Mobile Money Adoption In a Fragile Economy: The Case of a Seven Year Failed Experiment In Nigeria

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ABSTRACT: *A seven year flounder and failed experience of mobile money ignition in Nigeria is worrisome. Ipso-facto, this paper explores the factors that influence mobile money adoption in the Nigerian fragile economy. A survey data generated from 344 experience mobile phone users formed final data base used in this study. Exploratory factor analysis anchored on principle component method and correlation analysis were employed in the methodology. Results reveal that trailability, compatibility, perceived trust, perceived ease of use, perceived usefulness, level of awearness, and relative advantage strongly drives the adoption of mobile money in Nigeria as they exhibit significant positive relationship. No significant relationship was found between perceived financial cost and mobile money adoption in Nigeria. To attract greater adoption and growth of mobile money in achieving cashless economy in Nigeria, these factors should be integrated in the Nigerian mobile money/payment regulatory framework and be made more flexible from its apparent stiff regulation and control.*
Keywords: *Mobile money, Adoption, Mobile payment, Nigeria, Technology acceptance*

I. INTRODUCTION

Today, mobile money and mobile payment have become novel. Although mobile money is a global phenomenon, its spread in Africa and other emerging economies of the word is remarkable. Mobile money is barely heard of, for instance two decades ago in Africa. Basically, mobile money is an emerging facet of electronic banking; a form of electronic money that allows the conduct of financial transaction through a mobile phone (Aron, 2015). Mobile money offers financial transaction services to customers (person-to-person and person-to-merchant payments) who have a mobile phone including the under banked and unbanked. As an electronic money, it can be stored or withdrawn as cash or be transferred as cash through a coded secure text message without the customer having official bank account.

Mobile money operates in two major platforms. First is the electronic money platform which electronically connects the senders and receivers of the mobile money. Second is the agent platform which enable customers to add money into and take money out of the mobile money account (Evans and Pirchio, 2015). Paradoxically, the rate at which mobile money is rapidly increasing across the globe especially in the developed economics and the high rate of failure of mobile money in the emerging economics no doubt calls for research consideration. For example, across the world, the number of mobile phone users have far exceeded the number of people with official bank accounts. The majority of these phone users engage in mobile money financial transactions because the development of mobile money and mobile payment solution are anchord on the proliferation of mobile telecommunication technology and the wide use of mobile phone. The application and adoption of mobile money have recorded success stories in developed economics such as the western countries but the story is "near success syndron" in the emerging economics such as the African countries and some part of eastern countries. Several mobile money schemes launched in emerging economics either failed completely to ignite or is at snail speed to pick-up. For example, the failed South African MTN mobile money, Mexico MiFon, Nigerian pagatech, Etranzact and EaZy money, Indian Bean money, Airtel Money and Mobile On money, Madagascar MVola and Aritel Money, Burkina Fasco Inovapay among other countries. Others with weak growth experience are Ghana Airtile money, TigoCash and MTN mobile money, Philippiness Gcash and Smart Money etc. Prior studies argue that there are various factors that spurs customers adoption of mobile money (Dewan and Chen, 2005; Kreyer *et al*, 2003; Biz , 2004; Lee *et al*; 2003B; Lebylaw, 2016; Chauhan, 2015; Osec-Assibey, 2014; Sayid *et al*, 2012). Therefor, the call by the previous studies and the inordinate failure of launched mobile money schemes in emerging countries show the necessity for deeper knowledge and understanding through pedagogical research on the factors that influence customers adoption of mobile money to guide future development of mobile payment system. Thus, the primary objective of this study is to explore the major factors that drives mobile money adoption in an emerging economy with particular attention to Nigerian context.

II. LITERATURE REVIEW

The concept and the digitical journey of mobile money

Mobile money is generally referred to as m-money or e-money; meaning electronic money. Like most managerial concept, mobile money and mobile payment are often used interchangeably. In a broad sense, mobile money is conceptualize as the provision of financial service through a mobile phone device (Sajid *et al*, 2012). In nutshell, mobile money is a wireless financial service delivery channel that offers additional value to customer by providing "anytime, anywhere" access to financial services (Lee and Chung, 2009). For mobile money to be effective, an individual/customer must intall a mobile phone application on a 'SIM' (subscribers identity module) card and open an electronic money account through a set up with the phone and the service provider and then deposit cash in exchange for electronic money. As earlier stated, electronic money can be stored or withdrawn as cash or can be transferred domestically and internationally without the customers having any official bank account. According to Sayid *et al* (2012), the rampart feature of mobile money is that:

It is electronic money issued on receipt of funds in an amount equal to the available monetary value it electronically recorded on a mobile device; the electronic value is redeemable for cash; the electronic value can be acceptable as a means of payment by parties other than the issuer and the electronic value is backed up by storage of equivalent funds in one or more banks depending on the central banking or other regulations.

