The Impact of Knowledge-Based Trust (Kbt) on The Adoption and Acceptability of Cashless Economy in Nigeria

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ABSTRACT

The introduction of cashless policy in Nigeria had gained a number of reactions over the adoption of cashless economy (or cashless banking). The implication of this is that not many people have the understanding of the benefits the cashless system would accrue to entire Nigerian populace. Although, many have argued that the technological infrastructures available for the implementation of the cashless economy is still a matter of concern. This study attempts to examine the impact of integrating Technology Acceptance Model (TAM) with Knowledge-based Trust (KBT) on the adoption and acceptance of cashless economy among Nigerian populace. We designed a paper-based questionnaire to harvest people's view about their intention on the adoption of cashless economy in Nigeria as well as their readiness to accept the policy. Consequent upon the impact of trust on the acceptability of the cashless economy, we formulated some hypotheses which was analysed with the use of T-statistics. The results of the hypothesis testing indicate that the integration of KBT with TAM has a significant relationship on intention towards the adoption and acceptance of cashless economy in Nigeria.

KEYWORDS

Cashless economy, trust, users' acceptance, technology acceptance model.

1. INTRODUCTION

The drive for an Information and Communication Technology (ICT) compliant in Nigerian economy has given birth to reforms which are in line with the new paradigms in the global financial system. Before this, Nigeria and indeed several African countries have lagged behind and continue to conduct most businesses in heavy cash transactions [1]. The problematic trade by barter system of payment has long given way to monetary transaction which in many developed economy has also been replaced by cashless transaction powered by ICT. In fact, ICT powered cashless transactions have become a striking feature of most modern economies while most Less Developed Countries (LDCs) like Nigeria are on the transition from a pure cash driven economy to cashless one [2].

The recent introduction and move to enforce Cashless Policy by the apex bank signify a policy for paradigm shift in the economy, aimed at reducing the use of cash in business transactions in Nigeria and establishing e-payments and e-commerce as the model for transaction. A cashless

economy is an economy where spending of money is not dependent on the carriage of money from one person to the other [3]. It is characterized by the electronic transactions via the use of electronic enabled debit/credit cards as well as internet and mobile technology. As highlighted in [3], the benefits of cashless policy implementation includes reduced cost of banking services (plus cost of credit), improved financial inclusion through the provision of more efficient transaction options with greater reach, reduced risk of cash-related crimes. Cashless economy has also been linked to increased economic development [4].

Knowledge-based trust (KBT) is a trust belief of individual on how trustworthy an individual is relative to others as a resolute to perceived competence, benevolence and integrity. Trust is a multidimensional variable [5, 6] that is made of cognitive and affective components [7, 8]. A number of researchers have suggested that trust directly affects intention [6, 9, 10]. Trust helps reduce fears and enables people to live in risky and uncertain situations [11, 5]. The combination of the specific trust beliefs of integrity, benevolence, and integrity increases the behavioural intention through reducing risk among potential but inexperienced customers [12]. Many researchers have suggested that Trust affects intentions indirectly. Some researchers [13, 6, 14] have all suggested that trust impacts intention through positive attitude. This relationship draws from the notion of 'perceived consequences'.

The main objective of this work is to investigate the effect of integrating Technology Acceptance Model (TAM) with Knowledge-based Trust (KBT) on the adoption and acceptance of cashless economy among Nigerian populace with a view to developing a single theoretical framework.

