

Extended and customised technology acceptance model business essay

[Business](#)



CHAPTER 1: INTRODUCTION

Background to the Study:

Mobile Payment market grows every year and more and more people get used to use mobile payment services. Some advantages for consumers by using a mobile payment system include convenience, access to deals and offers, ability to exchange funds with other individuals, additional value in terms of location-free access, ubiquitous purchase possibilities, timely access to financial assets and an alternative to cash payments.

Scope of Study:

Geographical Scope – The study will be limited to Lagos Nigeria as a representative of a developing country context
Intellectual Scope – The study will be limited to identifying factors which affect the use of mobile payment. Identifying new factors/constructs and also modifying some constructs of the original UTAUT model

Significance of the Study and Contribution:

The significance of the proposed study is in measuring behavioural intention and usage of mobile payment services using UTAUT model as its conceptual foundation, and the study aim to contribute in designing a transferable model of consumer acceptance and use of mobile payment service

Definition of Mobile Payment:

Mobile payment, also referred to as mobile money, mobile money transfer, and mobile wallet generally refer to payment services operated under financial regulation and performed from or via a mobile device. Instead of

paying with cash, check, or credit cards, a consumer can use a mobile phone to pay for a wide range of services and digital or hard goods.

Research Questions:

In what way Technology Acceptance Theories can be modified in order to address the changes that mobile payment systems bring? What are the main constructs that affect the consumer acceptance of mobile payment? How can mobile payment acceptability rates be predicted? What are the recommendations to improve and enhance consumers' acceptance of mobile payment in order to shift them from traditional payment to electronic payment?

Research Aim and Objectives:

The main aim of this research study is to investigate the adoption and acceptance of mobile payment and develop a model of the most essential factors that affect consumers' acceptance. In fulfilling this aim, four objectives were formulated by the researcher, which includes: To conduct a critical review of relevant literature related to mobile payment and its acceptance. The researcher will critically review literature on the adoption and acceptance of mobile payment in Nigeria. To identify the main constructs that influence consumers' acceptance and usage of mobile payment. This objective will identify the most essential factors that affect (positively or negatively) consumers' behavioural intentions towards acceptance and use of mobile payment in Nigeria. This will be achieved by conducting in-depth structured interviews with potential mobile payment consumers. To empirically validate the research model against the

acceptance and use of mobile payment services in Nigeria. This objective will be aided by the model developed from the literature review and by the fieldwork used on the acceptance of mobile payment in Nigeria. To develop a set of recommendations on how best to encourage the adoption and acceptance of mobile payment services. This objective will be achieved by providing recommendations for all stakeholders involved in mobile payment. These recommendations will be gathered from the views and opinions of the stakeholders (banks, mobile operators) and consumers.

Research Hypotheses:

The Research Model to be empirically tested in this study will be constructed to answer the research questions raised earlier which was derived from the theories of technology acceptance. In this study, the researcher aim to measure behavioural intention to use mobile payment instead of actual use of mobile payment. Actual behaviour and intention have been found to be highly correlated (Davis, 1985; Ajzen and Fishbein, 1980). According to the UTAUT, four factors influence use of mobile payment: performance expectancy (PE), effort expectancy (EE), social influence (SI) and facilitating condition (FC). Therefore, according to Venkatesh et. al., (2003), the following hypotheses were postulated: H1: Performance expectancy (PE) has a significant influence on behavioural intention (BI)H2: Effort expectancy (EE) has a significant influence on behavioural intention (BI)H3: Social influence (SI) has a significant influence on behavioural intention (BI)H4, H5, and H6: Attitude towards using technology (ATUT), Self-efficacy, and Anxiety will not have an influence on behavioural intention (BI)H7: Facilitating conditions

(FC) have a significant influence on use behaviourH8: Behavioural intention (BI) will have a significant positive influence on system use.

Conceptual foundations:

Mobile payments services are a unique form of electronic payment. Several conceptualizations lay emphasis on the mobile device as the characteristic distinguishing mobile payment from other forms of payment. Some authors focus on cell phones (e. g., Henkel 2002), while others include all mobile communication devices (e. g., Zmijewska and Lawrence 2006). Taking a look at the function of mobile payments, all definitions refer to the transfer of monetary value. Differences can be found when it comes to the stages of the payment process that are considered to be part of the mobile payment. In the current study, the researcher propose to adopt a wide view of mobile payment services and examine all payment for goods, services, and bills authorized, initiated, or realized with a mobile device. However, since acceptance drivers in a B2B context may differ from consumer acceptance, focus is based on consumers as the users of mobile payment services. The second important term to be used in this research is consumer acceptance, which is defined as the relatively enduring cognitive and affective perceptual orientation of an individual.

