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# An investigation of the determinants of user acceptance of Information technology in a West African nation: the case of Nigeria

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# An investigation of the determinants of user acceptance of Information technology in a West African nation: the case of Nigeria

## **Abstract**

In today's hypercompetitive business environments hardly anyone questions the important role that information technology plays. The conventional wisdom is that IT is necessary for business survival and that careful deployment and management of IT resources and capabilities leads to enhance value for the business (Ying and Ram, 2004). Despite this recognition of information technology as a key enabler of organisational strategy (Preston and Karahanna, 2004), and despite recent investment in IT in Nigerian economy (Ajayi, 2003) an increasing number of organisations in this economy have found themselves unable to apply IT effectively (Modum, 1983). For corporate IT to be meaningful to knowledge workers it must recognise there exist key factors determining user acceptance of IT applications. A lack of such recognition often results in an underutilisation or simply failure of use IT by the knowledge workers (Ditsa, 2003; Oyesanya, 2005). To address key factors determining IT acceptance by knowledge staff in this economy we use social factors, habits and facilitating condition variables from Triandis' model (1979) to extend the Technology Acceptance Model (Davis, 1993). The model hypothesises that behaviour positively relates to habits, facilitating conditions and social factors. Although this study is on going, it is a significant contribution to management practice and academic research. The proposed model redresses the limitations of the extant research model by accounting for intrinsic motivation and other social-cultural factors relevant to users' IT acceptance and usage.

## **Keywords**

Investigation, Determinants, User, Acceptance, Information, Technology, West, African, Nation, case, Nigeria

## **Disciplines**

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## **An Investigation of the Determinants of User Acceptance of Information Technology in a West African Nation: The Case of Nigeria**

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### **Abstract**

*In today's hypercompetitive business environments hardly anyone questions the important role that information technology plays. The conventional wisdom is that IT is necessary for business survival and that careful deployment and management of IT resources and capabilities leads to enhance value for the business (Ying and Ram, 2004). Despite this recognition of information technology as a key enabler of organisational strategy (Preston and Karahanna, 2004), and despite recent investment in IT in Nigerian economy (Ajayi, 2003) an increasing number of organisations in this economy have found themselves unable to apply IT effectively (Modum, 1983). For corporate IT to be meaningful to knowledge workers it must recognise there exist key factors determining user acceptance of IT applications. A lack of such recognition often results in an underutilisation or simply failure of use IT by the knowledge workers (Ditsa, 2003; Oyesanya, 2005). To address key factors determining IT acceptance by knowledge staff in this economy we use social factors, habits and facilitating condition variables from Triandis' model (1979) to extend the Technology Acceptance Model (Davis, 1993). The model hypothesises that behaviour positively relates to habits, facilitating conditions and social factors. Although this study is on going, it is a significant contribution to management practice and academic research. The proposed model redresses the limitations of the extant research model by accounting for intrinsic motivation and other social-cultural factors relevant to users' IT acceptance and usage.*

### **Key words:**

IT, Nigeria, Acceptance, Knowledge workers, Theoretical foundation, Social-cultural factors

## **INTRODUCTION**

In today's hypercompetitive business environments hardly anyone questions the important role that information technology plays. The conventional wisdom is that IT is necessary for business survival and that careful deployment and management of IT resources and capabilities leads to enhance value for the business (Ying and Ram, 2004). Despite this recognition of IT as a key enabler of organisational strategy (Ajayi, 2003; Preston and Karahanna, 2004), and despite the Federal Government of Nigeria recent investment in IT and commitment to IT diffusion for a meaningful and sustainable direction via the National IT Policy (Ajayi, 2003; Oyesanya, 2005), an increasing number of organisations in Nigeria are unable to apply IT effectively (Modum, 1983). Effectiveness of IT is the degree to which the business goals, for which the IT was deployed, are actually achieved (Munshi, 1991). "The impact of this poor understanding is increasing being felt by the public, both in terms of poor services and inadequate data for projections to accommodate the storms of changing times"(Modum, 1983, p.30). For corporate IT to be meaningful to the knowledge staff in this economy it must recognise there exists a set of key factors determining user acceptance of IT applications. A lack of such recognition often results in an underutilisation of IT by the knowledge workers (Ditsa, 2003; Oyesanya, 2005). Apparently, the underutilisation of IT or simply failure of use of IT in organisations has been linked to social, cultural, organisational and political factors (McBride, 1997; Ajayi, 2003; Arnort et al. 2005; Ikart, 2005c) yet no study has examined or investigated the actual use of IT in Nigeria by their knowledge workers and factors' enabling such use. Apparently, existing studies on IT acceptance issues have been in organisations in Western industrialised countries and emerging economies of South East Asia but little/or none in organisations in a developing nation such as Nigeria. Therefore, given this gap, this study aims to investigate and examine the cultural, social, organisational and political critical success factors that might influence the behaviour of knowledge workers in Nigeria to accept IT tools.