2. CASHLESS ECONOMY IN NIGERIA

In other to give a face-lift to the nation's economy so as to make it germane to the global financial milieu, a reform to the financial sector was carried out by the Central Bank of Nigeria (CBN) which was meant to cheering E-payments and E-commerce. Much as the CBN tried to evolve a seamless system capable of installing a regime of stability in the monetary policy, the results have created need for further reforms to meet the challenges of the times imposed on technocrats by devastating contradictions in the socio-economic environment [15]. Therefore, the CBN had recently engaged in series of reformations aimed at both making the Nigerian financial system formidable and enhancing the overall performance of the country so that it can be placed on the path that tune to the global trend [16]. Consequent upon this, the CBN proposed a new policy of cashless economy. A cashless economy is an economy where physical cash circulating in the economy is disallowed or minimised and replaced with electronic-based payment system such that physical cash would no longer be printed for circulation by the Central Bank. Essentially, the cardinal objective of the cashless policy is to actualize Nigeria's vision 20:2020, engendering an efficient payment system anchored on electronic-based transaction as it is a truism that an efficient and modern payment system is a key enabler and a prerequisite for driving growth and development. Essentially, the policy is premeditated to improve the efficacy of monetary policy so as to control inflation in the economy [17].

In an attempt to migrate from a cash-based economy to a cashless economy, the CBN On April 1, 2012 implemented the first phase in Lagos which essentially was meant to discourage cash transactions as much as possible. Although a deposit limits of ₦500,000.00 was set for individuals and ₦3million for business-related bodies such that violation of these rules would attract a stiff penalty [19]. As of today, some forms of cashless transaction are already taking place in Nigeria by indigenous firms and have been inspired by enhancement in technology and infrastructure [20].

3. THEORETICAL FRAMEWORK

3.1. Technology Acceptance Model General

There have been several early researchers who proposed theories regarding technology and computing behaviour that have withstood the tests of time, and remain useful today. Technology Acceptance Model (TAM) has being widely used by a number of researchers and adjudged a unique model of investigating user's adoption of information systems [21, 22]. TAM is an information systems theory that models how users come to accept and use a technology that will encourage economic growth [23]. TAM model advocates that when a new technology is presented to users, some factors sway their decision(s) about how and when they will use it. Notably among these factors are: Perceived Usefulness (PU), Perceived Ease of Use (PEOU), users' attitudes, intention and adoption behaviour [23]. Figure 1 depicts the TAM model.
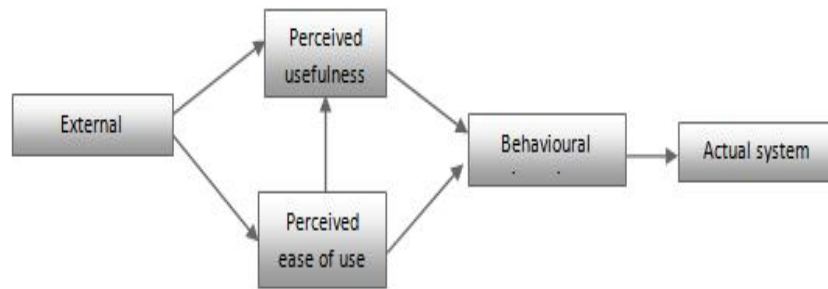

Figure 1. Technology Acceptance Model

3.1.1. Perceived Usefulness (PU)

Perceived usefulness means the level of belief that a person using a particular system would augment his or her job recital [24]. The value of perceived usefulness in the meadow of e-banking has been widely acknowledged [23, 25]. According to [26], perceived usefulness refers to consumers' acuity about the outcome of the experience gained in using a system. This implies that usefulness is a skewed chance that the submission of a new technology would improve the way a user could complete a given assignment. Perceived usefulness could be defined as individual discernment that the application of the new technology will boost the person's performance [27]. Similarly, [29] defined perceived usefulness as the degree to which a person judge that a particular system will enhance his or her job performance. In the same way, perceived usefulness is defined as consumer's perception of functional proportions [30]. It was reported in [28, 23] that user acceptance of computer systems is motivated to a large scope by perceived usefulness.