CHAPTER 2: LITERATURE REVIEW OF TECHNOLOGY ACCEPTANCE MODELS

Introduction:

In this chapter, the researcher critically reviews and evaluates literatures related to the acceptance of new technology, focusing specifically on the

important factors that affect consumers' behavioural intentions for the acceptance and use of mobile payment. The chapter begins with an overview of the different technology acceptance models to identify the various factors that affect the acceptance of new technology.

An overview of Technology Acceptance Models:

Information systems provide technology to enhance organizational and individual performance (Cameron and Webster, 2005). However, new technologies cannot be effective unless they are accepted and used. The theme of users' acceptance of new technology has been well researched during the last three decades, and has provided researchers with various technology acceptance theories and models that predict and explain the power of individual behavioural intentions to the acceptance and use of new technology (Taylor and Todd, 1995a; Venkatesh and Davis, 2000; Chau and Hu, 2001; Venkatesh et al., 2003; Tetard and Collan, 2009; Lin and Chang, 2011). This research will take into consideration more widely-used technology acceptance models which have been improved subsequently and developed on each other. The models and theories are: theory of reasoned action (TRA), technology acceptance model (TAM), motivational model (MM), theory of planned behaviour (TPB), combined technology acceptance model and theory of planned behaviour (C-TAM-TPB), model of PC utilisation (MPCU), innovation diffusion theory (IDT), social cognitive theory (SCT), unified theory of acceptance and use of technology (UTAUT), technology task fit (TTF), and lazy user theory (LUT). Unified Theory of Acceptance and Use of Technology Model (UTAUT): Venkatesh et al., (2003) developed the technology acceptance model by combining eight different theories into one

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unified model of acceptance theory focusing on intentions and users' behaviours. The model contained four constructs (performance expectancy, effort expectancy, social influence and facilitating conditions) that influence individuals' behavioural intentions towards acceptance and use of new technology, and four moderators (gender, age, experience and voluntariness of use). It may be argued that the given models are widely used in technology acceptance. However, it is apparent that almost all of the models are based on the TRA model developed by Ajzen and Fishbein in 1980. For example, the TAM was based on TRA, in addition to TPB and C-TAM-TPB, plus IDT. However, Venkatesh et al., (2003) incorporated the various technology acceptance models and their extensions in a comprehensive model called the UTAUT, which depends mainly on eight different theories that have been developed based on the TRA.

Justification of the Use of the Unified Theory of Acceptance and Use of Technology (UTAUT) Model:

The Unified Theory of Acceptance and Use of Technology (UTAUT) is proposed for this study because of its advantages. TAM is only capable of predicting technology adoption success of 30% and TAM2 (TAM extension) can predict 40%. UTAUT has condensed the 32 variables found in the existing eight models (TRA, TPB, TAM, MM, C-TPB-TAM, MPCU, IDT, and SCT) into four main effect and four moderating factors. The combinations of the constructs and moderating factors have increased the predictive efficiency to 70%, a major improvement over previous TAM model rates. Having reviewed several technology acceptance theories, the UTAUT model seems to be the most appropriate conceptual framework for this research. It is

defined from eight acceptance theories together with their extensions and takes account of the most important factors that impact technology acceptance. The UTAUT theory takes into consideration the constructs that affect the acceptance of new technology with particular reference to whether this acceptance is voluntary or mandatory (Yeow et al., 2008). In order to encourage users to accept and use new technology, a variety of methods can be used. These methods may be classified as optional and compulsory. The UTAUT enable the measurement of whether the users' acceptance and usage of mobile payment is voluntary or mandatory. UTAUT takes into recognition constructs which differ between developing and developed countries. The acceptance of new technology is usually influenced by a range of factors which may vary from one community to another. In this research, the constructs that affect the acceptance of mobile payment in developed countries are not necessarily the same constructs that influence the use of mobile payment in developing countries. When comparing the model with other technology acceptance models, the UTAUT covers 70 per cent (70%) of the variance that affect the acceptance of new technology in different societies (Bandyopadhyay and Francastoro, 2007). The UTAUT is a technology acceptance model that can be implemented in different science fields (Hennington and Janz (2007). Therefore, UTAUT theory is not exclusively focused on a particular sector and it can be used in the telecom and banking sectors in order to identify the main factors that affect consumers' behavioural intentions towards the acceptance and use of mobile payment. This model has been recognised as a powerful model for the evaluation of technology acceptance. Hennington and Janz (2007)