The Technology Acceptance Model (TAM) (Davis, 1986) and Triandis' framework (1979) are a few of the importance theories useful in predicting human behaviour (Venkatesh et al, 2003). TAM proposes how users come to accept and use a technology, and suggests that when a person is using a new technology, a number of factors such as the perceived usefulness, perceived ease of use, attitude towards using and behaviour intentions influence their decision about how to and when he/she will use it. Also, Triandis' framework, a theory from social psychology is able to address explicitly the social, cultural, individual and organisational factors that influence the behaviour. This study uses TAM and Triandis' framework as the theoretical foundation. The study employs a research model derived from TAM and Triandis' framework to shed more light on the effect of social-cultural factors on usage' behaviours via beliefs and perceptions.

The potential contribution of this paper is the research model and the theoretical foundation, which provides a future direction for better understanding of the choices of knowledge workers in using IT applications. The research model and associate hypotheses will assist IS developers to understand the core information processing requirements for top officers' tasks for which they are building an IT in order to implement appropriate system functionalities to support those tasks. Theoretically, the framework and research model will assist researchers to further explain human behaviour towards IT acceptance. Further, the model can be applied in other social science research including E-commerce, Internet banking and marketing areas. Significantly, the proposed model redresses the limitations of the extant research model by accounting for intrinsic motivation and social-cultural factors relevant to influencing users' behaviour towards IT acceptance

The remainder of this paper is organised as follows; first, we present the research problem and research questions. Second, we present the theoretical background for the study. Third, we present research model followed by research hypotheses and operationalisation of construct variables. Next, we present research methodology. Finally, we present the conclusions and future direction.

## RESEARCH QUESTIONS

Lucas (1975) encouraged the measurement of IS usage because if an IS system is not used it is not considered successful. Also, Trice and Treacy (1988) noted that system use is a necessary condition through which information system can affect performance. Fuerst and Cheney (1982) further reinforced that unless IS are used they will have no benefit to organisations implementing them. In the review of Bruwer (1984), it also pointed out that the most attractive indicator of IS success in an organisation from a measurement standpoint is its usage. This study seeks to investigate and examine the social, cultural and organisational and political critical success factors determining the acceptance of IT applications by knowledge workers in Nigeria. The study investigates two research questions:

1. What are the social, cultural, organisational and political critical success factors that might propel Nigerian knowledge workers to accept IT applications?
2. What are the relative importances of the factors in shaping IT adoption by the Nigerian knowledge workers?

To provide answer to the research questions, we employed a research model and derived the hypotheses embedded in the model from TAM (Davis, 1993) and Triandis' framework (1979). The theoretical background is presented in the next section.

## THEORETICAL BACKGROUND

Trice and Treacy (1988) asserted that as a behaviour whose determinants are not well understood in IS research, system use can best be explained by referring to an appropriate reference theory. This assertion has guided several researchers (e.g., Mao, 2002; Ditsa, 2003). Pursuing this assertion, this study employs TAM and Triandis's framework as a theoretical foundation. The paper uses TAM as the basis and extends it with such variables – *habits*, *social factors* and *facilitating conditions* from Triandis' framework (1979) to derive the research model to investigate and examine the social, cultural and organisational critical success factors that might explain the behaviour of knowledge staff towards accepting IT tools.

## The Technology Acceptance Model

The Technology Acceptance Model (TAM) (Davis, 1989) is an intention-based model derived from the Theory of Reasoned Action (TRA) (Fishbein and Ajzen, 1975) of social psychology. Davis (1986) developed TAM to explain the effect of user perception of system characteristics on the user acceptance of computer. The objective of TAM is “to provide an explanation of the determinants of computer acceptance that is capable of explaining the behaviour of users across a broad range of end-user computing and user populations while concurrently being parsimonious and theoretically justified” (Davis et al. 1989, p. 985). Two particular belief constructs, PU and PEOU are centrally important in TAM for predicting information users’ acceptance behaviours. According to TRA external stimuli influencing a person’s attitude towards the behaviour indirectly via BI by influencing his/her salient beliefs about the consequences of performing the behaviour (Fishbein and Ajzen, 1975, p.396). TAM uses TRA as a theoretical basis to specify causal chain linkage between two key sets of constructs: (1) PU and PEOU and (2) ATU, BI and actual system usage (A) (Malhotra and Galletta, 1999). PU is defined as “the degree to which individual believes that using a particular systems will enhance his or her job performance (Davis, 1993, p. 477). PEOU is defined as “the degree to which individual believes that using a particular system would be free of physical and mental effort” (Davis, 1993, p. 477). The aim of TAM, therefore, is provide a basis for tracing the impact of external factors on internal beliefs and attitudes. TAM was developed in an attempt to achieve these aims by identifying a number of fundamental variables that deal with cognitive and affective determinants of computer acceptance (Gahtani, 2001). In other words, TAM assumes that the decision to use a particular computer technology is based upon one’s cognitive response (PU and PEOU) to using the technology, which in turn affects one’s affective response (attitude) toward the technology. As a result the affective response drives the behavioural response about whether to use the technology. Davis et al. (1989) note the arrows in TAM in Figure 1 below to indicate the probable causality.