3.1.2. Perceived Ease of Use (PEOU)

The extent to which an individual or group of individuals believes that using a particular system would be free of shot is regarded as Perceived ease of use [31]. In TAM, perceived ease of use is viewed as a prominent feature that impinges on the acceptance of information system [23]. According to [32], perceived ease of use corresponds to the measure to which an innovative technology is seemed not to be thorny to learn, understand and manage. Therefore, he defined PEOU as customer's perceptions towards a new product. Similarly, [33] suppose that ease of use means users' view regarding the process leading to the final e-banking usage as new technology. This indicates that ease of use refers to how easy it is to use the e-banking system [34].

3.1.2. Knowledge-Based Trust (KBT)

Trust according to [35] is a social construct that is centred on universal relationships among group of individuals. It is a complex and abstract concept and there is no consensus on its definition, on how it is formed or on how it affects behaviour [36]. Hence, trust arises in situation of vulnerability and involves the willingness to take risk [37]. Trust in the context of risk, facilitates the living of people in an uncertain circumstances [11, 5]. According to [38], trust offers the measure with which the complexity in a complex world could be reduced by reducing the alternatives one could mull over in a specified situation. Similarly, trust can be regarded as a brand of social construct that facilitates coordination and cooperation among people.

Knowledge-based trust (KBT) can be defined as the belief of an individual or group of individuals on the trustworthiness of another people as a resolute on their veracity. KBT has been established as a crucial ingredient for shaping user behaviour in a new system [39]. Moreover, the integrated model of trust proposed by [5] argues that KBT involves deliberate cognitive assessment of relevant trustee attributes. Three focal essentials of knowledge-based trust as identified and validated by [5, 40] are: competence, benevolence and integrity. In the context of cashless economy, competence belief refers to individual perceptions that banking system have the ability, skills, and expertise to understand their needs in relation to manage personal finances, benevolence belief refers to individual perceptions that banking sector cares about them and acts in their interest, and integrity belief refers to individual perceptions that the banking sector follows a set of principles (e.g., honesty and keeping promises) generally accepted by adopters [41]. Trust as adjudged by [42], is a variable that is acceptable universally as a basis for human interaction or exchange. Trust in most business dealings according to [43], is a prerequisite for achieving success. Similarly, [44, 9] opined that for any business dealings especially those containing an element of risk, including interacting with an e-vendor, trust is a vital requirement for the acceptance of the technology. This perceived risk encompasses performance risk, financial risk, and security risk [45].

3. CONCEPTUAL MODEL AND HYPOTHESIS

In this work, TAM is being extended with KBT. This is achieved by introducing some other constructs and subsequently measures their impact on the adoption and acceptance of cashless economy in Nigeria. The extended TAM includes the external variables "Knowledge-Based Trust" with perceived risk. To achieve this arduous task, a conceptual model was developed as shown in Figure 2 as a search light for hypotheses formulation and its analysis. The arrows linking constructs (latent variables) specify hypothesized relationships in the direction of arrows. The arrows between constructs and indicators (observed variables) indicate measurement validity. Perceived ease of use, perceived usefulness, perceived risk and KBT can be considered cognitive constructs.
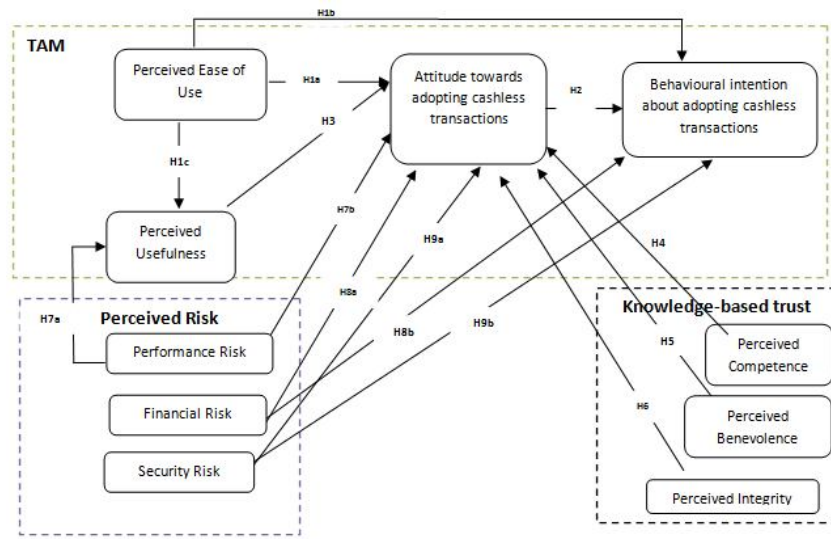
Figure 2. The Proposed Conceptual Model