emphasised that the UTAUT model is presently one of the most comprehensive, inclusive and powerful technology acceptance models. Bandyopadhyay and Francastoro, (2007) argued that the UTAUT model has been applied in more participative organizational cultures where people can make their own decisions in relation to technology acceptance, as this particular theory was created in a developed country context (USA). Besides, Lin and Anol (2008) and Yeow et al., (2008) emphasised that UTAUT is an inclusive model that can be used to explore the acceptance of new technology in different fields. Nevertheless, the UTAUT model was implemented in several studies to explore acceptance and usage decisions of technology in developing countries. In this regard, Bandyopadhyay and Francastoro (2007) studied the culture on user acceptance of information technology in India using the UTAUT model. The findings indicated that performance expectancy, effort expectancy and social influence were significant constructs that influenced prepayment metering system. Lin and Anol (2008) applied the UTAUT model to the phenomenon of learning online social support in Taiwan. The findings showed that all model constructs are significant except the facilitating condition construct which was insignificant. Loke (2008) studied the personal and perceptions of merchants towards the credit card payments in Malaysia. The findings demonstrated that the most constructs that played a significant role in a merchants' decision were performance expectancy and social influence constructs of the UTAUT model. Abdul-Rahman et al., (2011) demonstrated the influencing constructs for generic information system using tablet personal computer and mobile communication in Malaysia based on a modified UTAUT model. The findings

indicated that performance expectancy, effort expectancy and information quality were significant, while service quality was insignificant related to users behavioural intentions towards the acceptance and use of technology. In conclusion, UTAUT model is a usefulness technology acceptance model that can use the acceptance and usage of technologies in different developing countries fields. It is expected that the technology acceptance model will need some modifications to fit the requirements of this study and the nature of the research population. Such modification may call for adding or deleting particular factors so it can be used in the context of a developing country like Nigeria.

Unified Theory of Acceptance and Use of Technology:

The UTAUT model combines eight different theories (TRA, TAM, MM, TPB, C – TAM – TPB, MPCU, IDT and SCT) into a unified model focusing on users' behavioural intentions to accept and use new technology, as indicated previously. Venkatesh et al., (2003) explained that after the eight different models were reviewed and consolidated, seven elements were found that impact behavioural intention and usage, and these includes: Performance expectancyEffort expectancySocial influenceFacilitating conditionAttitude toward using technologyAnxietySelf-efficacy. Furthermore, four moderators (age, gender, experience and voluntariness of use) were identified, that impact major consequences (Venkatesh et al., 2003; Hennington and Janz, 2007)Ventakesh et al., (2003) examined the model and discovered that there were factors (performance expectancy, effort expectancy, and social influence) that had a significant influence on usage behaviour through the behavioural intention. Facilitating conditions contributed directly to usage

behaviour. Nevertheless, the remaining three elements (attitude towards using technology, self-efficacy and anxiety) did not have any major effect on behavioural intention or usage behaviour (Venkatesh et al., 2003; Mazman and Usluel, 2009). Venkatesh et al., (2003) justified their findings that attitude towards using technology was important only in relation to specific cognitions related to performance and effort expectancies. Consequently, attitude toward using technology impacts on intention and usage behaviour through performance and effort expectancies. Alternatively, self-efficacy and anxiety have no direct determinants as they are conceptual from effort expectancy as a perceived ease of use. Thus, Venkatesh et al., (2003) presented the Unified Theory of Acceptance and Use of Technology (UTAUT) (see Figure 1)

Figure 1:

Source: Venkatesh, V., Morris, M. G., Davis, F. D., and Davis, G. B. " User Acceptance of Information Technology: Toward a Unified View," MIS Quarterly, 27, 2003, 425-478

For a clearer understanding of the contents and features of the UTAUT model, the model's constructs and moderators will be defined as follows:

Performance Expectancy: This is the level to which an individual believes that using new technology will assist them to reach a high-level of job performance (Venkatesh and Davis, 2000; Venkatesh et al., 2003). Furthermore, Pikkarainen et al., (2004) and Yeow et al., (2008) clarified that individuals accept and use technology (mobile payment services) when they understand its usefulness and relative advantage.

