sector denotes economic activities that obtain outside the formal standard of economic transaction established by the state and formal business practices, although it may not be illegal (Ismail &Adegbemi, 2012). Examples of informal sector players include: street traders, subsistence farmers, unregistered small-scale producers (e.g. pastry cooks etc.) and service providers (e.g. mechanics, hairdressers, plumbers, private taxi drivers, electricians, tailors, bricklayers, upholsterers, cobblers, printers and carpenters among others.

A fast growing view is that informal economy offers significant job creation and income generation potential, as well as the capacity to meet the needs of poor consumers by providing cheaper and more accessible goods and services. In support with this statement, Okeke and Eze (2018) assert that it was estimated that between July 2012 and June 2014, 2.48 million jobs were created, with the informal economy contributing the most at 1.41 million (57%), the formal economy contributing 40%, and the public sector contributing 3%. According to the Bank of Industry (BOI), the Nigerian informal sector accounted for ~65% of Nigeria's 2017 GDP. With the significant contribution of informal sector to the Nigerian economy, an undeniable truth is that any notion of economic development in the country is one that hugely depends on the state of affairs of the informal sector.

Despite all the benefits of M-payment system and given that Informal Sector plays crucial role in national development, there is little or no evidence in literature on the adoption of M-payment systems by the Informal Sector in Nigeria (Ayo and Ukpere, 2010). As a result, it is difficult to determine whether or not Informal Sector in Nigeria with particular reference to South-East Nigeria are adopting M-payment systems. It is believed that conducting this study will enhance the knowledge capacity and accessibility of Informal Sector to M-payment system. It is against the above background that this study is geared towards ascertaining the Predictors of mobile payment system adoption among the informal sector in South-east Nigeria.

Statement of the Problem

The modes of payment for goods and services are traditionally; cash, cheques, cards as well as electronic based payments. With the growing penetration of the mobile phone, the mobile payment is expected to be a strong competing mode of payment for goods and services. But cash and to some extent card payment, have been ingrained in people of Nigeria's habits and lifestyles as they are considered to be convenient to use. With an increase in the use of mobile phones in Nigeria with reference to the informal sector, mobile payments activities are expected to increase. However, Nigerians have not widely adopted m-payment as expected (Cobanoglu, Yang, Shatskikh, & Agarwal, 2015). Supporting the above statement, Phonthanukitithaworn, Sellitto, & Fong (2016a) assert that it is unclear why m-payment services have lagged behind in relation to the high degree of mobile phone usage in Thailand, given the significant advantages associated with m-payment system in terms of convenience and flexibility. Iddris (2012) also noted that the widespread adoption and large usage of mobile telephones did not reflect on the adoption and usage of mobile payment. Furthermore, studies such as Phonthanukitithaworn, Sellitto, & Fong (2015); Yang, Gupta, Cao and Zhang (2012); Okifo and Igbunu (2015); Gokhan&Sebnem, (2016); Edda& Noel, (2017); have shown that there have been bottlenecks in the rate of adoption of mobile payment services in various parts of the world. Hence, it becomes necessary to ascertain the reasons why m-payment services have lagged behind the relatively high degree of mobile phone use in Nigeria, given the significant advantages associated with m-payment services in terms of convenience and flexibility (Phonthanukitithaworn, Sellitto, & Fong, 2016).

For a long time, the Technology Acceptance Model (TAM) have proved to be a useful theoretical model that helped to understand and explain usage behavior in information systems adoption (Palmer, & Moll, 2010; Schierz et al., 2010; Shin, 2010; Legris, Ingham, &Collerette, 2003; Nguyen et al., 2016). However, most studies have found that TAM model works but it has to be modified to fit in the particular environment of study and the nature of the service adopted (Aulelius, 2017). Based on the recommendations of past studies and the inherent superiority of the TAM, this study modified the TAM by maintaining its major constructs while extending the model with other relevant constructs.

Furthermore, there is little empirical evidence and research on mobile payment system adoption by the informal sector in Nigeria. It becomes crucial to further assess the informal sectors' view on the relevance of the factors identified in the literature in the context of Mobile Payment adoption in South-East Nigeria.