In other to examine the impact of KBT on the adoption of cashless economy, the following hypotheses thus are proposed.

H_{1a}: Perceived ease of use positively influences attitudes toward adopting cashless transactions.

H_{1b}: Perceived ease of use positively influences behavioural intention to adopt cashless transactions.

H_{1c}: Perceived ease of use positively influences the perceived usefulness toward adopting cashless transactions.

H_2: Attitude positively influences the intention to adopt cashless transactions.

H_3: Perceived usefulness positively influence attitude toward adopting cashless transactions.

H_4: Perceived competence positively influence attitude toward adopting cashless transaction.

H_5: Perceived benevolence positively influence the intention to adopt cashless transactions.

H_6: Perceived integrity belief positively influence attitude toward adopting cashless economy.

H_{7a}: Performance risk negatively influence the perceived usefulness of adopting cashless economy.

H_{7b}: Performance risk negatively influence attitudes toward adopting cashless transactions.

H_{8a}: Financial risk negatively influences attitudes toward adopting cashless transactions.

H_{8b}: Financial risk negatively influences intentions toward adopting cashless transactions.

H_{9a}: Security/privacy risk negatively influences attitudes toward adopting cashless transactions.

H_{9b}: Security/privacy risk negatively influences intentions to adopt cashless transactions.

4.1. Data Collection

For the purpose of data collection, we designed a paper-based questionnaire which was used as the survey instrument. The questionnaire consists of two sections. The first section gathers information about the respondent's personal information like gender, age and educational background (see table 1 for the demographic profile of the sample). The second section gathers information about the respondent's perception about cashless economy. The seven likert scale was adopted for the statements of the second section of the questionnaire ranging from 1 – 7: 1 for strongly disagreed, 2 for disagreed, 3 for slightly disagreed, 4 for neutral, 5 for slightly agreed,

6 for agreed and 7 for strongly agreed. Data was collected from customers in four states; Lagos State, Ogun State, Adamawa State, and Kogi State as well as the Federal Capital Territory, Abuja. A total number of 500 questionnaires were administered; 50 in Abuja, Adamawa and Kogi States, 100 copies in Ogun State and 250 in Lagos State. We ignored incomplete questionnaires and considered 476 questionnaires that contained all the information, which represents 95.2% of the total respondents.

Table 1. Demographic Profile of Sample.

GENDER			AGE			EDUCATION		
Group	Frequency	Percentage (%)	Group (Years)	Frequency	Percentage (%)	Group	Frequency	Percentage (%)
Male	231	48.53	18 – 24	122	25.63	Uneducated	22	4.62
			25 – 39	143	30.04	Primary School	38	7.98
Female	245	51.47	40 – 59	170	35.72	Secondary School	41	8.61
			> 60	41	8.61	NCE/ND	111	23.32
						HND/BSc	114	23.95
						MSc	96	20.17
						PhD	54	11.35
TOTAL	476	100%		476	100%		476	100%

5. RESULTS, DISCUSSION AND COMPARISON WITH PREVIOUS WORKS

5.1. Analysis of Model and Hypothesis Testing

The reliability of the model was measured with the use of composite reliability (α) for all the constructs that was used (see table 2). There is an indication that the result obtained is consistent with recommended cut-off level of 0.70 [46], since the constructs ranged between 0.70690 and 0.898901.