Furthermore, mobile money can be used for varity of financial transactions such as person to-person transfer (P2P), retail payment and payments for services; government-to-person with receipts (G2P); donor-to-person cash transfers; and business-to-person transfers among others. Mobile money in both developed and developing countries captures both the underbank consumer and unbanked consumers. This means any individual who have mobile phone can open mobile money account regardless of having bank account or not, provided that the individual consumers satisfy the proccedural requirement for opening account locally and relevant downloaded applications. Mobile money also works through the airtime of a mobile subscriber, mobile wallet, credit cards on a mobile handphone, including access to the merchants platform via short codes. There are many kind of mobile money with different operators and partners. However, this will be discussed in the subsequent session of this paper.

Linking the digital journey of mobile money with mobile banking

The historical development of mobile money is linked to the history of mobile banking. As a facete of mobile banking/electronic banking, the historical development of mobile money cannot be told without a link to mobile banking. Thus, the digital Journey of mobile banking historical started in 1999 in Germany when the Paybox Company deployed the first mobile banking and payment initiative. The first prototype of the initiative was made by Fundamo though the Deutsche Bank who financed the project initiative.

As at 2003, the mobile banking platform had been spread to other countries like Austria, Sweden, Spain and the UK with over one million registered subscribers and leaving Paybox as the leading company in mobile banking development. When Deutsche Bank withdrew their financial support, Paybox became defunct and Mobi Pago launched another initiative as another early starter of mobile banking. The Mobi Pago was later changed to Mobi pay as they acquire a new technology that accepts the special USSD payment confirmation as new product launched in 2003. USSD stands for unstructured supplementary service data. It is on record that one of the basic characteristics of technology is improvement and advancement over and over an existing technological device. This is also the case of the MB. For example, through the support of a system from Nokia, the vending machine was launched in collaboration with Brokat (a high flying German e-commerce company), and immediately afterwards, Israel produce a number of MB platform namely – Adamtech (with a technically sound solution called cellpay); Trivnet (a mobile payment start-ups); Paytt among others. According to records, it is only Trivnet that survived in Israel. In France, a France telecom announces mobile banking initiative with an integrated card reader, but the solution could not service for long time because of its technical and unattractive features (Hannes, 2015).

Away from the technological history to the banking point of view, the Wachovia Bank in United States of America was the first to launch comprehensive mobile banking services to their customers in 2006. This was followed by the bank of America in 2007 "in collaboration with Four major wireless carries which reported 500,000 users within first six months"(UK Easy, 2015). Again, between 2009 and 2010, the current application for iphone and Android platform ("capable of remote deposit capture and allow users to take a photo of their check and deposit electronically") was introduced of San Antonio. In Africa, the usual challenges associated with the developing countries still remain an issue. For instance, the smart phones are expensive and difficult to adopt; where the second generation and third generation phone are affordable, service availability makes no sense of the effort. However, since the SMART money was first introduced in 2003, about 42 developing countries (African countries inclusive) have so far deployed it (Mas and Radcliffe, 2010).

The adoption and implementation of mobile banking in Africa like other countries have four dimensional: first is the bank-led model. The bank-led model is the mobile banking design where the implementation and the platform are entirely offered by banks. Second is the network operator led model; and this is where the entire platform and its implementation are completely offered by mobile network operators (MNOs). An example of mobile network led is: M-PESA in Kenya and East Africa. M-PESA is derived from Swahili word called 'pesa', meaning cash and m-stand for mobile-hence M-PESA which means mobile cash. M-PESA mobile payment service was introduced in 2007 by Safaricom and Vodafone –in Kenya (Jenkins, 2008). Another example of MNOs is the G-cash in Philippines.

On the other hand, the historical development of mobile money followed these trends; although the brain behind the introduction of mobile money is traced to 2002 research. Finding of Gamos and the Commonwealth Telecommunication Organization funded by the Department for International Development UK, when they discovered the use of air time as a proxy for money transfer internationally. By series of pilot test, the first authorized credit swapping was made in 2004 by Mcel in Mozambique. It was actually a " precursor" step forward for M-pesa as earlier highlighted. M-pesa provides reasonable number of financial service to the users and allows users to deposit money into an account stored on the cell phone ; send balance using sms to the other users (sellers of good & services); redeem deposit for regular money among other service. As at 2012, about 61 million M-pesa account were registered and being used globally. However, the partial success story of M-pesa in Kenya is not the same with other African countries and other mobile money where failure were recorded. Table 1 shows the number of countries where mobile money shemes failed to grow.