Objective of the Study

The broad objective of the study is to ascertain the Predictors of Mobile Payment adoption among informal sector in South-East Nigeria. From this broad objective, the following specific objectives are derived as thus;

1. To examine if perceived ease of use has influence on the behavioral intention to adopt M-payment system by the informal sector in South-East Nigeria.
2. To find out if perceived usefulness has influence on the behavioral intention to adopt M-payment system by the informal sector in South-East Nigeria.
3. To examine whether mobility has influence on the behavioral intention to adopt M-payment system by the informal sector in South-East Nigeria.
4. To assess whether mobile payment knowledge has influence on the behavioral intention to adopt M-payment system by the informal sector in South-East Nigeria.
5. To examine whether perceived cost has influence on behavioral intention to adopt M-payment system by the informal sector in South-East Nigeria.

6. To evaluate whether Perceived Trust has influence on behavioral intention to adopt M-payment system by the informal sector in South-East Nigeria.
7. To ascertain whether perceived risk has influence on the behavioral intention to adopt M-payment system by the informal sector in South-East Nigeria.
8. To ascertain whether behavioural intention to adopt M-payment system will influence actual M-payment adoption by the informal sector in South-East Nigeria.

Theoretical and Conceptual Review

To understand what influences user adoption of mobile payment systems, it seems logical to consider the use of some already established and tested acceptance models. Some of these originating theories included the theory of reasoned action (TRA) (Ajzen and Fishbein, 1980), the theory of planned behavior (TPB) (Ajzen, 1991), the diffusion of innovation (DOI) (Rogers, 2003), then the Davis's (1989) technology acceptance model (TAM) and its extension. Each of the models mentioned above has strengths and weaknesses. However, comparisons between innovation adoption theories show that the TAM appears to have advantages over the TPB and the DOI because it is a simpler model that is easier to apply and also benefited from the inclusion of various other constructs to explain user adoption intention in a wide range of technology products (Mathieson, Peacock, and Chin, 2001; Hong, Thong, & Tam, 2006). Another reason is its parsimony due to the vast amounts of data and empirical studies conducted that reaffirmed the validity of this theory. (Goeke&Pousttchi, 2010; Keramati et al., 2012; Kim et al., 2010; Koenig-Lewis, Palmer, & Moll, 2010; Nguyen et al., 2016; Schierz et al., 2010; Shin, 2010).

Therefore, based on the recommendations of past studies and the inherent superiority of the TAM, this study modified the TAM by maintaining the major constructs of PU, PEOU, and behavioral intentions while extending the model with other relevant constructs viz; perceived cost (PC), Perceived Trust (PT)and perceived risks (PR).

Perceived ease of use (PEOU)

Davis (1989) defined perceived ease of use as the degree to which a person believes that using a particular system would be free of effort. Many studies have shown that the impact of perceived ease of use on a user's adopt an innovation is either directly or indirectly through perceived usefulness. Chitungo and Munongo (2013) in their study on the adoption of mobile financial services in Zimbabwe found that perceived ease of use has a positively significant influence on the adoption of mobile financial service. In another research by (Cheah, Teo, Sim, Oon and Tan, 2011), perceived ease of use was found positively related with the intention to adopt mobile banking services in Malaysia. For this reason, ease of use is considered to be one of the important factors affecting the acceptance and use of the new technologies by users. Based on this empirical evidence, the following null hypothesis was proposed;

H1: *Perceived ease of use (PEOU) does not significantly influence the behavioral intention to adopt M-payment system by the informal sector in South-East Nigeria.*

Perceived usefulness (PU)

According to Davis (1989), perceived usefulness is the degree to which a person believes that using a particular system would enhance his or her job performance. 'Job' can be replaced with 'everyday life' in regards to m-payments (Zmijewska, et al, 2004). Several studies have found that perceived usefulness had a significant influence on mobile payment adoption (*Pousttchi&Wiedemann, 2007*; *Liébana-Cabanillas, et al 2014; Yang, et al 2012*). Phonthanukitithaworn, et al. (2015) points out that PU captures how m-payment can he users to achieve task-related goals, such as being more effective and efficient in activities. For instance, a consumer may feel that m-payment services will allow him/her to pay via their mobile phone at anytime from anywhere. Consequently, PU will have positive influence on the adoption of mobile payment system by the informal sector in Anambra State. Based on these studies the following null hypothesis was proposed:

H2: *Perceived usefulness (PU) does not significantly influence the behavioral intention to adopt M-payment system* by the informal sector in South-East Nigeria.