Table 2. Composite Reliability

Construct	Composite Reliability
AT	0.884183
BI	0.893413
FR	0.707509
PB	0.806888
PC	0.828353
PEOU	0.780592
PR	0.898901
PI	0.868230
PU	0.856284
SR	0.70690

We further evaluated the hypothesised constructs with the use of T-statistics so as to obtain the relationship between the constructs and their observed indicators as outlined in Table 3.

Table 3: Hypotheses Testing Outputs with Path Coefficients

Hypotheses	Effect	Path Coefficient	T – Statistics	Remark
H1a	PEOU ⟶ AT	0.107**	2.888590	Supported
H1b	PEOU ⟶ BI	0.260***	5.371639	Supported
H1c	PEOU ⟶ PU	0.446***	11.240063	Supported
H2	AT ⟶ BI	0.360***	7.331517	Supported
H3	PU ⟶ AT	0.192***	3.991886	Supported
H4	PCT ⟶ AT	-0.050	1.287384	Not Supported
H5	PB ⟶ AT	-0.002	0.094468	Not Supported
H6	PI ⟶ AT	0.181***	4.983490	Supported
H7a	PFR ⟶ PU	0.221***	3.217590	Supported
H7b	PFR ⟶ AT	0.121***	5.194954	Supported
H8a	FR ⟶ AT	-0.081**	2.439372	Supported
H8b	FR ⟶ BI	0.213***	4.764273	Supported
H9a	SR ⟶ AT	-0.034	0.855090	Not Supported
H9b	SR ⟶ BI	-0.122*	1.872856	Supported

* - Significant at 0.05, * * - Significant at 0.01, *** - Significant at 0.001 and

Figure 3 describes graphically the relationships between constructs and observed indicators of the hypotheses testing showing the various paths and their levels of significances.
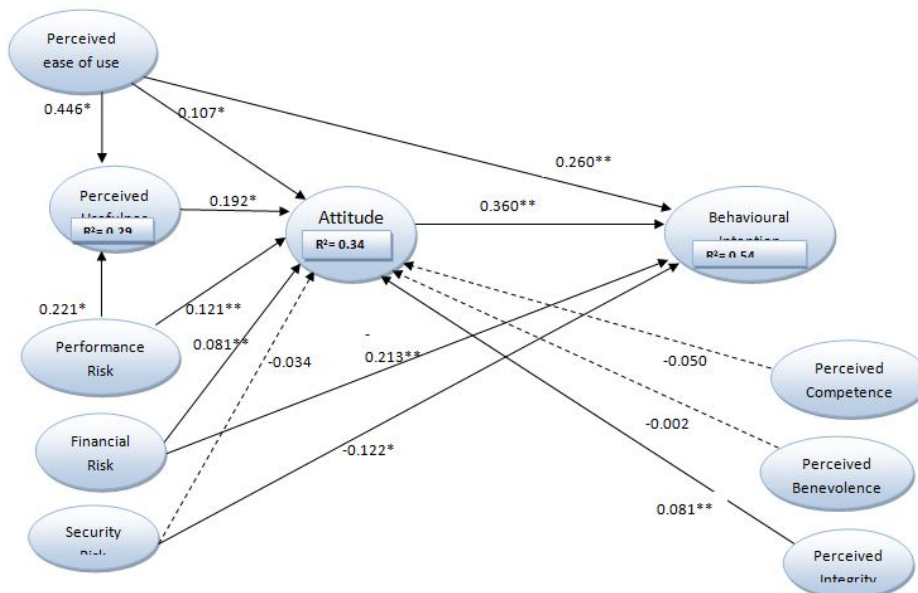

