Trust, Privacy, and Peer Group Correlates of Intention to Adopt the Automated Teller Machine in Nigeria 1998-2012

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Abstract

The study investigated the influence of Trust, Privacy, and Peer group on intention to adopt the Automated Teller machine by money deposit banks’ retail customers in South- South Nigeria. The cross-sectional survey research design was employed. A total of 400 copies of the questionnaire were administered to captive customers of state headquarters of 14 banks in the six states that make up the South-South zone of Nigeria. The Regression model was employed for analysis using the SPSS application package, version 17. It was found that Trust and Privacy-in-use influence the ATM adoption by bank customers in the South-South geopolitical zone of Nigeria. It was therefore recommended that banks should consider privacy-in-use and Trust in their managerial decisions to increase the ATM adoption in South-South Nigeria. Since privacy-in-use has the highest influence on the ATM adoption, banks should consider it paramount and ensure that the ATM is always installed in places where the user customer will not feel somebody is watching and is likely to have access to confidential information such as the pin code. An enclosure that takes only one person at a time is advised. Again, the banks should intensify efforts on image building campaign.

Keywords: Trust, privacy Peer group, Correlates, intention to Adopt, Automated Teller machine

Introduction

Retail banking in Nigeria is still dominated by the traditional over-the-counter teller system. But the deployment of the ATM is gradually gaining grounds. Though ATM has been in use in the developed countries since it was first introduced in 1967 by Barclays Bank in London (Kolodinsky, 2004), it was not until 1989 that the first ATM was introduced in Nigeria. Since its introduction in Nigeria by the then Societe-General Bank in 1989, it was only after the Nigerian bank consolidation programme of 2007 that the machine made some impact in the Nigerian banking system. This indicates that there is slow adoption of the new technology by banks in Nigeria. Perhaps this is why many deposit accepting banks in Nigeria require that withdrawal of amounts below certain limits must be done via the ATM. For instance, First bank PLC and UBA PLC insist that withdrawals below one hundred thousand Naira (N100000.00) must be by the ATM. This is to force adoption of the machine. The authors posit here that forcing customers to adopt the ATM is not good banking practice; instead facilitation of the factors that can make customers to freely and willingly adopt the machine would be better banking practice.

It is posited here that understanding the factors that correlate with and/or influence the ATM adoption will lead to accelerated diffusion of the machine by commercial bank customers, and hence enhance improved service quality in the banks. This paper, therefore, aims at identifying the influence of Trust, Privacy and Peer group on intention to adopt the ATM by deposit bank retail customers in South-South Nigeria, so as to improve the banks’ customer service delivery.

Though literature abounds on factors that influence e-banking adoption, few studied factors that influence adoption of the ATM. Again, almost all of these studies are based in the developed world environments. Previous empirical studies on the correlates of ATM adoption in Nigeria are, at best, scarce, perhaps because the ATM usage in Nigeria is relatively a new phenomenon. Secondly, none of these very few studies was based in the South-South Region of Nigeria (and this is expected to be the first). Based on the foregoing, therefore, further empirical study is required in order to fill the gap.
Theoretical Underpinnings

According to Evans and Berman (2010), the growth rate and total sales (adoption) level of new products rely heavily on the two related Consumer behavior concepts of the adoption process and the diffusion process. Citing Rogers and Shoemaker (1971), Evans and Berman (2010) define the adoption process as the mental and behavioral procedure an individual consumer goes through when learning about and purchasing a new product (learning of and using the ATM in this context). The process, according to them, consists of the following stages:

1. Knowledge- a person learns of a product's existence and gains some understanding of how it functions,
2. Persuasion- a person forms a favorable or unfavorable attitude about a product,
3. Decision: a person engages in actions that lead to a choice to adopt or reject a product,
4. Implementation: a person uses a product, and
5. Confirmation: a person seeks reinforcement and may reverse a decision if exposed to conflicting messages.