Mobility (MOBI)

The term 'mobility' is generally understood to mean the ability to access mobile phone services and conduct transactions from anywhere within a mobile network area from a variety of mobile devices, including personal digital assistant (PDA) and mobile phones (Kim et al., 2010). Mobility is determinant used to measure the degree to which an individual perceives received benefits in the context of time, space, and services access. One of the important elements of mobile technology is portability. The new mobile payment method is flexible to use regardless of time and space and has a great fit in today mobile and active lifestyle. It allows customers to access into the services through a wireless network and a range of mobile devices including smart phones (Au & Kauffman, 2008). A Korean studies found positive relationship between mobility and perceived usefulness of m-payment services (Kim et al., 2010). This study contends that mobility can have positive influence on adoption of m-payment through perceived ease of use and perceived usefulness. Thus, the following null hypothesis was proposed:

H3: *Mobility does not significantly influence the behavioral intention to adopt M-payment systemby the informal sector in South-East Nigeria.*

Mobile payment knowledge (MPK)

Customers' knowledge can help them identify what mobile payment can do for them, and why the products/services are important to them. Schreier and Prügl (2008) found that users with high level of knowledge in an innovation tend to be ahead of its market trend and expect high benefits from the innovation, and those users would adopt new commercial products faster and more intensively than ordinary ones. Similarly, Kim et al. (2010) found that m-payment knowledge had positive impacts on perceived ease of use of m-payment services. Customers will use mobile payments easily and efficiently if customers have a high level of knowledge about the tool they are conducting for mobile payments. Accordingly, this study hypothesizes the following:

H4: *M-payment knowledge does not significantly influence the behavioral intention to adopt M-payment system by the informal sector in South-East Nigeria.*

Perceived Cost (PC)

Perceived cost (PC) is defined as the extent to which a person believes that using m-payment would cost money (Luarn and Lin 2005). The cost may include the transactional

cost in the form of service charges, mobile network charges for sending communication traffic (including SMS or data) and mobile device cost (Ernest & Simon, 2016). Perceived cost was also proposed into the TAM by Amberg, et al. cited in Ernest & Simon (2016). Masinge (2010) asserts that low income people have a low purchasing power and are price sensitive. Compared with traditional payment, users' intention to adopt M-payment would be negatively influenced by cost (Peng et al. 2011). In the study by Mallat (2007) assessing M-payment in Finland, it was also stated that cost might have a significant influence on M-payment. People preferred to use cash payment because of the extra transaction costs charged by M-payment when purchasing on vending machines. Furthermore, cost considerations may prevent people from adopting mobile financial services if it is high, but if it is affordable it can be a motivation to faster adoption (Tobbin and Kuwornu 2011; Dass and Pal, 2011). Thus, the following null hypothesis was proposed:

H5: *Perceived cost (PC) does not significantly influence the behavioral intention to adopt M-payment system by the informal sector in South-East Nigeria.*

Perceived Trust (PT)

Trust is an important element that affects consumer intention to adopt new technologies. According to Dahlberg, Mallat, Ondrus&Zmijewska (2008) TAM's capability to predict behavioral intention can be strengthened by adding trust element to the model. Dass and Pal (2011) define trust as a psychological expectation that a trusted part will not behave opportunistically. For the purpose of this study, the construct of Perceived Trust was used to reflect the level of trust that the consumer believes he/she can invest in the parties involved in the M-payment process (such as banks, mobile operators, merchants, and third parties) to perform expected activities without taking advantage of the consumers. It is required that consumers must first of all register with mobile payment entities to set up an account, before they can use M-payment services. Arguably, if consumers sense a lack of trust in M-payment entities, they may refuse to provide them with their personal information, such as telephone number, date of birth, address, credit card number, and so on. Therefore, higher levels of trust in a service provider will lead to a greater intention on the part of the user to adopt mobile payment system. Zarmpou, Saprikis, Markos and Vlachopoulou (2012) found that customers' trust had positive impacts on the perceived usefulness and perceived ease of use. Therefore, once trust is established with service provider, users are more likely to have greater in the adoption of m-payment. Hence, this paper hypothesizes that:

H6: *Perceived trust (PT) in m-payment services does not significantly influence the behavioral intention to adopt M-payment systemby the informal sector in South-East Nigeria.*

Perceived Risk (PR)