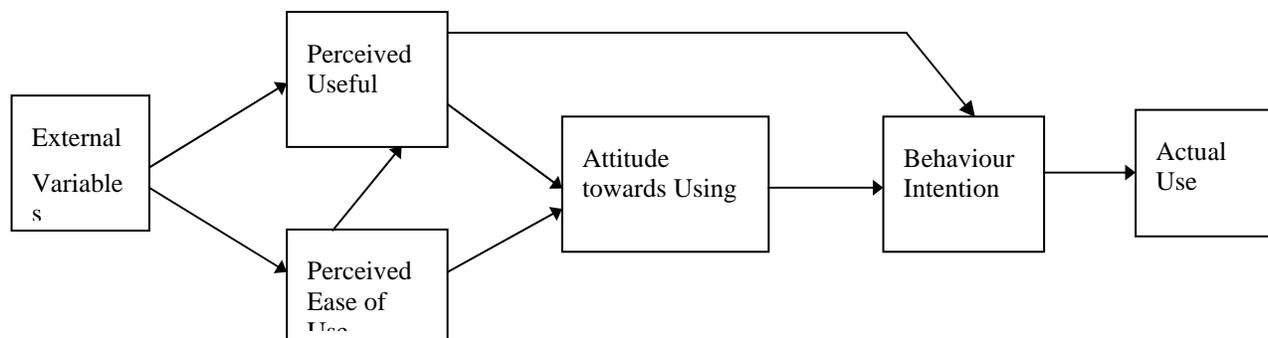


Figure 1 Technology Acceptance Model

TAM uses multiple-item scales to operationalise ATU, PU and PEOU in order to measure these constructs more reliably than would be possible with single-item scales. The Cronbach alpha reliability of TAM scales has been found to exceed 0.9 across numerous studies (e.g., Davis, 1993; Davis and Venkatesh, 1996). In addition, TAM item scales exhibit a high degree of discriminant, convergent and nomological validity (e.g., Davis and Venkatesh, 1996). The importance of these psychometric properties and the high proportion of variance in ATU to actual system use explained by PU and PEOU have led to confidence in TAM for studying IT adoption (Davis, 1993; Davis and Venkatesh, 1996). Since its original development, TAM has been the focus of considerable academic attention (e.g., Venkatesh et al, 2003; Money and Turner, 2004; Zakour, 2004). A review of scholarly research on IS acceptance and usage suggests that TAM has emerged as one of the most influential models in this stream of research (Davis 1989; Zakour, 2004). TAM with its original emphasis on system design characteristics represents an essential theoretical contribution in understanding IS usage and acceptance behaviours (Davis et al, 1989; Zakour, 2004). TAM has been replicated and tested extensively to provide empirical evidence on the relationship that exists between PU, PEOU and behaviour (e.g., Davis et al, 1989; Adams et al, 1992). The sum of these studies has confirmed the validity and reliability of Davis’ instrument, and to support its use with different populations of users and different software choices (Bagozzi et al, 1992). Although TAM has been widely tested in North America and other parts of the world including Switzerland, Japan (e.g., Straub et al, 1997) and in Western Europe (e.g., Gahtani, 2001). There exist a pressing need to understand whether TAM applies to other cultures, given the rapid globalization of business

and systems (Straub et al, 1997). The study is therefore an effort to respond to and satisfy this necessity by testing Davis (1993) instrument in a West Africa nation and more specifically Nigeria.

On the contrary, TAM assumes that when someone forms an intention to act, that they will be free to act without limitation. However, in the real world, there will be many constraints such as limited ability, time constraints, environmental or organisational limits and subconscious habits, which will limit individual freedom to act (Bagazzi et al, 1992). TAM with its original emphasis on the system design characteristics does not account for social norms, subconscious habits and facilitating conditions of the organisational environment in the adoption and utilisation of new IT (Davis, 1993). Furthermore, most of the existing studies on TAM were conducted in North American countries (e.g., Davis 1986; Davis et al, 1989; Vijayasarathy, 2002). When TAM is tested in other countries such as Switzerland (e.g., Straub et al, 1997) and Japan (e.g., Straub et al, 1997) the results vary on TAM's predictive power. Culture, social norms, habits and facilitating conditions have been suggested to play an essential role in explaining different patterns in individual IS adoption (Straub et al, 1997; Zakour, 2004). Moreover, the role of external variables vis-à-vis TAM has not been well explored. According to Davis (1993) "future research [to] consider the role of additional [external variables] within TAM" (p. 483).

The present study employs TAM as the basis and extends it with such variables as social factors, habits and facilitating conditions from Triandis' framework to form the theoretical foundation and research model that can explain the behaviour of Nigerian knowledge workers towards accepting IT applications. The next subsection presents an overview of a subset of Triandis' framework relevant for the present study.

### **Triandis' Theoretical Framework**

Triandis (1979) presents a theoretical framework with central themes which focus on the relationships of values, attitude, and other acquired behavioural dispositions to action or behaviour. The framework pulls together the relationship involving these concepts. The variables used from Triandis' framework in this paper are: *Social factor*, *Habits* and *Facilitating conditions*. This paper examines this subset of Triandis' framework only. For a thorough discussion of the model and its 34 hypotheses, the reader should refer to Triandis (1979) in *Nebraska Symposium on motivation: beliefs, attitudes and values*.