Table 1: Cross country example of where mobile money failed

Country	No of mm deployed	Year of first launch	Name of mobile money or scheme	Lead by	In partnership with	Growth report
Burkina Faso	2	Dec,2008	Aritel money, Movapay	Airtel & independent MMP	Ecobank	Failed
Ghana	4	Jun. 2009	Airtel money	Airtel	Standard chartered Ecobank, UBA CAL Bank & Fidelity Bank	Failed
Haiti	3	Feb 2011	Tcho Tcho & LajanCash	Digicel, de Credit	Banque National Scotia Bank	Failed
India	15	Nov.2007	Mobile On Money, Airtel Money & Bean money	Indepenndent MMP, Airtel	J & K Bank	Failed
Indenesia	6	Nov. 2007	Dom petku, eCash, T-cash XLTunai	Indosat, Mandiri Bank, Telkonsel & XL Axiata	Mandiri bank	Failed
Mada sadcear	3	Jun. 2010	Airtel Money, MVola, Orange Money	Airtel, Telma , Orange	Bank of Africam BFV societe generals tiava & microred	Failed
Moxico	4	Jan. 2012	MiFon, Transfer	Banorte Telcel	Banorte	Failed
Nigeria	19	Feb.2011	Pagatech, Mobile money, e-transact & Eazy money	Independent MMP GTBank & Zenith	GTBank Zenith	Failed
Pakistan	7	Oct. 2009	EasyPisa	Telenor	Taneer Microfiance Bank	Weak growth
Philipines	2	Oct. 2004	GCash Smart Money	Globe Telecom & Sart Communication	Bank de Oro (BDO)	Weak growth
South Africa	6	Nov.2004	Wizzit, MTN MobileMoney, M-pesa and FNB eWallet	The South African Bank of Athona, MTN Vodacom First National Bank	Standard Bank South Africa bank of Athensand Nedbank	Failed

Source: World Bank (2014) and IMF (2015). MM = Mobile Money

Table 2: Cross country example of mobile money successful growth

Country	No of mm deployed	Year of 1st launch	Name of mm or scheme	Lead by	In partnership with	Growth report
Bangledesh	9	March 2011	Bkask, Dutch bangle Bank	BRAC Bank, Duteh Bangle Bank	- -	High growth
Coted'Ivoire	6	Dec. 2008	Orange money, Moov, MTNmobile money	Orange, Etisalat, MTN	BICICI, Biao, Ecobank & Societi Generale	High growth
Democratic Republic of Congo	-	Feb.2012				Too soon to tell
Kenya	7	March 2007	M-pesa, Airtelmoney, Orange money & yuCash	Sufaricon, Airtel, Orange,Essar	Bank of Africa Equity Bank, Citigroup, Standard Chartered	High growth

				Telecom		
Rwanda	5	Feb.2010	MTN Mobile money Tigo Cash, Airtel money	MTN Airtel Tigo	Commercial bank of Rwanda, KCB	High growth
Somaliland	-	Jun. 2009	SAAD	Telesom	-	High growth
Sri-lanka		Jun. 2012				Too soon to tell
Tanzania	5	Apr. 2008	M-pesa Tigo Cash, Airtel money, Ezypease	Vodacon, Airtel, Tigo,	National Bank of Commerce, Citibank, Tansania postal bank	High growth
Uganda	6	Mar. 2009	MTN mobile money Airtel money/warid Orange money & M-sente	MTN, Airtel, Orange & UT mobile	Stambic Citibank DFCU and Post Bank	High growth
Zinsabwe	4	Sep.2011	EcoCash, Telecash	Econoet wireless, Telecel	-	High growth

Source: World Bank (2014) and IMF (2015), MM = Mobile Money

A transcripts of mobile money/payment regulatory framework in Nigeria

The payment system through mobile money was officially introduced in Nigerian business environment in 2010 by the Central Bank of Nigerian(CBN). In this light, about 16 mobile payment companies were given provisional license by CBN to operate in Nigeria. These companies include-First Bank-First Monie, Fortis Mobile Money, UBA/Afripay, GTbank Mobile Money, e-Transact, Monetise, Eartholeum, Paycom, FET, Ecobank and Kudiamong others. The license empowered these companies to development and provide mobile money products via the mobile phones and other technological devices. The CBN also reserve the right as the apex bank in regulating the mobile money payment system. The major objective of CBN in regulating mobile money payment system is to provide an enabling environment for the adoption of mobile payment services in reducing cash dominance in the Nigerian economy; ensure structured and orderly development of mobile payment services in Nigeria, specially the minimum technical and business requirements for the various participants recognized for the mobile payment services industry in Nigeria; promote safety and effectiveness of mobile payment services and enhance confidence in the service (CBN, 2010).