Innovations usually are believed to come with risks. Perceived risk is defined as the consumer's subjective expectation of suffering a loss in pursuit of a desired outcome (Suki, 2010). PR is a construct that reflects feelings of uncertainty among consumers regarding the possible negative consequence of using new technology that may dissuade adoption (Phonthanukitithaworn, et al., 2015). Perceived risk may be in the form of financial risk, security or privacy risk, social risk, time risk and performance risk (Lee 2009). In this scenario, it could be argued that the adoption of mobile financial services creates concern that there may be financial losses, password insecurity, network errors, hacking and loss of personal information. A recent empirical study by Tan and Lau (2016) confirmed the negative impact of PR on behavioral intentions to adopt mobile banking services among generation Y consumers in Malaysia. It is therefore stated that perceived risk has a negative influence on mobile banking adoption. The hypothesis is stated in null as:

H7: *Perceived Risk (PR) in m-payment services does not significantly influence the behavioral intention to adopt M-payment system by the informal sector in South-East Nigeria.*

Behavioral Intention to Adopt (BIA)

Behavioural intention refers to an individual's intention to behave in a certain way, which in turn determines the actual usage of a system. The behavioral intention to adopt M-payment system (BIA) is a dependent variable used to determine whether users will actually use or adopt m-payment system. For example, past studies have found a direct and significant influence between behavioral intention and actual usage of the system (Shroff, et al, 2011; Bong-Keun& Tom, 2013; Aydın &Burnaz, 2016; Phonthanukitithaworn, et al. 2015). The hypothesis is stated in null as:

H8: *Behavioural intention to adopt M-payment system does not significantly influence actual M-payment adoption by the informal sector in South-East Nigeria.*

Methodology

This study is a descriptive survey research because the study sorts to assess the informal sectors' view on the factors that influence Mobile Payment adoption in South-East Nigeria.The target population comprises of business people, who are mobile phone users, operating under the informal sector of the capital cities of the five states (Abia=Umuahia; Anambra=Awka; Ebonyi=Abakiliki; Enugu=Enugu; Imo=Owerri) that make up South-East Nigeria.This includes street traders, subsistence farmers, unregistered small-scale producers (e.g. pastry cooks e.t.c.) and service providers (e.g. hairdressers, private taxi drivers, electricians, tailors, bricklayers, pastry cooks, upholsterers, cobblers, printers and carpenters among others. This implies that the population of the study is infinite.

Since the population is unknown, an infinite population formula was used to determine the sample size. Thus; Z= 99% confidence level which corresponds to Z-value of 1.96 or 1.645, P=0.5 is assumed, 1-0.5 (0.20), Error margin= 0.05(5%). The 665 participants were shared equally among the capital cities of the five states that make up South-East Nigeria; Awka (133 participants), Umuahia (133 participants), Abakiliki (133 participants), Enugu (133 participants) and Owerri (133 participants). Out of the 665 questionnaires distributed, 484 questionnaires were returned and used for analysis. With the aid of SPSS-Version 22, Exploratory Factor Analysis (EFA) and confirmatory factor analysis was used to assess the validity and reliability of the measurement model, while Multiple Regression analysis was used to assess the hypothesized relationship between the variables.The model equation is stated thus: *Behavioural intention to adopt Mobile payment = α + b1 Perceived usefulness + b2 Perceived ease of use + b3 Perceived trust + b4 Perceived cost + b5 Perceived risk*. The b1- b5 are the regression coefficients, which indicate the amount of change in dependent variables (behavioural intention

towards Mobile payment adoption) given a unit change in any of the independent variables (Predictors).

Data Analysis and Results

Since we have evaluated the regression model and certified that the model is fit we now proceed to use the coefficients to validate the hypotheses earlier formulated for the study. Two regression analysis was conducted to test the eight hypotheses formulated for this study. The first analysis, Multiple Regression Analysis (MRA) was used to validate hypotheses 1 to 7, while the second which is a Bivariate Regression was used to validate hypothesis 8.