Effort Expectancy: This is the ease of use for the end users of new technology (Plouffe et al., 2001; Venkatesh et al., 2003; Kolondisky et al., 2004). Social

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Influence: This is the level to which an individual perceives others' perspectives/views regarding the new technology and its suitability for use. That is, how much individuals interact with their social networks and environment to accept and use new technology systems (Venkatesh et al., 2003). Facilitating Condition: is the level to which individuals consider that organizational and technical infrastructures are applicable to support users of the new technology (Venkatesh et al., 2003) Behavioural Intention: before deciding on the acceptance and use technology systems, individuals need to have a positive intention towards new system (Venkatesh et al., 2003). Model Moderators: Venkatesh et al., (2003) identified four moderators that affect the relationship between the model constructs and users' behavioural intentions. These moderators are gender, age, experience and voluntariness of use.

Modification of the UTAUT model:

The UTAUT model was developed in the USA, a developed country, as one of the most comprehensive, inclusive and powerful technology acceptance models that can be implemented in different science fields (Hennington and Janz, 2007). To implement this model in a developing country, such as Nigeria, some modification is likely. This section reviews the UTAUT factors and considers the possibility of adding or deleting factors to build an integrated conceptual framework that identifies the major factors impacting mobile payment acceptance in Nigeria.

The UTAUT Moderators:

Having reviewed the four moderators, the experience moderator was removed from the model as this moderator was used in other contexts as a proxy for users' experience of technology. However, this does not fit Nigeria context. There has been a growth in computing skills and in the use of internet with improved IT infrastructure and a wider availability of computers and technology in Nigeria. If the experience moderator were used, it would not represent a true reflection of the users' experience as their experience is influenced by the country's educational level and IT infrastructure. Moreover, if the experience moderator were used, there would be two distinct groups which would be those before the educational system was changed and the IT infrastructure was improved, and those after those changes were implemented. Therefore, if the level of education were used as a moderator, the recent changes in education and IT infrastructure would be better reflected in resultant model. Nevertheless, Nambisan and Wang (2000), and Nafziger (2006) explained that levels of education have a major impact on technology acceptance, as highly-educated individuals are more likely to accept and use new technologies than less well-educated individuals. Furthermore, it seems that gender, age and educational level moderators belong to the individual user, thus, these three moderators are combined under one general moderator called the individual moderator. The researcher proposes to modify the original UTAUT model by replacing the independent variable " Effort Expectancy" with " Relevance". According to Thong et al., (2004), Relevance is " the degree to which something is closely connected with the subject of concern or the situation one is thinking about."

In this case, it refers to ' the degree to which one believes that the introduced technology services are necessary in the performance of mobile payment services' Studies which support the importance of this construct in other contexts include Saracevic (2004); Nicholson (2004); Kwak et al., (2002) among others.

Social Influence:

By evaluating the social influence construct, it seems that it is a part of culture influence. Thus, to study this construct more deeply, the social influence construct will be replaced by the culture construct in order to reach a comprehensive conceptual framework of mobile payment acceptance in Nigeria. In this regard, several researchers demonstrated that culture has a significant impact on the acceptance and use of advanced technologies (e. g. Slowikowski and Jaratt, 1997; Png et al., 2001; Twati and Gammack, 2006; Levy, 2007). Venkatesh et al., (2003) found that four key moderators (age, gender, experience and voluntariness of use) moderated the relationship between social influence (which has been replaced by culture) and behavioural intention. It was found that older and females were normally more aware of the opinions of others. Along with the gender and age moderators, Chanasuc and Praneetopolgrang (2008) clarified that the educational level moderated the relationship between culture and behavioural intention, on the basis that culture impacts directly on those who are considered as less-educated people. Finally, culture constructs become non-significant in voluntary contexts (Venkatesh et al., 2003).