The Diffusion process, on the other hand, describes the manner in which different members of the target market often accept and purchase a product. It spans the time from product introduction until market saturation (Rogers and Shoemaker, 1971), cited in Evans and Berman (2010):

Skiffman and Kanuk (2007), also tried to differentiate between adoption process and diffusion process. They asserted that diffusion operates at the macro level, and is concerned with the spread of an innovation (a new product) from its source to the consuming public. In contrast, adoption is a micro process that focuses on the stages through which an individual consumer passes when deciding to accept or reject a new product. But Baraghani (2008) defined adoption as the acceptance and continued use of a product, service, or idea. This definition does not make any difference between adoption and diffusion. This latter definition is adopted in this paper. This means that the two concepts of adoption and diffusion are used interchangeably.

According to Evans and Berman (2010), the rate (speed) of new product adoption depends on consumer traits, the product, and the firm's marketing effort. Adoption will be faster if consumers have high discretionary income and are willing to try new offerings; the product presents little physical, social, or financial risk; the product has an advantage over other items already on the market; the product is a modification of an existing idea and not a major innovation; the product is compatible with current consumer life-styles; the attributes of the product can be easily communicated; the product can be tried in small quantities; mass advertising and distribution are used; the product is consumed quickly; or the product is easy to use (Evans and Berman, 2010).

2.3.1: Intention to adopt

In marketing and consumer research, customer patronage/adoption is normally treated as attitudes and intention-to-buy. Buyers’ intention scales are used to assess the likelihood of a customer purchasing a product or behave in a certain way. Attitudinal patronage/adoption is defined as a specific desire to continue relationship with a service provider (Czepiel and Gimore, 1987). Schiffman and Kanuk (2009) defined attitudinal patronage as concerned with consumers’ overall feelings about the product and the brand (i.e. evaluation), and their purchase intentions.

Defining and measuring patronage/adoption is extremely difficult. Attitudinal or intentional and behavioural patronages have been used as measures of customer patronages/adoption. Dick and Basu (1994) suggested that favourable attitude and repeat purchase were required to define patronage.

Intention to Adopt and actual Adoption

In marketing, customer patronage/adoption is normally treated as attitudes and intention-to-buy. Buyers’ intention scales are used to assess the likelihood of a customer purchasing a product or behave in a certain way. Attitudinal patronage/adoption is defined as a specific desire to continue relationship with a service provider (Czepiel and Gimore, 1987). Schiffman and Kanuk (2009) defined attitudinal patronage as concerned with consumers’ overall feelings about the product and the brand (i.e. evaluation), and their purchase intentions.

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Trust and ATM adoption

Currall and Judge (1995), define Trust as an individual’s reliance on another party under conditions of dependence and risk. Mayer, Davis, and Schoorman (1995), on their part, define Trust as the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other party will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party. Schneider (1998), cited in Ayo et al. (2010), posited that an individual’s trust behavior depends on the nature of the consequences. In a high consequences environment such as ATM banking, risk avoidance behavior may arise since reducing risk takes precedence over cost savings. Ayo et al. (2010), citing Mayer et al. (1995) assert that the relationship between trust and risk is that risk is the willingness to assume risk, while trust behavior is the assumption of risk. According to Lewicki and Binker (1995), trust develops over time.

Trust is an antecedent of attitude and intention to act. Trust in the bank offering the ATM service is an important behavioural belief that directly affects customer’s attitude towards the adoption behavior. As cost-benefit paradigm greatly influences peoples’ attitudinal beliefs and outcome judgements, trust can be a direct determinant of attitude and behavior (Bandura, 1986; Davis et al., 1989). Again, trust increases the confidentiality of business relationship and determines the quality of transaction between buyers and sellers, as well as people’s outcome expectations of commerce activities (Luhman, 1989; Lewis and Weigert, 1985; Hosmer, 1995). In the words of Bandura (1986), cited in Baraghani (2008), cognitive theory defines outcome expectation as people’s estimation of a given behavior yielding a particular outcome, which is closely related to people’s attitude toward behavior. Also, The research findings of Vatanasombut et al. (2008) and Kassim et al. (2006), cited in Ayo et al. (2010), showed that trust does not only affect the intent to use e-banking (the ATM in this context), but also serves as an antecedent to commitment to e-banking (the ATM). It is posited in this paper that trust/distrust leads to positive/negative attitude, which, in turn, is an antecedent of decision to use the ATM.