Figure 3. Parameter Estimates for the Hypothesized Model

The overall result is consistent with the work of [47, 48] as it shows that behavioural intention towards adopting operating cashless economy is predicted by Perceived ease of use ($\beta=0.260$, $p<0.001$), Attitude ($\beta=0.360$, $p<0.001$), Financial risk ($\beta=0.213$, $p<0.001$), and Security risk ($\beta=-0.034$, $p<0.05$). Perceived ease of use predicts attitude ($\beta=0.107$, $p<0.01$), perceived usefulness predicts attitude ($\beta=0.192$, $p<0.001$), performance risk predicts attitude ($\beta=0.121$, $p<0.001$), and financial risk equally predicts attitude ($\beta=-0.081$, $p<0.01$). Perceived ease of use predicts perceived usefulness ($\beta=0.446$, $p<0.001$) and as well as performance risk ($\beta=0.221$, $p<0.001$). As shown in figure 3, path coefficient indicates the predictions of the constructs in the direction of the arrows which corroborate the various hypotheses.

6. CONCLUSIONS

This study shows that recognizing both technological and trust-based issues play an important role in users' behavioural intention to adopt cashless transaction. The TAM constructs as discussed in this work are regarded as the fundamental criterion required to determine the behavioural intention to adopt cashless transaction. Other conciliators (such as attitude) equally contributed their own influence on behavioural intention to adopt cashless transaction. This implies that to effectively attract users to adopt cashless economy, attention needs to be paid to those aspects. Trust also contributed some levels of significant influence on users' attitude towards accepting cashless economy. Since all the perceived risk constructs – security risk, performance risk and financial risk – emerged as negative factors in the intention to adopt cashless economy, then KBT (or simply put as trust) helps reduce fears and enables people to live in risky and uncertain situations. The result of this research work presents a confirmation of the appropriateness of the integration of TAM with Knowledge-based Trust for explaining individual behaviour thereby provides support for the links added to represent the impact of knowledge-based trust and risk on attitude and behavioural intention in the adoption and acceptability of cashless economy.

REFERENCES

[1] Okey O. O. (2012). The Central Bank of Nigeria's Cashless Policy in Nigeria: Benefits and Challenges. *Journal of Economics and Sustainable Development,* Vol.3, No.14, pp 128 – 134.

[2] Achor P.N. and Robert A. (2013). Shifting Policy Paradigm from Cash-based Economy to Cashless Economy: The Nigeria Experience. *Afro-Asian Journal of Social Sciences*, vol 4. No. 4.

[3] Aguda N.A. (2013) Towards Cash-less Economy in Nigeria: Addressing the Challenges, and Prospects. *International Journal of Research In Computer Application & Management.* Vol. 3, No. 1

[4] Okoye P.V.C. and Raymond E. (2013) An Appraisal of Cashless Economy Policy in Development of Nigerian Economy. *Research Journal of Finance and Accounting.* Vol. 4, No. 7

[5] Mayer, R.C. Davis, J.H. Schoorman, F.D. 1995 'An integrative model of organizational Trust', *Academy of Management Review,* Vol 20, No. 3. pp. 709–734.

[6] McKnight, D.H. and Chervany, N.L. (2002). 'What Trust means in e- commerce customer relationships: an interdisciplinary conceptual typology', *International Journal of Electronic Commerce.* Vol. 6, No. 2, pp. 35–59.

[7] McAllister, D.J. 1995 'Affect-and cognition-based Trust as foundations for interpersonal cooperation in organizations', *Academy of Management Journal.* Vol. 38, No.1, pp. 24–59.

[8] Johnston, W.J. and Lewin, J.E. 1996 'Organizational buying behaviour: toward an integrative framework', *Journal of Business Research.* Vol.35 pp 1–15.

[9] Gefen, D., Karahanna, E., Straub, D. (2003). Trust and Tam in Online Shopping: an Integrated Model. *MIS Quarterly*, Vol. 27 No. 1, pp 51 – 90.

[10] Stewart, K. J. 2003. 'Trust transfer on the World Wide Web' *Organization Science*, Vol.14, No. 1, pp.5–17.

[11] Deutsch, M., 1962. Cooperation and trust: some theoretical notes. Nebraska Symposium on Motivation 10, 275–318.