Facilitating Conditions:

The facilitating conditions in the UTAUT model can be considered as the only construct in the model that contributes directly to the usage behaviour instead of behavioural intentions. Venkatesh et al., (2003) clarified that there was no direct influence between facilitating conditions and behavioural intentions. Moreover, facilitating conditions become non-significant in predicting behavioural intentions when both performance expectancy and effort expectancy constructs are present. Liu et al., (2005) and Friertag and Berg (2008) argued that facilitating conditions influenced behavioural intentions towards the acceptance and use of new technology, even with the presence of performance expectancy and effort expectancy. Ventakesh (1999) found that facilitating conditions and external control served as anchors that users employ to inform perceived ease of use about information technology. Support as a facilitating condition and external control were strong determinants of perceived ease of use. Recently, Ngai et al., (2007) extended the TAM to include technical support as an external variable in explaining WebCT. To this end, the researcher modifies facilitating condition and replaced it with technical support.

Adopted Unified Theory of Acceptance & Use of Technology (UTAUT) Model

To identify the different constructs that affect technology acceptance and to understand what affects the acceptance and use of mobile payment, some slight alteration on the original UTAUT model is necessary. Bandyopadhyay and Fraccastoro (2007) showed that social influence can be considered as part of the culture. Therefore, social influence as the UTAUT model will be

replaced by the culture construct, by measuring the influence of the model moderators (gender, age, education level, and voluntariness of use) on the relationship between the culture and consumers' behavioural intentions. Furthermore, the facilitating conditions construct influences the behavioural intention directly. Finally, a slight change has been undertaken with the model moderators, where the experience moderator will be replaced with educational level moderator. Moreover, the first three moderators (gender, age and education level) will be grouped into one moderator named the individual moderator. The fourth moderator variable (voluntariness of use) will be replaced with awareness in the modified UTAUT model. Voluntariness has been reported as a non-predictor of future adoption. Awareness is defined as " the degree to which an individual knows about the existence of something, in this case a new technology or service offered using such a technology." Some people may not know that such a technology exists, for if they knew they would make up their minds either to use it or not to use it. Studies, Fortine (2005); Heinrichs et al., (2007); Nicholson (2004); Kwak et al., (2002), have shown that awareness is an important determinant of acceptance and use. As a result, this variable will be considered appropriate for inclusion in the model.

Reviewing the UTAUT in-direct constructs:

According to Venkatesh et al., (2003), the attitude towards the use of technology, self-efficacy and anxiety were removed from the original UTAUT model as they do not have a significant influence on behavioural intention and usage behaviour. Martinsons et al., (2009) explained that the constructs which may not be considered as significant in some societies may be in

others. Therefore, the three constructs will be added to the research model, and their impact on consumers behavioural intention towards the acceptance and use of mobile payment will be examined. The three previous constructs (attitude towards using technology, self-efficacy and anxiety) have a common factor, since all of them are related to computer use. Furthermore, the acceptance and use of mobile payment requires good computer knowledge as a prerequisite. These three constructs will be grouped into one major construct named " consumers attitude towards computers"

Additional Construct for the UTAUT model:

Another important construct (an independent variable) in the context of this study needs to be added to the original UTAUT model, i. e. trust.

Trust:

Trust in general is the individual's beliefs about a person or organization's reliability, ability, truth and strength (Eisenstadt, 1995; Castelfranchi and Falcone, 2000). Gefen (2004) classified it as specific beliefs which deal with the ability, integrity, and benevolence of the trustee and general beliefs, the general ideas about the trustee that can be trusted, and specific and general beliefs. Humphries and Wilding (2004) explained that trust is the essential ingredient that maintains long term relationships between individuals and business. Moreover, Kivijarvi et al., (2007) and Al-Sajjan and Dennis (2010) clarified that lack of trust is a significant barrier to consumer acceptance of mobile payment services, as consumers want to ensure that they use a secure system, Furthermore, consumer trust is a major construct that