**Habits:** Triandis defines habits as "situation-behaviour sequences that are or have become automatic such that they occur without self-instruction" (p. 204). Habits are closely linked to an individual's past experience and ability to perform a given act. Triandis' model suggests that in addition to intention habitual nature of a behaviour will have a significant influence on individual response to a given situation. Further, he argued that habits are more important than intention for many behaviours.

**Facilitating conditions:** He defines facilitating conditions as "objective factors which are out there in the environment such that several judges or observers can agree make an act easy to do" (p. 205). *Acts* he says are socially defined patterns of muscle movements. Triandis states that behaviour cannot occur if the objective conditions of the environment prevent it.

**Social factors:** Triandis says that personality internalises the cultural way of perceiving the social environment, called the subjective culture of the group. The subjective culture consists of: *norms* (self-instruction to do what is perceived to be appropriate by members of the culture in certain situations; *value* (the tendencies to prefer a state of affairs over others; *roles* (appropriate behaviour by a person holding an office in a group) and, *social situation* (a behaviour setting where more than one person is present). The internalisation of a cultural Triandis says forms the social factors that influence the intention to behave.

Triandis' framework is recognised in social psychology as an important model in studying human behaviour. Although the model is very complex and less often used in the IS research domain, findings from previous IT studies (e.g., Bergeron et al, 1995; Ditsa, 2003) based on Triandis' framework demonstrate the importance of the model in understanding people reaction to IT including. Further, the sum of this study has confirmed the validity and reliability of Triandis' framework variables and to support it use in explaining individual behaviour towards computer adoption (Ditsa, 2003). We present the research model in the next section.

## RESEARCH MODEL

The research model (Figure 2) hypothesises that the behaviour positively relates to habits, facilitating conditions and social factors by means of PU, PEOU and ATU. In other words, IT use is predicted by individual's attitude towards the behaviour. Attitude toward the behaviour is determined by two specific beliefs: that is, the PU and PEOU of IT. Both the PU and PEOU are in turn determined by habits, facilitating conditions of IT and social factors. Hence, utilisation will be defined as an active use of the system (Trice and Treacy, 1988). Similar to Davis (1993) behaviour intention is not included in the research model. Moreover, Fishbein (1979) acknowledges that in many situations human intentions may not necessarily lead to behaviours. According to him a person's intention "to lose weight, to diet, to exercise, to quit smoking or quit drinking" are mere behavioural categories (p.71).