Table 1: Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	.740	.282		2.625	.009	.186	1.294					
	PEOU	.183	.062	.127	2.927	.004	.060	.305	.211	.133	.117	.851	1.174
	PU	-.134	.060	-.096	-2.230	.026	-.252	-.016	.042	-.102	-.089	.869	1.150
	Mobi	.115	.058	.087	1.963	.050	.000	.229	.220	.090	.078	.806	1.240
	MPK	.069	.054	.056	1.286	.199	-.036	.174	.153	.059	.051	.853	1.173
	PC	-.071	.045	-.065	-1.584	.114	-.158	.017	-.013	-.072	-.063	.932	1.072
	PT	.232	.055	.187	4.242	.000	.124	.339	.269	.191	.169	.820	1.220
	PR	.352	.046	.334	7.693	.000	.262	.442	.418	.333	.307	.844	1.184
a. Dependent Variable: BIA													

Table 2: Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.458[a]	.210	.208	.57633	1.992
a. Predictors: (Constant), BIA					
b. Dependent Variable: MPA					

Table 3: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	42.496	1	42.496	127.936	.000[b]
	Residual	160.102	482	.332		
	Total	202.597	483			
a. Dependent Variable: MPA						
b. Predictors: (Constant), BIA						

Table 4: Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	1.835	.102		17.997	.000	1.635	2.036
	BIA	.377	.033	.458	11.311	.000	.312	.443
a. Dependent Variable: MPA								

Discussion of the Findings

This study found that Perceived ease of use (PEOU) significantly influence the behavioral intention to adopt M-payment system by the informal sector in South-East Nigeria. This shows that, the informal sector in South-East Nigeria perceive mobile payment to be simple and easy to use, this perception will lead to increase personal or business adopt of the mobile payment. The result consistent with the theoretical perspective of TAM which identifies usefulness and ease of use as instrumental factors that influence the adoption of a new technology. Similarly, the result is in line with Chitungo and Munongo (2013) in their study on the adoption of mobile financial services in Zimbabwe which found that perceived ease of use has a positively significant influence on the adoption of mobile financial service. It is also in line with another research by Okeke and Eze (2018) that PEOU have significant impact on m-Money adoption by the informal sector in Anambra State.For this reason, PEOU is considered to be one of the important factors affecting the acceptance and use of the new technologies by users as shown in the standardized coefficients of our regression analysis. However, the result is inconsistent with the empirical findings of other studies that indicated that Perceived ease of use were found to have an insignificant influence on the adoption of mobile payment. Phonthanikitithaworn, Sellitto and Fong, 2015; Aulelius, 2017; Sayid, Echchabi and Aziz, 2012)

This study also found that Perceived usefulness (PU) significantly influences the behavioral intention to adopt M-payment system by the informal sector in South-East Nigeria. This is in line with several studies cited in literature that perceived usefulness had a significant influence on mobile payment adoption (Aulelius 2017; Ernest & Simon, 2016; Pousttchi&Wiedemann, 2007; Liébana-Cabanillas, et al 2014; Yang, et al 2012). Phonthanukitithaworn, et al. (2015) points out that PU captures how m-payment can help users to achieve task-related goals, such as being more effective and efficient in activities. Similarly, Wai& Wing (2019) found

perceived usefulness to be significant and thus affects consumers' intention to use mobile payment. Consequently, the informal sector, which is the target respondents for this research perceive mobile payment as useful and will help in their day to day activities, their perception will lead to increase personal or business adoption of the mobile payment.

This study equally found that that mobility (MOBI) significantly influence the behavioral intention to adopt M-payment system by the informal sector in South-East Nigeria. This is in line with Korean studies earlier cited in the literature which found that there is a positive relationship between mobility and perceived usefulness of m-payment services (Kim et al., 2010). This study contends that mobility can have positive influence on adoption of m-payment through perceived ease of use and perceived usefulness. Thus informal sector operators are in most cases mobile/always moving hence appreciate the usefulness of mobile payment in the day-to-day operation of their businesses and impact their behavioural intentions to adopt M-payment innovation. Also, this study compliments the study of Gia-Shie and Pham (2016) that Convenience of mobility have impact on ease to use and usefulness which in turn intension to use mobile payment services in Vietnam.

More so, the study found that M-Payment Knowledge (MPK) does not significantly influence the behavioral intention to adopt M-payment system by the informal sector in South-East Nigeria. This contradicts the findings of Schreier and Prügl (2008) and Gia-Shie and Pham (2016) that users with high level of knowledge in an innovation tend to be ahead of its market trend and expect high benefits from the innovation, and those users would adopt new commercial products faster and more intensively than ordinary ones. This study also contradicts Kim et al. (2010) who found that m-payment knowledge had positive impacts on perceived ease of use of m-payment services. Customers will use mobile payments easily and efficiently if customers have a high level of knowledge about the tool they are conducting for mobile payments. However this finding can be attributed to variables collinearity. Tolerance values for the IVs are much closer to one indicating presence of some level of collinearity.