impacts on consumer attitudes and behavioural intention to using electronic services. (Cai et al., 2008). Trust is considered a major challenge in mobile payment as it has a strong and significant impact on consumer behavioural intentions towards the acceptance and use of mobile payment (Mukherjee and Nath, 2003; Nor and Pearson, 2007). Lee et al., (2007) suggested that trust is a vital issue for mobile payment transactions. Consumers identified internet privacy and security as two constructs related to trust (Yousafzai et al., 2003; Kim and Prabhakar, 2004). However, privacy and security are fundamental factors that affect trust in the internet and all internet business services. Nevertheless, to implement privacy and security in mobile payment, banks and mobile telecoms operators need to provide their customers with assurances that no third party can access their account information without authorization (Sohail and Shanmugham, 2003). A high level of internet security is important so that consumers can trust mobile payment technology as this will facilitate them to complete their transactions through secure channels which provide them with the necessary level of privacy and confidentiality. Yousafzai et al., (2009) identified that trust is one of the fundamental constructs that impacts the acceptance and use of mobile payment. It may be perceived that the main reason for failure in the acceptance of any new technology accrues to a neglect of trust. In this study, mobile payment is not a new information system that consumers have to deal with, but it is also a new marketing channel provided by banks and mobile operators for their customers. Therefore, trust which must be granted by customers is not only trust in the new system (mobile payment) but also towards the new marketing channel. However, the term trust has been

widely studied in different areas of research such as sociology, management, banking and marketing, as it is an important factor that various business transactions need for successful business results (Lee, 1998; Yousafzai et al., 2009; Dimitriadis et al., 2011). Corritore et al., (2003) noted that when users deal with online services, their educational level moderates the relationship between trust and behavioural intention. In addition, Kolsaker and Payne (2002) as well as Siegrist et al., (2005) explained that gender and age play an important role in technology trust and acceptance. Therefore, the researcher proposes to measure the impact of the three individual moderators (gender, age and educational level) on the relationship between trust and behavioural intention towards the acceptance and use of mobile payment. It is clear that trust has a significant influence on behavioural intention towards usage behaviour. Therefore, to acquire a valid and exact research conceptual framework, trust will be added to the research model, and the influence of trust towards behavioural intention will be measured by taking into consideration the influence of individual moderators (gender, age, and educational level). The researcher propose to introduce an additional construct (a dependent variable) called " Expected Benefits" to the model. Expected Benefits is a phrase synonymous with perceived usefulness found in Davis et al., (1989, p. 985), where it is defined as " the degree to which a person believes that using a particular system would enhance his/her job performance". This variable is an additional predictor of future usage of mobile payment services. The rationale for this is that in the model by Davis et al., (1989), the construct of expected benefits was one of the key identified factors. This construct will be introduced in the research model as

a dependent variable using synonymous words of those used in TAM for 'perceived usefulness'. To fulfil the aim of this study, some alterations to the UTAUT model were necessary, as the research will focus on the acceptance of mobile payment in a developing country like Nigeria. Figure 2 outlines the modification on the original UTAUT model. Performance Expectancy

Relevance

Expected Benefits

Behavioural Intention Use Behaviour

Culture

Technical Support

Consumers' attitude towards technology

Trust

Individual Moderators

Awareness

Gender Age

Education

nFigure 2: The modified UTAUT model which represents the Tentative Research Model proposed to be used for this study

Research Conceptual Framework:

It is argued that the UTAUT is more predictive than any other individual models (Yeow et al., 2008). This is because the model synthesises eight different theories and their extensions into one unified theory. Furthermore,

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the UTAUT theory includes most of the factors that influence information technology intention and usage behaviour (Hennington and Janz, 2007). The model was developed within the context of a developed country and does not consider the dynamics within developing countries, such as Africa. According to the literature and for the purpose of this study, it is recognised that there are some significant elements that are not covered in the original UTAUT model (or the other models on which it is built), which may affect mobile payment acceptance in developing countries such as Nigeria. Consequently, these elements (culture, trust, and attitude towards computer, awareness, relevance, education, and technical support) may be of limited impact in developed countries, but have major impact in developing countries, such as Nigeria.

CHAPTER 3: RESEARCH APPROACH

This chapter presents a detailed justification of the research approach to be used to answer the research questions and achieve the aim and objectives outlined in chapter one. The chapter propose to begin with an overview of social research design which includes discussion of the research paradigm as the theoretical research approach, discussion of the research methodology and discussion of the methods adopted in this research for data collection. The chapter propose to outline the sampling techniques and analysis techniques, and also illustrate the research validity, reliability, ethical consideration and generalizability of the study.