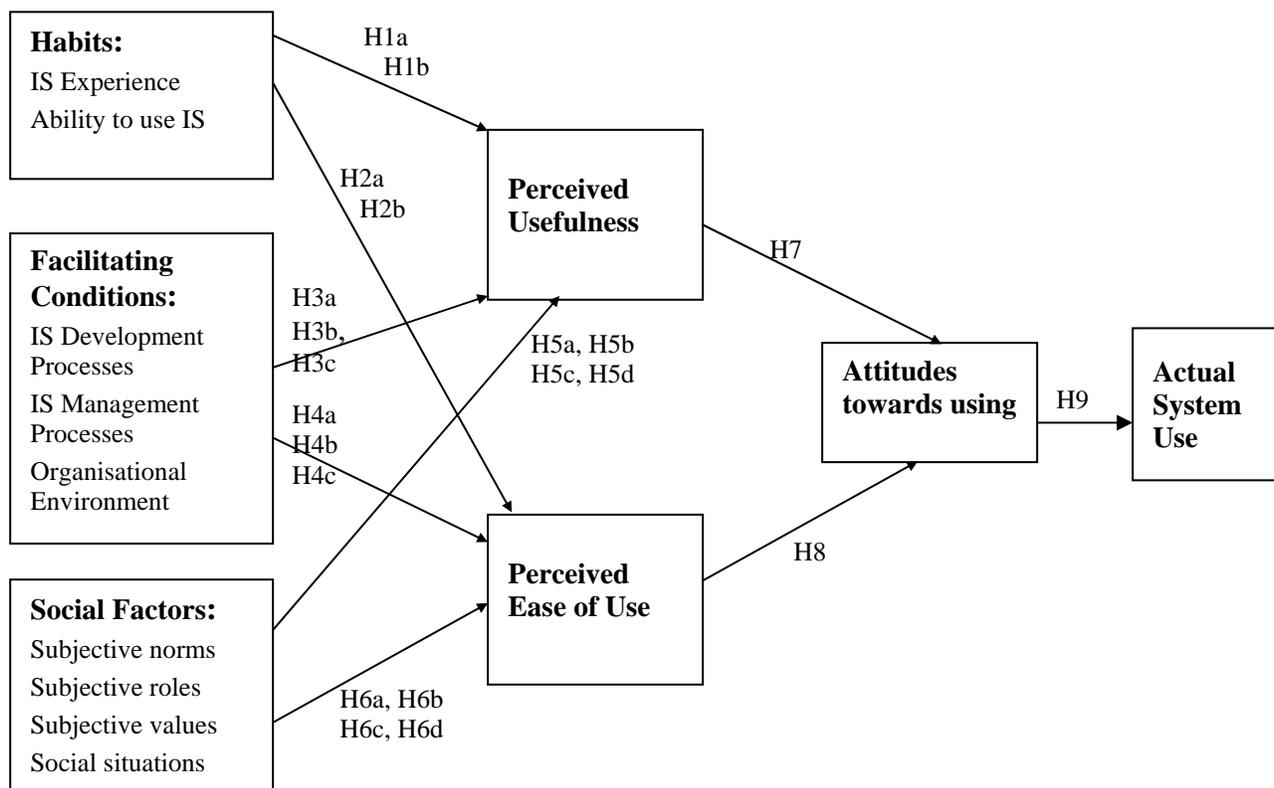


Figure 2: The Research Model

## HYPOTHESES AND OPERATIONALISATION OF CONSTRUCTS VARIABLES

As far as possible all constructs such as habits, facilitating conditions, social factors, perceived usefulness, perceived ease of use, attitude towards using and actual system use used in this paper will be operationalised on the basis of prior research studies (e.g., Triandis, 1979; Davis et al, 1989; Bergeron et al. 1995; Ditsa, 2003).

*Habits* consist of such variables as experience in IT and the ability to use IT. According to Triandis (1979), habits are what people usually do and the individual is usually not conscious of the consequences. Triandis links habits to an individual's past experience and ability to perform a given act. He argues that the habitual nature of a behaviour will have an influence on the individual's response to a given situation. As cited in Thompson et al, (1991), Sugar, (1967) measured the attitudes, norms and habits of college students regarding cigarette smoking. On separate occasions, the same students were offered a cigarette. The strongest single predictor of behaviour was habit, followed by norms and then attitudes. Accordingly, habits will be operationalised by assessing the number of years

of an individual's experience in using IT applications and his/her ability in using IT applications. As a result, we hypothesised that:

*H1a: IT experience will have a positive effect on perceived usefulness of IT.*

*H1b: Ability to use IT will have a positive effect on perceived usefulness of IT.*

*H2a: IT experience will have a positive effect on perceived ease of use of IT*

*H2b: Ability to use IT will have a positive effect on perceived ease of use of IT*

*Facilitating conditions* consist of such variables as IT development processes, IT management processes and organisational environment of IT. Facilitating condition will be operationalised based on the degree of to which IT development processes, IT management processes and organisational environment of IT facilitate IT use by the individuals (Ditsa, 2003; Ikart and Ditsa, 2004a,) with 5-point Likert scales with 1 for strongly disagree and 5 for strongly agree.

Triandis argues that behaviour would not occur if objective factors (facilitating conditions) of the situation prevent it. Efforts on IT development (e.g., Watson et al, 1991) have sought to understand the factors contributing to the cost-effectiveness of IT projects. Findings have linked this research to factors such as general management support, management of user resistance and expectations, users' involvement in the development and linking of the IT project to business objectives (McBride, 1997). Also, research efforts on IT management have been linked to such factors as the establishment of management policies and rules for the systems, strategic data management on IT, availability of user support group on IT and the availability and accessibility of information on IT (Ditsa, 2003; Ikart and Ditsa, 2004a.). About organisational environment of IT, findings from previous studies (McBride, 1997; Ditsa, 2003; Ikart and Ditsa, 2004a) have linked such factors to the dynamic change of the business environment, influence of the organisational culture on IT project and organisational commitment to wide use of IT. Thus, it is hypothesised that:

*H3a: IT development processes will have a positive effect on the perceived usefulness of IT.*

*H3b: IT management processes will have a positive effect on the perceived usefulness of IT.*

*H3c: Organisational environment will have a positive effect on the perceived usefulness of IT.*

*H4a: IT development processes will have a positive effect on the perceived ease of use of IT.*

*H4b: IIT management processes will have a positive effect on the perceived ease of use of IT.*

*H4c: Organisational environment will have a positive effect on the perceived ease of use of IT*

*Social factors* consist of such variables as subjective norms, roles, values and social situations. Social factors will be operationalised based on the degree to which these subjective variables have upon organisational managers and IT users (Ditsa, 2003; Ikart and Ditsa, 2004a). The social factors variables are measured as follows: The subjective norms are measured by obtaining users' assessment of the influence of the work group upon their behaviour in general (four 5-point Likert scales (-2: strongly disagree, +2: strongly agree) and multiplied by evaluating the probability that their work group wants them to use IT (Bergeron et al., 1995; Ditsa, 2003; Ikart and Ditsa, 2004a). Subjective roles are measured by obtaining managers' assessment of their roles and expected behaviours from group work in relation to IT usage using four 5-point Likert scales. Subjective values are measured by obtaining executives' assessment of the work group influence in relation to IT usage using 5-point Likert scale. Subjective social situations are measured by obtaining individuals' assessment of their interpersonal relationships with their peers, superiors, subordinates, the IS directors and the IS support group in relation to IS usage. Five 5-point Likert scales are used for the measure because they appear to be reliable with a Cronbach's alpha of 0.81, 0.9 and 0.86 (Bergeron et al., 1995; Ditsa, 2003).