Furthermore, the regulatory provision clearly specified two basic model of mobile payment services in Nigeria to include 'bank-led model and the non bank-led model. While the bank-led model is a "model where a bank either alone or a consortium of bank, whether or not partnering with other approved organizations, seek to deliver banking services, leveraging on the mobile payment system", the non-bank-led model on the other hand permits corporate organizations licensed by CBN to operate mobile money business and payment service to subscribers. The regulation provides mobile money operators, infrastructure providers, consumers, mobile money agents and other services providers as major participants. The regulatory framework also stipulates bank account bassed, card account based and store value account based (e-wallet) as the only account through all mobile payment can be carried out in Nigerian environment. The card account based is where a payment card is linked to a mobile phone for the aim of starting and concluding mobile payment transactions. The kind of card-driven payment specified by the regulation are credit card, debit card and pre-paid card. The store value account based means the mobile payment system driven by transactions through a system based account that comply only with the standard defined within the framework. The example of this account recognized in Nigeria by the regulatory framework are re-loadable store value account and pre-paid accounts(CBN, 2010).

The process of mobile money/ payment in Nigeria as required by regulation is that mobile money operators should provide a detailed payment management process that covers the entire solution delivery, from user registration management, agent recruitment, consumer protection resolution and risk management in the transactions settlement. In terms of settlement finality for mobile payment, it is leveraged on the NIBSS infrashtructure and the CBN inter-bank funds transfer system (CIFTS).

The regulation provides instant payment to the end users and settlement of the scheme providers on G T + 1 Cycle for the mobile money/payment. Finally, the Nigerian regulation on mobile money and mobile payment system is actually stringent. For instance, the regulation specified that all mobile money operators must comply with three tiered know your customer requirements, and the CBN AML document on anti-money laundering regulation is also applied to mobile payment services.

III. THEORETICAL AND EMPIRICAL REVIEW

This study adopts eclectic theoretical approach by anchoring the study on two theories. The first theory upon which the study is built is the unified theory of acceptance and use of technology (UTAUT). UTAUT is an extension of the Technology Acceptance model (TAM), originally developed by Fred Davis and Richard Bagozzi in 1989. This theory succinctly addresses various factors that affect individuals acceptance and use of

new technology. Although TAM/UTAUT is the most influential theory in information system research, the substance which makes the theory best fit in this study is the strong establishment of the theory on the two fundamental determinants of new technology and new system adoption and use. These two fundamental determinants are perceived ease of use (PEOU) and perceived usefulness(PU)(Bagozzi *et al,* 1992). The second theory adopted in this study is the Innovation Diffusion theory (IDT). This theory was developed in 1983 by Everett Rogers (Rogers,1983). Diffusion of innovation theory describes the process of innovation diffusion as the factor that commands the uncertainty reduction behavior among potential adopters and users during the introduction of technological innovations. IDT according to Rogers (1983) is made up of six fundamental principles/actors namely-innovation characteristics, individual user characteristic, adopter distribution over time, diffusion networks, innovationsness and adopters categories and individual adoption process. Essentially, it is argued that all the listed major components are build around the characteristics of the innovation itself which makes it to emerge as cardinal point of IDT. The characteristic of innovation itself is built on five basic constructs that consistently influence the adoption of new technologies; these include relative advantage, compatibility, complexity, absorbability, and trialability (Green, 2005).

Further, prior studies in various facets have used these theories in their research. For instance, in the study of mobile money acceptance by the poor citizen of India, Chairhan (2015) adopted TAM model and integrated trust into the model. The findings of the study indicate that trust and the major constructs of TAM such perceived usefulness and perceived ease of use, immensely contribute to the acceptance of mobile money by the Indian poor citizens.

Again, in Nigerian, Ayodele *et al* (2013), applied Innovation Diffusion theory in their study on the level of acceptance of mobile payment system in Nigeria. Although the study is anchored on 250 Nigerian, residence mostly in Lagos, the study proposed a revised theory or model that integrates all the fundamental constructs of technology acceptance model and that of innovations diffusion theory. They advocate that the complexity of the interface and procedures, trust in the service provider/ agents, security, privacy of valid information and financial cost remained the critical factors that affect the adoptions and success of mobile payment implementation in Nigeria.