This study found that Perceived Costs (PC) does not significantly influence the behavioral intention to adopt M-payment system by the informal sector in South-East Nigeria. This is not surprising since informal sector operators are low income earners and as well are price sensitive. Thus compared with traditional payment, users' intention to adopt M-payment would be negatively influenced by cost (Peng et al. 2011). This finding is also in line with Masinge (2010) who asserts that low income people have a low purchasing power and are price sensitive. Thus this agrees with the study by Mallat (2007) in Finland, who found that that cost might have a significant influence on M-payment. In Nigeria cash transactions still remain the preferred mode of payment; as people preferred to use cash payment because of the extra transaction costs charged by M-payment when purchasing on vending machines. Furthermore, cost considerations may prevent people from adopting mobile financial services if it is high, but if it is affordable it can be a motivation to faster adoption. This is in line with the works of (Tobbin and Kuwornu 2011; Dass and Pal, 2011).

This study equally revealed that Perceived Trust (PT) significantly influence the behavioral intention to adopt M-payment system by the informal sector in South-East Nigeria. This result shows that the adoption of mobile payment by the informal sector in South-East Nigeria will increase once they believe that the M-payment parties are trust worthy. This is in line with the works of Zarmpou, Saprikis, Markos and Vlachopoulou (2012) found that customers' trust had positive impacts on the perceived usefulness and perceived ease of use, hence the behavioural intention to adopt M-payment system. Therefore, once trust is established with service provider, users are more likely to have greater in the adoption of m-payment. Trust is not only with the service provider but to all stakeholders in innovation adoption like the government, laws governing the transaction and the regulatory agencies. A customer need to have trust on these components of the payments system.

This study also found that Perceived Risks (PR) significantly influence the behavioral intention to adopt M-payment system by the informal sector in South-East Nigeria. That is to say that Perceived risk have a negative influence on behavioral intention to adopt m-payment among informal sector in South-East Nigeria. Consequently, Perceived risk discourages informal sectors' intentions to use m-payment system, particularly among those who have no understanding of m-payment services. This finding collaborates the a recent empirical study by Tan and Lau (2016) where it was confirmed that there is a negative impact of PR on behavioral intentions to adopt mobile banking services among generation Y consumers in Malaysia. The result is also consistent with the findings of a vast majority of previous studies (for example, Wai& Wing, 2019; Alamgir, 2019; Jamie, Sushma, Karen & Frederick, 2016; Ernest & Simon, 2016; Abrahãoa, Moriguchib&Andradeb, 2016; Phonthanukitithaworn, Sellitto& Fong, 2016b)

Finally, the study found that behavioural intention to adopt significantly influence mobile payment adoption by the informal sector in South-East Nigeria. The behavioral intention to adopt M-payment system (BIA) is a dependent variable used to determine whether users will actually use or adopt m-payment system. This finding agrees with past studies which found that a direct and significant influence between behavioral intention and actual usage of the system (Shroff, et al, 2011; Bong-Keun& Tom, 2013; Aydın &Burnaz, 2016; Phonthanukitithaworn, et al. 2015).

Conclusion

Based on the findings of this study and the empirical evidences available, the researcher came to the following conclusions Perceived ease of use, Perceived usefulness, mobility, Perceived Trust and Perceived Risk are predictors of Mobile Payment adoption among informal sector in South-East Nigeria. In addition, M-Payment knowledge and Perceived cost have no significant influence on the adoption of mobile payment by the informal sector. This is to say that the informal sector's behavioural intention to adopt and use mobile payment system is negatively affected by the cost of Mobile Payment

Recommendations

Based on the forgoing findings and conclusion, the researcher makes the following recommendations:

1. Mobile payment parties should designed and developed M-payment to provide added values and increased level

of security. This is because the informal sector need to have a convincing reason to switch to MP method.

2. Since, the informal sector do not perceive M-payment to be useful to their business, service providers should carefully plan marketing campaign that can evangelize the usefulness of M-payment.
3. Mobile payment parties should ensure that they offer mobile payment service at cheap cost so that informal sector will feel convenient to use it as they are mostly price conscious.

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