Research Design:

Research is defined as an in-depth study of a particular issue or phenomenon which the researcher investigates to solve problems related to that issue/phenomenon (Marshall, 1997; Brewerton and Millward, 2001; Wilkinson and Birmingham, 2003; Creswell, 2007; Bryman and Bell, 2007). In the social sciences, various researchers present the research overview – the theoretical and practical approaches in different ways. The differences in presentation can be clearly identified between the models of Sarantakos (1998); Crotty (2005) and Saunders et al., (2007). These authors agree that social research can be thought of in terms of the theoretical and practical approaches. However, the terminology adopted varies between. For instance, they use different terminology which can be confusing for other researchers.

The Research Methodology:

Crotty (2005: 3) identified the research methodology research process as: the strategy, plan of action, process or design lying behind the choice and use of particular methods and linking the choice and use of methods to the desired outcomes. Furthermore, Crotty (2005) made a clarification of research methodology as a strategy built on it, the data collection methods, and linking between the use of research methods and research outcomes. In addition, Crotty (2005) explained that there are different kinds of research methodology, and researchers should select the most suitable for their research topic.

The research methods for this study:

From research on technology acceptance perspective, technology acceptance has a dominant theoretical urge which is positivist in nature. The current research aim is to design a predictive viable model of behaviour intentions of users of technology services (in this case – mobile payment). This objective requires the means of a structured, well-defined framework, and definite measurements that could establish relationships between variables, such that inferences could be made from the research study sample to a larger population. Most of these qualities can be addressed by quantitative research methods (Johnson et al., 2007). The stimulus of this study is to test hypotheses which relates to the proposed conceptual framework model as well as different hypothesized relationships previously accepted in technology acceptance context. The conceptual drive of this research is deductive in nature. The research proposes to follow a confirmatory strategy of research that needs empirical analysis (a way of proving or disproving previously assumed hypotheses related to mobile payment acceptance). Figure 3 shows the eleven main steps in a quantitative research process. To answer the research question, this study aim to follow the path in the order in which they appear as shown below. However, the steps at times might overlap during the course of the research.

1. Theory
2. Hypothesis
3. Research Design
4. Devise Measures of Concepts
5. Select Research Site/s
6. Select Research Subjects
7. Administer Questionnaires – Collect Data
8. Process Data
9. Analyse Data
10. Findings & Conclusions
11. Write up Findings & Conclusions

Figure 3: Process of Quantitative Research as outlined by Bryman & Bell (2007).

Research Designs:

The major reason of this research is in testing the hypotheses which could explain the variance in the dependent variables. Such analyses fit a correlation study design as described herein.

Correlation Designs:

Correlational design measures two or more variables with the eventuality of measuring the dependent variables. It does not manipulate one or more independent variables. The major premise of this research was that if a statistical significant relationship was in existence between the independent and the dependent variables, there would be the possibility of predicting the dependent variable using information available in the other variable. Within quantitative methods, the investigation used correlation research design (see Figure 4) to determine if there was an existence of some relationship between independent constructs and the dependent constructs of behaviour intention to use mobile payment. Study

Designs Descriptive*Correlational Experimental*Surveys Longitudinal

Studies*Cross-Section Survey Case Control Surveys Figure 4: Illustration of the Research Designs according to Mugenda (2008, p. 65) In this kind of scenario, the research study propose to apply reliability coefficients, multiple correlation coefficients, generalized linear regression model coefficients; and path model coefficients for different study assessments of the collected data.

Sample Participants:

The researcher proposes to use college students (say n= 350) who use mobile phones in Lagos, Nigeria as participants in the current study. In

multivariate research, the sample size should be several times (preferably 10 times or more) as large as the number of variables in the study (Hair et al. 2006). Sample sizes larger than 30 & less than 500 are appropriate for most research (Hair et al. 2006). The target group will be selected by purposive sampling. In this method, sample elements are selected because they are believed to be representatives of the population of interest and are expected to serve the research purpose of this study (Churchill, 1991). The researcher aims to choose those students that are using mobile phones regularly. The questionnaire to be used for data collection will contain scales to measure the various constructs depicted in the research model.