Further, with the combination of the theories, it is strongly argued that perceived risk, educational level, relative advantage and the age of the ancient *susu* collector significantly influence the behavioural intention of Ghanians to adopt mobile money especially the *susu* saving group in Ghana (Osei-Assibey (2013). This study was anchord on both innovation diffusion theory (IDT) and the technology acceptance model. Summarily, other researches in previous study that anchored on IDT and TAM include Gu *et al* (2009), Koenig *et al* (2010), Aund *et al* (2010), Yu (2012), Pusehe *et al* (2010), Tang *et al* (2004), Rammile and Nel (2012), Witeepanich *et al* (2013), Alsoufi and Ali (2014), Talukder *et al* (2014), Ahatia Devis (2015) among others.

IV. RESEARCH METHODOLOGY
Operationalization of research constructs/variables

The latent constructs (variables) and the reflective indicators employed as measure of adoption of mobile money were adopted and modified from pervious studies highlighted in the literature section of this paper. The adoption is justified by the argument of Wu *et al* (2012) and Upadhyay & Jahanyan (2014), who maintain that adopting scales used in prior research helps to guarantee content validity. As a matter of fact, all the adopted scale items were carefully reworded purposely to suit our present study context. Meanwhile, a total of theity one (31) items representing reflective indicator and eight (8) latent constructs were adopted. Out of the eight latent constructs, four (4) items-(perceived ease of use, perceived usefulness, perceived trust and perceived financial cost) were adopted from technology adoption theory (Davis, 1989), while three (3) items (compatibility, trailability and relative advantage) that measure the adoption of new innovations were adopted from innovation diffusion theory (Rosers, 1983). Additionally, one (1) items(Aweeness) is included as control variable being that it is a critical factor in adoption or acceptance of new technology and innovation. It is adopted from Guiltinand and Donnelly (1983) to capture this dimension of construct. Whereas these constructs are operationally described briefly in this study as follows:

- Compatibility: In this study compatibility is defined as the "degree to which an innovation is perceived as being consistent with the values, past experiences and needs" of should be adopters (Robinson, 2009). An innovation that is not compatible with existing values and practices will be difficult for easy adoption.

-Complexity: This is simply described as the 'degree to which new innovation is perceived as being complicated in nature by any user or potential adopters'(Lee, 2007). A number of recent studies have found that the greater the complex of a new technology or innovation, the lower the rate adoption by end- users (Lee, 2007; Tobbin, 2011).

-Perceived trust: Trust is measured as the level of e-trust in relation to new technology and innovation and it is defined this study as the "degree of confidence customers have in an online exchange" (Ribbinket *et al*, 2004). Again, MCknight *et al,* (2002) define trust as the "subjective probability with which customers believe that a

particular transaction occurs in a manner consistent with their confident expectations". Trust is the most desirable element in e-commerce, e-banking and e-payments/transactions.

-*Trialability:* This measures the extent to which an innovation is sufficiently tested before end-users adoption. Prior studies (Agarwal and Prasad, 1997) found a positive direct influence of trialability on adoption of new innovation/ technology.

-*Relative advantage:* The "degree to which an innovation is perceived as better than the idea it suppersides by a particular group of users, measured in terms that matters to those user such as economic advantage, social prestige, convenience or satisfaction" (Robbinson, 2009).

-*Perceived financial cost:* This is described as "the extent to which a person believes that he or she has the financial resources needed to use a system" Wang *et al* (2006). The justification for this definition stems from the fact that acquisition of new technology is cost effective. The new technology has to be bought and maintained; and all these involve money from the user. Examples of financial considerations that are given to the new mobile services are the purchase of phones, subscriptions, service charges, and communications.

-*Perceived ease of use (PEOU):* From the empirical literature, prior studies (see for example Safeena *et al*, 2012; Akturan and Tezcan, 2012; Wang *et al,* 2006) have shown an existence of positive relationship between perceived ease of use and intention to adopt mobile banking. Theoretically, perceived ease of use is defined as "the degree to which a person believes that using a particular system would be free of effort" (Davis, 1993 cited in Chauhan, 2015).

-*Perceived usefulness(PU):* Davis (1993 cited in Chauhan, 2015) defines perceived usefulness as "the degree to which a person believes that using a particular system would enhance his or her performance". Yang (2009), agree that the acceptance and adoption of mobile money is mostly encouraged by the perceived speed of transactions – which is an indicator of perceived usefulness.