[12] Jarvenpaa , S. L., N. Tractinsky. 1999. 'Customer trust in an Internet store: A cross cultural validation'. *J. Comput.-Mediated Comm.*Vol.5, No.2. pp. 1-33.

[13] Jarvenpaa, S. L., Tractinsky, N., & Vitale, M. 2000 'Customer trust in Internet store' *Information Technology Management*, Vol. 1, No. 1

[14] Pavlou, P.A. (2003). Customer acceptance of electronic commerce -integrating trust and risk with the technology acceptance model. *International Journal of Electronic Commerce*. Vol.7, No. 3, pp 69-103.

[15] Nwakwo , O, and Eze, O. R. (2013). Electronic Payment in Cashless Economy of Nigeria: Problems and Prospect. *Journal of Management Research,* vol. 5 No.1, pp 138 – 151.

[16] Akhalumeh, P. B. and Ohiokha, F. (2012). Nigeria's Cashless Economy: The Imperatives. *International Journal of Management & Business Studies,* Vol. 2, Iss ue 2, pp 31 – 36.

[17] Central Bank of Nigeria (2012). "Towards a Cashless Nigeria: Tools and Strategies." CBN Presentation at the *24th National Conference of Nigeria Computer Society* Held at Uyo, Nigeria. From Wednesday 25th – Friday 27th July. Retrieved from http://www.NCS.org/presentations/

[18] Ernest, S. O. and Fadiya, B. B. (2012). Cashless Banking in Nigeria: Challenges, Benefits and Policy Implications. *European Scientific Journal,* vol. 8, No.12 pp 289 – 316.

[19] Ezumba, S. (2011). "The Transition to a Cashless Nigeria", Reinventing Rebuilding LLC.

[20] Babalola R. (2008). E-payment: Towards a Cashless Economy. A Keynote Address of the Finance Minister of State at CardExpo Africa Conference, 2008. Available Online http://www.nigeriavillagesquare.com.

[21] Jaruwachirathanakul B. and Fink D. (2005). Internet Banking adoption strategies for a developing country: The case of Thailand. *Internet Research*, Vol. 15, No. 3, pp 295-311.

[22] Lallmahamood M. (2007). An Examination of Individual's Perceived Security and Privacy of the Internet in Malaysia and the Influence of This on Their Intention to Use E-Commerce: Using An Extension of the Technology Acceptance Model. *Journal of Internet Banking and Commerce*, 12 (3). Available online: http://www.arraydev.com/commerce/jibc/

[23] Davis F. D. Bagozzi R. P. and Warshaw P. R. (1989). User Acceptance of Computer Technology: A Comparison of Two Theoretical Models. *Management Science*, Vol. 35, No. 8, pp 982-1003.

[24] Akinyemi, I. O., Asani, E. O. and Adigun, A. A. (2013). An Investigation of Users' Acceptance and Satisfaction of E-Banking System as a Panacea towards a Cashless Economy in Nigeria. *Journal of Emerging Trends in Computing and Information Sciences*, Vol. 4, No.12 pp 954 – 963.

[25] Polatoglu V. N. and Ekin S. (2001). An empirical investigation of the Turkish customers' Acceptance of Online Banking services', *International Journal of Bank Marketing*, Vol. 19, No. 4, pp 156 -165.

[26] Davis F. D. Bagozzi R. P. and Warshaw P. R. (1992). Extrinsic and Intrinsic Motivation to Use Computers in the Workplace. *Journal of Applied Social Psychology*, Vol. 22, No. 14, pp 1109 – 1130.

[27] Davis F. D. (1993). User acceptance of information technology: system characteristics, user perceptions and behavioural impacts. *International Journal of Man-Machine Studies*, Vol. 38, pp 475 – 487.

[28] Adams D. A. Nelson R. R. and P. A. Todd (1992). Perceived Usefulness Ease of Use and Usage of Information Technology: A Replication. *MIS Quarterly*, Vol. 16, No. 2, pp 227 – 247.