An internalisation of a particular culture Triandis says forms the social factors of the group that influence intentions to behave (Triandis, 1979). Further, he argues that behaviour in a cultural setting is more or less influenced by the social norms, which depend on messages received from others and reflect what an individual thinks they should do rather than an individual's own attitude. Empirical support for the relationship between social norms and behaviour has been found in studies (e.g., Bergeron et al, 1995; Ditsa, 2003). Moreover, the relationship between social norms and behaviour is highly consistent with the TRA proposed by Fishbein and Ajzen (1975) which has been tested within the IS context (Davis, et al, 1989). Therefore, it is reasonable to predict that:

*H5a: Subjective norms will have a positive effect on perceived usefulness.*

*H5b: Subjective roles will have a positive effect on perceived usefulness.*

*H5c: Subjective values will have a positive effect on perceived usefulness.*

*H5d: Subjective social situation will have a positive effect on perceived usefulness.*

*H6a: Subjective norms will have a positive effect on perceived ease of use.*

*H6b: Subjective roles will have a positive effect on perceived ease of use.*

*H6c: Subjective values will have a positive effect on perceived ease of use.*

*H6d: Subjective social situation will have a positive effect on perceived ease of use.*

Both PU and PEOU will be measured by obtaining IT users assessment of their PU and PEOU of IT tools on 12 similar items six for each developed and refined by Davis (1989) and used in the IS research domain (e.g., Gahtani, 2001; Mao, 2002) using 7-point Likert scales. The PU and PEOU are believed to be important determinants of users acceptance of IT (Davis, 1993). Robey (1979) studied industrial sales forces and observed that users' expected performance impacts of a computerised sales record-keeping system were positively correlated with the measure of actual use of the system. Research on the adoption of innovation suggests a relevant role for PU and PEOU. As explained by Rogers (1986), relative advantage and compatibility are important attributes of innovations affecting adoption. Rogers suggests a number of sub-dimensions of relative advantage including the degree of economic profitability, decrease in discomfort and saving in time. According to Davis (1989), compatibility, relative advantage and complexity have the most consistent significant relationships across a broad range of innovation types. PU parallels relative advantage (Mao, 2002) and PEOU parallels compatibility and complexity of innovations (Davis, 1989). This finding is consistent with the finding of Tornatzky and Klein (1982) in their meta-analysis of innovation diffusion literature. Tornatzky and Klein reviewed 75 articles and discovered more than 30 innovation characteristics. They investigated ten major innovation characteristics including: compatibility, relative advantage, complexity, communicability, cost, divisibility, profitability, social approval, observability and trial ability and found compatibility, relative advantage and complexity to strongly measure innovation attributes affecting innovation diffusion. We therefore hypothesised that:

*H7: Perceived usefulness will have a positive effect on the attitudes towards using*

*H8: Perceived ease of use will have a positive effect on attitudes towards using*

*Attitude towards using* will be measured using 5-standard 7-point semantic differential scales for operational attitude toward the behaviour as suggested by Azjen and Fishbein, (1980), "All things considered, my using IS applications in my job is Good – Bad; Wise – Foolish; Favourable – Unfavourable; Beneficial – Harmful; and Positive – Negative" (Davis, 1989; Hubona and Jones, 2002; Mao, 2002). In their study, Fishbein and Ajzen, (1975) draw a distinction between two separate attitude constructs such as attitude towards the object and attitude towards the behaviour. The former refers to an individual's effective evaluation of a specified attitude object while the latter refers to an individual's evaluation of a specified behaviour that involves the object (Fishbein and Ajzen, 1975; Davis, 1993). This paper employs attitude towards the behaviour because research studies (e.g., Davis, 1993; Mao, 2002; Hubona & Jones, 2002) have shown that attitudes toward the behaviour relate more strongly to a specified behaviour. It is reasonable therefore to hypothesised that:

*H9: Executives' Attitudes towards using EIS will have a positive effect on actual use of IT tools.*

## **METHODOLOGY**

### **Mail Survey Questionnaire**

Evidence for this study will be collected by mail surveys. This will commence with questionnaires being sent out to mainly knowledge workers who actually use IT applications in companies within Nigeria. The questionnaire will be validated using expert opinions in the field. The companies to be surveyed are from both private and public sectors of various sizes. The number of employees in these organisations ranges from a minimum of 500 to a maximum of 18,000 people, their annual turnover ranges from US\$0 to US\$700,000 million. The names of these companies and records of their knowledge workers will be obtained from databank institutions such as the Ministries of Education and public libraries in Nigeria that hold these records.

### **Data Analysis**

To identify key factors that may propel people to accept IT in Nigeria the research model and associated hypotheses will initially be tested by multiple linear regressions (Davis, 1993). Further, analysis will be conducted using stepwise regression to establish the relative importance of the independent variables in explaining the behaviour towards IT adoption (Ditsa, 2003).