-*Level of Aweaness:* For Lee *et al*, (2007), awareness is operationally described as the 'degree to which a consumer is aware of electronic channels'. Awareness has to do with the consumers' knowledge, belief, information, conformation and decision making about a particular product.

Based on the description of the research variable above, we therefore hypothesize that perceived ease of use, perceived usefulness, compatibility, complexity, perceived trust, trialablity, relative advantage, perceived financial cost, have no significant positive relationship with mobile money adoption in Nigerian. Thus, we proposed the research model in Fig. 1.
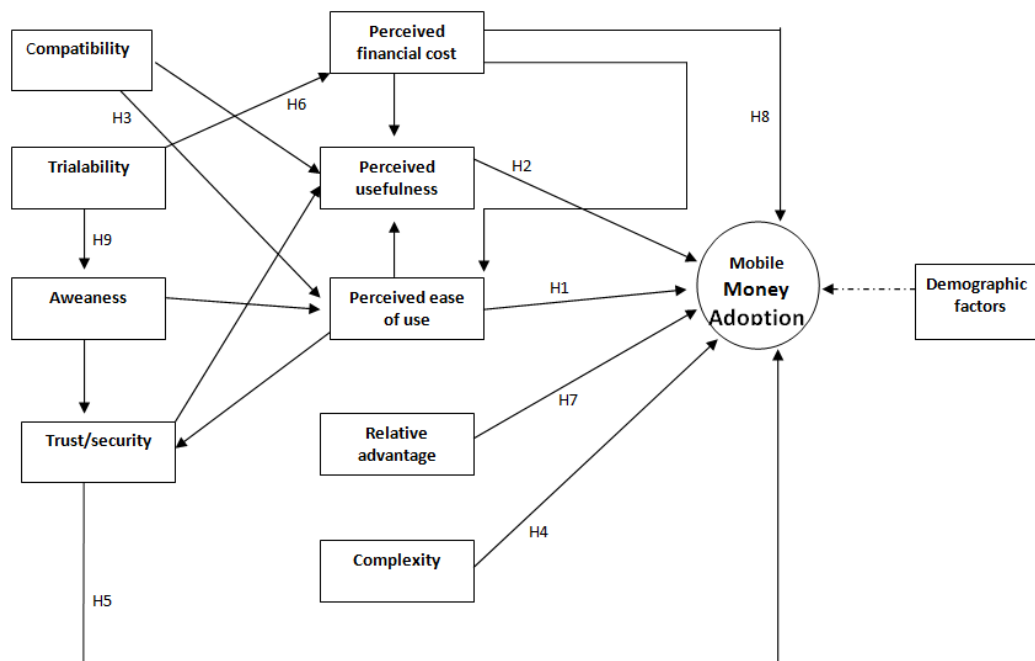

Fig: 1 Research Model.

V. DATA COLLECTION AND SAMPLE DISTRIBUTION

The proposed model was hypothesized for examination in relation to mobile money adoption in Nigerian developing economy. A structured questionnaire was basically used as an instrument of data collection. Use of questionnaire as an instrument of data is a conventional approach in survey research, no doubt. Participant were selected by mall intercept approach. Conveniently, 430 sample were recruited from Ebonyi state university main campus in Abakaliki metropolis; a cosmopolitan city in the south eastern part of

Nigeria. In this process, 386 completed surveys were collected. Out this, 42 questionnaires were eliminated because of incomplete information and outliers. On the whole, 344 valid responses eventually formed the final database used in this study. The overall valid response represents 80% of the total questionnaires distributed and far above 30% response acceptable in survey research involving questionnaire (Moser and Kalton, 1971).

Within the response rate of 80%, the gender distribution did not show an even distribution as male and female response rates are 56.70% and 38.9% respectively. The respondent age distribution shows that under 25years and under 35years were represented while over 45years and 55 years were under represented in the distribution. This was expected by the researchers because majority of Nigeria adult citizen are not usually enthusiastic about new innovation and technology due to complexity and technicalities. As can be observed, the age distribution skewed towards the young population. This is because the research was targeted at the youth who often have more potentials to adept new innovation and, technology. Again, the marital status of the respondents also cluster around single; representing 70.1% while married shows 29.9% of the sample. This result further confirms that the majority of respondents actually constitute the youth. Table 3 shows the bird eye-view of the demographic anthony of the respondents including other factors such as educational qualification and income level.