Data Collection Method:

Quantitative method – Cross-sectional survey & structured observations to gather data

Cross-sectional survey: The study proposes to use a survey approach to collect data that could be a representative of the real phenomena in the population from which the study sample will be drawn. The study will focus on the link between end-users' behaviour intentions to use mobile payment services. In IS/IT evaluation studies, cross-sectional survey methods are not new because they have been used by several authors, Gefen et al., (2002), Chau and Hu (2001), Venkatesh and Davis (2000) and Venkatesh and Morris (2000). A cross-sectional survey design will be utilized to gather quantitative data to assess the relationships between the study variables. A cross-sectional study/research involves data collection that covers a one-off time period. Data collection of individual observations can occur at one point in time or may be over a period of days, weeks or months. In the case of the current study, the data collection aim to be for a

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period of three months. According to Mugenda (2008), Mugenda and Mugenda (2003), this sort of survey helps to establish whether significant associations among variables exist. The additional value of this type of survey is that one can generate testable hypotheses, which the current study aims to do. Cross-sectional designs have three distinctive features: there is no time dimension, only differences between groups are measured rather than changes over time; there is reliance on existing differences rather than change following any intervention and there is no allowance for differences to emerge over time; and grouping individuals in the sample is based on existing differences or according to a category or the independent variable to which they happened to belong rather than random allocation. The researcher was aware of the limitations of this type of investigation, but the research timeframe might not permit the use of a longitudinal study. When data is collected at more than one point in time and then later on, the study is considered longitudinal (Crestwell, 2003). Longitudinal studies are feasible when there is need to describe the pattern and direction of change and stability (De Vaus, 2001).

Data Analysis:

Correlation designs will be used to identify associations between variables. PLS analysis will be performed with PLS graph software to generate factor loading and co-variance matrix based on Structural Equation Modeling (SEM) (Al-Ghatani, 2001; Hu, 2005; Venkatesh et al., 2003) Stata programme will be used to determine the internal reliability/consistency of the constructs (i. e Cronbach's Alpha), to perform univariate analysis on demographic data & to obtain the statistical reliability/consistency of the construct indicators. SPSS

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will be used to generate hierarchical regression model results, a technique which is appropriate for modelling the dependence of a continuous variable on fixed factors and covariates together with interactions as earlier used by Venkatesh et al., (2003). The researcher will use regression analysis to check the influence of the independent variables on the dependent variable. To test the research hypotheses, the researcher propose to run a path analysis based on a series of regressions using SPSS software

Proposed Time table

Stages of the Research Process

Year

Stage 1 MPhil Meeting MPhil research supervisor and Director of Studies, defining the research topic and stating the research questions (3-4 weeks).
 Outline of aims and objectives relying on the relevant literature (3-4 weeks)
 Carrying out literature review (8-12 weeks)
 Data collection and analysis (8-10 weeks)
 Draft of Ph. D. proposal completed (4-8 weeks)
 Final revision and submission of Ph. D. proposal (2-4 weeks)
 1st year Stage 2 Ph. D. Meeting Ph. D. supervisor (if different from MPhil supervisor)
 2nd year Designing methodology framework (further development and expansion)
 2nd year Data collection and data analysis (further development and expansion)
 2nd year Improvement and extension of literature review
 2nd year The analysis continued
 3rd year Draft of the Ph. D. research completed, systemisation of references for final Ph. D. research
 3rd year Final revision of draft of Ph. D. research work
 3rd year Submission of Ph. D. research work
 3rd year While it seems obvious that there is a well laid down steps of completing this research work, the implementation of this plan will be based on the <https://assignbuster.com/extended-and-customised-technology-acceptance-model-business-essay/>

approval of the research supervisor. Also, because these events are not mutually exclusive or interdependent, two activities can take place at the same time.

CONCLUSION

This Ph. D. research proposal is a first stage in journey leading to a full-fledge study on Consumer acceptance and adoption of mobile payment services in Nigeria: An extended and customised Technology Acceptance Model. It is admitted by the researcher that this Ph. D. research proposal cannot be compared with the main Ph. D. research work in the aspects of depth, length and quality, and it is subject to further restructuring as deemed necessary by the research supervisor, but the researcher feels very confident that the final outcome of this research will meet and exceed the required standard and contribute significantly to the body of knowledge in this field and most importantly help the researcher to develop his career in management research and gain more insight into his area of consulting profession – as a management consultant.