## CONCLUSIONS AND FUTURE WORK

This study was motivated by evidence suggesting a gap in understanding key critical success factors such as cultural, social and organisational variables that can influence the behaviour of knowledge staff in Nigeria to accept IT. To this point we have developed a theoretical foundation and a research model based on TAM and such variables as habits, social factors and facilitating conditions from Triandis' framework. Also, we have derived the hypotheses embedded in the research model. The model hypothesises that behaviour is positively related to habits, facilitating conditions and social factors by means of PU and PEOU and ATU. Based on empirical evidence presented, we suggest that there will be a significant effect of social-cultural factors on usage' behaviours via their beliefs and perceptions of IT applications.

At the time of submitting the paper, the questionnaires for the study have been developed and refined based on experts' opinion in the IT research domain. To further enhance the questions in the questionnaire the questionnaire will be pilot tested with a small number of represented sample of knowledge workers in the field. About 600 records of organisations of various sizes and their managers who actually use IT applications have been noted. A cover letter explaining the purpose and importance of the survey has been designed for the main study. It will be mailed out with the questionnaires to mainly managers of 600 organisations carefully selected for the study. The cover letter expresses the researcher's appreciation to the manager for his/her participation in the study and asks for his/her assistance in encouraging other knowledge staff of their organisation to participate in the survey.

To conclude, the main goal of this paper is to investigate and examine the cultural, social, political and organisational key critical success factors that might influence the behaviour of knowledge workers to use IT applications in Nigerian economy. We have employed a theoretical foundation consisting of TAM and such variables as habits, facilitating conditions and social factors from Triandis' model and a research model. Further, we have derived the hypotheses embedded in the research model and described how variables in the model will be operationised. Evidence from empirical findings presented in justifying the hypotheses suggest the importance of social, cultural, political and organisational factors for IT acceptance in a west African economy, specifically, Nigeria. We believe future findings will (1) provides a better understanding of the choices of knowledge staff in using IT applications in this economy, (2) assist IT developers to understand the core information processing requirements for top officers' tasks for which they are building an information technology in order to implement appropriate system functionalities to support those tasks. Theoretically, the framework and the research model will assist researchers to further explain human behaviour towards IT acceptance. Further, the model can be applied in other social science research including E-commerce, Internet banking and marketing areas. Of significant, the proposed model redresses the limitations of the extant research model by accounting for intrinsic motivation and social-cultural factors relevant to influencing users' behaviour towards IT acceptance

## REFERENCES

- Arnott, D. , Jirachiefpattana, W. and O'Donnell, P. (2005) Executive information systems development in an emerging economy, *Decision Support Systems*, 1-7.
- Ajzen, I. and Fishbein, M. (1980). *Understanding Attitudes and Predicting Social Behaviour*. Englewood Cliffs, NJ: Prentice-Hall.
- Ajayi, G.O. (2003) NITDA and ICT in Nigeria, *Round Table on developing Countries Access to Scientific Knowledge*, The Abdus Salam ICTP, Trieste, Italy pp.5-9.
- Bergeron, F., Raymond, L., Rivard, S. and Gara M. (1995) Determinants of EIS Use: Testing a Behavioural Model, *Decision Support Systems*, 14, 131-146.
- Bruwer, P. J. S. (1984) A Descriptive Model of Success of Computer-Based Information Systems. *Information and Management*, Vol.7, pp.63-67.
- Cheney, P.H. and Dickson, G.W. (1982) Organisational Characteristics and Information Systems: An Exploratory Investigation, *Academic of Management Journal*, Vol.25, N0.1, pp.170-184.
- Davis, F. and Venkatesh, V. (1996) A critical assessment of potential measurement biases in the technology acceptance model: three experiments, *Int. J. Human – Computer Studies*, 45, 19-45.
- Davis, F. D. (1993) User acceptance of Information System Technology: System Characteristics, User Perceptions and Behavioural Impacts. *Int. J. Man-Machine Studies. Academic Press Limited*, 38, 475 – 487.
- Davis, F.D. (1989) Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly* (13:3), 319-33.