Table 3: Demographic Anatomy of respondents

Factor	Option	% count
Gender	Male	59.3
	Female	40.7
Age	<-25years	71.5
	36-45	23.0
	36-45	3.2
	46-55	2.3
	66 and above	
Marital Status	Married	30.2
	Single	69.8
Educational Qualification	FSLC	4.7
	SSCE/WAEC	60.2
	Diplom	4.7
	HND/Bsc	25.9
	MSc/MBA	3.0
	Ph.D	0.5
Income level	Less than ₦50,000	45.5
	50,000- 100,000	20.1
	50,001- 150,000	6.4
	150,001- 200,000	5.2
	200,000 and above	3.8

VI. DATA ANALYSIS AND EMPIRICAL RESULTS

Validity and Reliability

For research instrument to be valid and reliable it must prove to a reasonable extent that it adequately measures what it is surposed to measure (validity) and maintain consistency in repeated applications (reliability) (Iziogo, 2015). The reliability assessment was conducted by ascertaining the latent constructs undermentionality through factor analysis. To achieve this, thirty one reflective indicators arising from the respective latent constructs were instantaneously factor analyzed   with the application SPSS Software. The results of the scale analysis does not show high loading and as such there was no repeated assessment. The factor loading ranges within acceptable minimum threshold of 0.5 (Hair *et al*, 2010).

Additionally, due to conservativeness of Cronbach alpha, it was chosen to assess the internal consistency of reflective indicators. The Cronbach alpha ranges between 0.52 to 0.86, see for instance table 4. Cronback alpha value greater them 0.7 no doubt shows high internal consistency Iziogo (2015). Meanwhile 0.5 to 0.6 alpha value indicate satisfactoriness and acceptability. Therefore, our research instrument meet the criterion for reliability. On the other hand, we applied content validity approach in this study to validate our instrument because the constructs and the scales were adopted from pervious research and tested theories with minor modifications

Table 4: Reliability and Internal Consistency

Construct	Source	No of item	Variable	Cronbach's alpha (∝)	SV if item delected	Cronbach if item delected
Perceived of use	**Davis *et al* (1989)**	4	**PEOU 1** **PEOU 2** **PEOU 3** **PEOU 4**	0.672	8.510 7.413 7.402 9.224	0.597 0.568 0.578 0.667
Perceived usefulness	**Kim & Miousmd nov (2010)**	4	**PU 1** **PU 2** **PU 3** **PU 4**	0.702	4.816 4.663 4.155 3.914	0.702 0.596 0.57 0.721
Trialablity		3	**TR 1** **TR2** **TR 3**	0.856	6.364 6.445 6.427	0.792 0.791 0.812
Perceived Financial cost	**Laarn lin (2005)**	4	**PFC 1** **PFC 2** **PFC 3** **PFC 4**	0.602	3.117 6.224 4.127 5.361	0.456 0.521 0.450 0.602
Perceived Trust	**MCknigt *et al* (2007)**	4	**PTR 1** **PTR 2** **PTR 3** **PTR 4**	0.605	8.658 7.845 8.700 10.812	0.460 0.476 0.479 0.684
Level of Awearness	**Al somachi *et al* (200)**	3	**LOAW 1** **LOAW 2** **LOAW 3**	0.645	5.975 5.015 6.856	0.455 0.295 0.736
Compatibility	**Chena *et al* (2006)**	3	**COMPA 1** **COMPA 2** **COMPA 3**	0.696	0.670 0.665 0.727	0.663 0.477 0.664
Relative Advantage	**Robinson (2009)**	3	**RAD 1** **RAD 2** **RAD 3**	0.671	5.781 4.730 5.127	0.648 0.355 0.699

Source: Extracted from SPSS

VII.   CORRELATION AND FACTOR ANALYSIS

An exploratory factor analysis was performed on the basis of principle component. In the principle anincipal component alysis, the Kaiser Meyer Olkin (K MO) outcome is 0.862 which is conderably higher than the recommended value of 0.8 (Raza & hanif, 2013). This means that data sampling is adequately satisfactory. Additionally, Bartlett's test of sphericity is significant at 0.000. The minimum value of factor loading is 0.4 with maximum value of 0.8 which indicate that the factors are realistically significant. The high values of Cronbach coefficient alpha support high consistency and well factor loading. The rotated component matrix and the total variance tables are not presented here because of space but can be provided on request. Further, the correlation analysis performed with person correlation shows that all the latent construct have significant positive relationship except for perceived financial cost. The value of Pearson correlation (*r*) ranges from 0.383 to-0.012. See the correlation matrix in table 5.