[29] Mathwick C. Rigdon E. and Malhotra N. (2001). Experiential Value: Conceptualisation, Measurement and Application in the Catalog and Internet Shopping Environment. *Journal of Retailing*, Vol. 77, No 1, pp 39 – 53.

[30] Childers T. Carr C. Peck J. and Carson S. (2001). Hedonic and Utilitarian Motivations for Online Retail Shopping Behavior. *Journal of Retailing*, Vol. 77, No. 4, pp 511 – 538.

[31] Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, Vol. 13, No. 3, pp 319-340.

[32] Rogers E. M. (1983). *Diffusion of Innovations*. New York: Free Press.

[33] Igbaria M. Iivari J. and Maragahh H. (1995). Why Do Individuals Use Computer Technology? A Finnish Case Study. *Information and Management,* Vol. 29, No. 5, pp 227 – 238.

[34] Gefen D. and 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 Information Systems,* Vol. 1, pp 1 – 30.

[35] Inglehart R, and Baker W. (2000). Modernization, cultural change and the persistence of traditional values. *American Sociological Review,* Vol. 65, pp. 19–51

[36] Bahmanziari T, Odom M.D, Ugrin J.C. (2009). An experimental evaluation of the effects of internal and external e-Assurance on initial trust formation in B2C e-commerce. *International Journal of Accounting Information Systems,* Vol. 10, pp. 152–170

[37] Kenning P. (2008). The influence of general trust and specific trust on buying behavior. *International Journal of Retail & Distribution Management,* Vol. 36, No. 6, pp. 461–476

[38] Corritore, C. L., Kracher, B., &Wiedenbeck, S. (2003). On-line trust: Concepts, evolving themes, a model. *International Journal of Human–Computer Studies,* Vol. 58, No. 6, pp 737–758

[39] Bhattacherjee, A. (2002). Individual trust in online firms: Scale development and initial test. *Journal of Management Information Systems,* Vol. 19, No. 1, pp 211–241.

[40] McKnight, D. H., Choudhury, V., & Kacmar, C. (2002). Developing and validating trust measures for e-commerce: An integrative typology. *Information Systems Research,* Vol. 13, No. 3, pp 334–359.

[41] Hsiu-Fen, L. (2011). An empirical investigation of mobile banking adoption: The effect of innovation attributes and knowledge-based trust. *International Journal of Information Management,* Vol. 31, pp 252–260

[42] Gundlach G. T. and Murphy P. E. (1993). Ethical and legal foundations of relational marketing exchanges. *Journal of Marketing*, Vol. 57, pp 35 – 46.

[43] Fukuyama F. (1995). *Trust: Social Virtues and the Creation of Prosperity,* Hamish Hamilton, London, 1995.

[44] Reichheld F. and Schefter P. (2000). E-Loyalty-Your Secret Weapon on the Web. *Harvard Business Review*, 105–113.

[45] Lee, K. C., & Chung, N. (2009). Understanding factors affecting trust in and satisfaction with mobile banking in Korea: A modified DeLone and McLean's model perspective. *Interacting with Computers,* Vol. 21, No. 5, pp 85–392.

[46] Nunnally, J. C.,&Bernstein, I. H. (1994). Psychometric theory.NewYork: McGraw-Hill. Papies, D., & Clement, M. (2008). Adoption of new movie distribution services on the Internet. *Journal of Media Economics,* Vol. 21, No. 3, pp 131–157.

[47] Waldner, B. W. (2013). Determining Relationships Between Technology Acceptance and Employee Attitudes Toward Automated Workflows in the Oil Industry. Ph.D Thesis, Northcentral University.

[48] Chan S. C. (2001). Understanding Adoption and Continual Usage Behaviour towards Internet Banking Services In Hong Kong M.Phil. Thesis,Lingnan University.

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