- Davis, F.D., (1986) A Technology Acceptance Model for Empirically Testing New End-User Information Systems: Theory and Results, in MIT Sloan School of Management. *Cambridge, MA: Mit Sloan School of Management*,
- Davis, F.D., Bagozzi, R. P. and Warsaw, P.R. (1989) User Acceptance of Computer Technology: A Comparison of Two. *Management Science* (35:8) 982-1003
- Ditsa, G. (2003) Executive Information Systems Use in Organisational Contexts: An Exploratory User Behaviour Testing. *Information Management: Support Systems & Multimedia Technology* IRM Press London (109-155).
- Fishbein, M. (1979) A Theory of Reason Action: Some applications and Implications, In Nebraska Symposium on Motivation, H. Howe and Page (Edn). *University of Nebraska Press, Lincoln, NB. 65-116*.
- Fishbein, M. and Ajzen I.(1975) *Belief, Attitude, Intention and Behaviour: An Introduction to Theory and Research*. Addison-Wesley, Reading, MA.
- Fuerst, W.L. and Cheney, P.H. (1982) Factors Affecting the Perceived Utilisation of Computer-Based Decision Support Systems in the Oil Industry. *Decision Sciences*, Vol.13, pp. 554-569.
- Gahtani, S. (2001) The Applicability of TAM Outside North America: An Empirical Test in the United Kingdom, *Information Resources Management Journal*, pp. 26-35
- Gefen, D. & Straub, D. (2000) The relative importance of Perceived Ease of Use in IS Adoption: A Study of E-Commerce Adoption. *Journal of the Association for the Information system* 1(8).
- Habona, G. S. & Jones, A. B (2002) Modelling the User Acceptance of E-Mail. *Proceedings of the 36<sup>th</sup> Hawaii International Conference on System Sciences* (HISS'03).
- Ikart, E.M. and Ditsa, G. (2004) A Research Framework for the Adoption and Usage of Executive Information Systems by Organisational Executives: An Exploratory Study, *Australasian Conference on Information Systems*, 1-3 December 2004 Hobart Tasmania.
- Ikart, E.M. (2005c) Executive Information Systems and the Top-Level Officers' Roles: An Exploratory Study of User-behaviour Model and Lessons learnt, *The Australian Journal of Information Systems (AJIS)*, Vol 13, No.1, September 2005, 78-100.
- Lucas, H. C. (1978) Empirical Evidence for a Description Model of Implementation. *MIS Quarterly*, 2, 27-52.
- Lucas, H.C. (1975). Performance and the Use of an Information Systems, *Management Science*, Vol. 21, N0.8 pp.908-919.
- Malhotra, Y., and Galletta, D. (1999) Extending the Technology Acceptance Model to Account for Social Influence: Theoretical Bases and Empirical Validation. *Proceeding of the 32<sup>nd</sup> Hawaii International Conference on System Sciences* IEEE (1-13).
- Mao, E. (2002) An Investigation of IT Usage over Time. *Eight Americas Conference on Information Systems*, pp.1307-1312.
- McBride, N. (1997) The Rise and Fall of an Executive Information System: a Case Study, *Information Systems Journal* (1997) 7, 277- 287.
- Modum, U. (1983) Lack of Effective MIS Hinders Organisational development: A Nigerian Perspective, *DATABASE*, Spring, pp. 30-31.
- Money, W. & Turner, A. (2004) Application of Technology Acceptance Model to a Knowledge Management Systems, *Proceeding of the 37<sup>th</sup> Hawaii International Conference on System Science*. IEEE.
- Munshi, J. (1991) A Framework for MIS Effectiveness, URL <http://munshi.sonoma.edu/working/swafad91.htm>, Accessed 28 Sept. 2002
- Oyesanya, F. (2005) Review of ICT Development Memorandum, URL <http://www.dawodu.com/oyesanya15.htm> Accessed 27 June 2005.
- Preston, D. and Karahanna, E. (2004) Mechanisms for the development of shared Mental Models Between the CIO and the TOP Management Team, *25<sup>th</sup> International Conference on Information systems*, pp.465-480.
- Robey D., (1979) User Attitude and Management Information System Use. *Academy of Management Journal*, 22 (3), 527-538.
- Straub, D., Keil, M. and Brenner, W. (1997) Testing the Technology Acceptance Model across Cultures: a three country study, *Information and Management* 33.
- Thompson, R.L. Higgins, C.A and Howell, J.M, (1991). Personal Computing towards a Conceptual Model of Utilisation. *MIS Quarterly*, 15(1) 125-143
- Tornatzky, L. G., & Klein, R.J. (1982) Innovation Characteristics and Innovation Adoption-Implementation: A Meta-analysis of Findings. *Transactions on Engineering Management*, IEEE, EM-29, (28-45).
- Triandis H.C. (1979) Values, Attitudes, and Interpersonal behaviour. Nebraska Symposium on Motivation: Beliefs, Attitude, and Values. *University of Nabraska Press*, 195-259.

- Trice, A.W. and Treacy, M. (1988). Utilisation as a Dependent Variable in MIS Research, *DATABASE Fall/Inter* , PP. 33- 41.
- Venkatesh V., Morris M., Davis G.B. & Davis F.D. (2003) User Acceptance of Information Technology: Toward A Unified View. *MIS Quarterly* Vol.27 No.3, pp. 425-478.
- Venkatesh, V. and Davies F.D. (1996). A model of antecedents of perceived ease of use: Development and test. *Decision Sciences*, 27(3), 451-482.
- VijaYasarathy, L. R. (2002) An Extension of the Technology Acceptance Model to B2C E-Commerce. *Decision Sciences Institute Annual Meeting Proceedings*, 415-418.
- Ying, L. and Ram, K. (2004) Does Information Technology Always lead to Better Firm Performance? The Role of Environmental Dynamism, *25<sup>th</sup> International Conference on Information systems*, pp. 249-262.
- Zakour, A. B. (2004) Cultural Differences and Information Technology Acceptance. *Proceedings of the 7<sup>th</sup> Annual Conference of the Southern Association for Information Systems*, 156-161.

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