Table 5: Correlation Matrix

		SUM PEOU	SUM PU	SUM TR	SUM PFC	SUM PTR	SUM LOAW	SUM COMPA	SUM IRAD
SUM – PEOU	Pearson Correlation Sig.2(t) N	1 000 344							
SUM-PU	PC Sig 2(t) N	.383** .000 344	1 344						
SUM –TR	Pearson Correlation Sig.2(t) N	.243** .000 344.	.268** .000 344	1 344					
SUM PFC	Pearson Correlation SIG.(2.(T) N	-.012 .829 344	-.042 -.436 344	-.040 .459 344	1 344				
SUM- PTR	Pearson Correlation Sig.2(t) N	.319** .000 344	.29.3** .00 344	.370** .000 344	.018 .743 344	1 344			
SUM LOAW	Pearson Correlation Sig.2(t) N	.297** .000 344	.221** .000 344	.228** .000 344	.028 .609 344	.325** 000.	1 344		

								344		
SUM-COMPA	Pearson Correlation Sig.2(t) N	.323** .000 344	.298** .000 344	.261 .000 344	.177 .512 344	.82 .156 344	.062 .000 344	1 . 344	344
SUM. RAD	Pearson Correlation Sig.2(t) N	.313** 0.000 344	285** .000 344	196** .000 344	.526 224 344	.421 131 344	.132 .048 344	.067 .032 344	.012 .000 344

Source: Extracted from spss.

VIII. DISCUSSION OF FINDING AND SUMMARY

Out of the eight (8) latent constructs (variables) tested in this study to determine its influence on mobile money adoption in Nigeria, seven constructs show positive significant relationship. In line with the research hypotheses, it implies that perceived ease of use (PEOU), perceived usefulness (PU) perceived trust (PT), trialability (TR) compatibility(COMPA), perceive level of awareness (LOAW), relative advantage(RAD) are the major determinant factors that influence the mobile money adoption in Nigeria as an emerging economy. Succinctly put, these factors drives the adoption or other wise of mobile money in a fragile economy like the Nigerian case. This means in concrete terms, that the higher the change in Nigerian mind set that mobile money as new technology and innovation is very easy to use an very usefully, the higher level of adoption. Again, attitudinal behaviour by Nigerian that mobile money is not compatible and risk free reduce the chances of its adoption in Nigeria. The higher the trust build around the innovation, the higher the level of adoption. This is a critical factor because it is only in Nigeria that customers recount money withdrawn from ATM machine for fear of trust. The greater the aweaness and the relative advantage of mobile money, the greater the adoption in Nigeria.

Consistent with empirical literature this present findings corroborate the previous finding of Sayid *et al* (2012), Chauhan (2015), Aron (2015), Upadhyay and Jahanyan (2014), Gu *et al* (2009), Koenig *et al* (2010), Daud *et al* (2010), Tan *et al* (2004), Witeepanich *et al* (2013), Ayodele *et al* (2013). In Nigerian context where mobile money has failed to ignite for over seven years now, with the total population of 173, 615,345 (as at last census), these factors and perhaps other factors no doubt have strong influence on mobile money adoption. For instance, mobile money operators in Nigeria namely Pagatech, GTbank, etransact and Zenith with Pagatech leading the market with 56% share have not been able to survive in the country. There are high number of registered and active phone users in Nigeria compared to other African countries, yet most these factors and regulatory framework are still cited as the an impediment to mobile money adoption.

Finally it is discovered from the results that perceived financial cost is not an influential factor that drives the adoption of mobile money adoptions in Nigerian. This finding is completely out of the expectation of the researchers since many Nigerians complain of the financial implication of acquisition of new technology & innovation.

IX. CONCLUSION

This study is primarily motivated to advance the debate on the determinant factors that influence mobile money adoption in emerging economy, bearing in mind, the poculiarity Nigerian economic characteristics. Therefore, from the research findings, it is further argued as much as can be established that perceived ease of use (PEOU), perceived usefulness, perceived trust (PTR), trialability (TR), level of awareness , (LOAW), compatibility (COMPA) and relative advantage (RAD) significantly determine the adoption of mobile money in Nigeria, whereas, perceived financial cost does not influence mobile money adoption in Nigeria. Hence the failure of mobile money growth in Nigerian after seven years of emergence is attributable to these factors.

X. LIMITATION AND RECOMMENDATION FOR FURTHER RESEARCH

This study is limited to seven constructs and within one urban city in the sample frame. Further study should incorporate regulatory factors and increase the sample size with sub-urban population and cities. Second, the study is limited to two theoretical basis, and developing economy. Further research should experiment other technology acceptance and information system theories in developed economy.

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