The level of trust an individual has in an object would be different depending on when trust is assessed. Furthermore, if the level of trust surpasses the threshold of perceived risk, then the individual will engage in a risk-taking relationship. Trust in both the bank deploying the ATM and electronic channels are important, given that there is some risk involved in using electronic channels, such as the ATM, for financial transactions (Ayo et al., 2010). Studies have also identified lack of trust as one of the main impediments to customers usage of online financial application (Wong et al., 2009; Flavian et al., 2006; Luarn and Lin, 2005; Mukherjee and Nath, 2003). Tan and Teo (2000) also identified risk (distrust) toward using the internet as one of the factors influencing intentions to adopt Internet banking services. Trust is also noted as a useful tool in reducing the perceived risk that consumers feel is present in an online environment (Pavlou, 2003). Furthermore, Wang et al. (2003) found perceived credibility (trust) to be significantly related to the technology acceptance of Internet banking. Luarn and Lin (2005) also found that a positive causality existed between perceived credibility (trust) and one’s intention to use mobile banking. The perception of the relatively high risk (distrust) associated with performing financial transactions via electronic means may hinder users (Kamel and Hassan, 2003). The effect of perceived risk (distrust) on adoption and post adoption of e-banking was supported by Kolodinsky et al. (2004); Lin (2007); Vatanasombut et al. (2008); and Ayo et al. (2010). Again, Suh and Han (2002) used an on-line survey to find that trust correlates positively with consumer adoption of e-payment technology. See also Rexha et al (2003), who obtained similar results in Singapore. It is posited in this paper that risk-averse bank customers are less likely to adopt the ATM than their more venturesome counterparts. The perceived credibility (or trust) construct can also be extended to ATM adoption in the South-South region of Nigeria.

Following from the foregoing, the following hypothesis is hereby proposed:

(1) Customers’ trust in the bank deploying the ATM does not significantly affect adoption of the machine.

Privacy Concern and the ATM adoption

ATM adoption and usage can be affected by security and privacy concerns of Bank customers in the South-South zone of Nigeria. A number of studies have found privacy to correlate with e-payment technologies (see Howcroft et al., 2002; Polatoglu and Ekin, 2001; Sathye, 1999). Also, Muniruddeen (2007), cited in Ayo (2010), investigated factors that influence adoption of e-banking in Malaysia, using extended technology acceptance model. The report found that perceived security and privacy are the main concerns of e-banking customers. Also Rogers (2008) found that inadequate security and privacy concerns negatively influence the ATM adoption in Uganda. Considering how emotionally attached to their money people are, it is reasonable to assume that
inadequate security and privacy will likely make bank customers to perceive ATM adoption as a risky venture. Putting it the other way round, increased security and privacy measures are very critical to the ATM adoption.

However, Olatokun and Igbinedion (2009), in addition to their other findings, revealed that ATM users in Jos, Nigeria had no safety concern in their use of the machine. The researcher wishes to test this finding in the South-South region of Nigeria.

Thus, the following hypothesis is formulated for the study:

(2) Privacy-in-use does not significantly affect bank customers’ ATM Adoption in the South-South region of Nigeria.

Peer Group and the ATM Adoption

According to Mazman et al. (2009), the perceived external pressure that an individual feels in the process of being informed about innovation and decide to use it, and the degree to which an individual perceives that important others believe he or she should use the innovation influences the individual’s behaviour. Skiffman and Kanuk (2007) also asserted that the social or cultural environment to which people belong, and within which they function influences their behavior. Fisher and Price (1992) reported a causal model outlining the influence of reference groups on innovative behavior. According to Latour (2008), the probability that an initial purchase “will be made at time T, is a linear function of the number of previous buyers”.

None of the very few local studies on Correlates of ATM adoption has tested the influence of the peer group. The following hypothesis was therefore formulated:

3. The peer group does not significantly influence the ATM adoption

Methodology

The research design for the study was the survey method. Primary data were collected by use of a self-administered questionnaire, while secondary information was sourced from local and international journals, books, magazines, monographs, and newspapers. These were complemented with personal experience and observations of the authors. The total population of the study comprised all the customers of the money deposit banks in the South-South region of Nigeria. All the fourteen (14) banks which were active on the Nigerian Stock Exchange as at Friday, December 16, 2012 were included in the study. All the fourteen banks have offices and operate in all the six states that make up the South-South geopolitical zone of Nigeria.

The researchers trained some students of the University of Port-Harcourt, who were familiar with the individual states in the South-South zone of Nigeria, to help administer 400 copies of the questionnaire to the respondents at the states’ headquarters of the banks. The Likert 5-point scale was adopted for the study thus, 5-Strongly Agree, 4-Agree, 3-Neutral, 2-Disagree, and 1-Strongly Disagree. The Regression model was employed for analysis using the SPSS application package version 17. Of the 400 copies of the questionnaire distributed, only 295, representing seventy percent (74%) were used for the study.

Results

The test of the overall model’s significance is the F-statistic. Table 1(see appendix) refers, since the F-statistic is robust at 20.109 and the p-value (.000) < .01, the conclusion is that the regression model is useful and that the predictor variables (Privacy and Trust) can significantly predict the behavior of the metrics of the dependent variable (the ATM adoption).

Table 2 shows that R-square ($R^2$) = .213, and p-value (from table 1 in appendix) <.01, the researchers therefore conclude that the predictor variables (Privacy and Trust) accounted for about 21 percent of the dependent variable (the ATM adoption).
Table 3 Coefficients a*

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized coefficients</th>
<th>standardized coefficients</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
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<tr>
<td></td>
<td>B</td>
<td>Stand. Error</td>
<td>Beta</td>
</tr>
<tr>
<td>1</td>
<td>1.087</td>
<td>.308</td>
<td>.297</td>
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<td>Privacy</td>
<td>0.280</td>
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<td>Trust</td>
<td>0.255</td>
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<tr>
<td>Peer Group</td>
<td>0.186</td>
<td>.063</td>
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</tr>
</tbody>
</table>

a. Dependent Variable: Actual adoption

**Source:** SPSS output

**Test of Hypothesis one:**

Ho1: Customers’ trust in the bank deploying the ATM does not significantly affect adoption of the machine.

Table 3 shows that p-value (.000) < α (.01). Therefore, the null hypothesis is rejected and the alternative that customers’ trust significantly influences adoption of the machine is accepted. The β value of .285 indicates that if the metrics of the ATM user trust increased by one unit, the machine’s rate of adoption would increase by .284.

Ho2: Privacy-in-use does not significantly affect bank customers’ ATM Adoption in the South-South region of Nigeria.

Table 3 also shows that p-value (.000) < α (.01). Therefore, the null hypothesis is rejected and the alternative that privacy-in-use does significantly affect bank customers’ ATM Adoption in the South-South region of Nigeria is accepted. The β value of .297 shows that if the metrics of user perception of privacy increased by one unit; the ATM adoption would increase by .297.

Ho3: The peer group does not significantly influence ATM adoption.

Table 3 refers, since p-value (.976) > α (.01), the null hypothesis that peer group does not significantly influence ATM adoption is accepted.

**Discussion of Findings**

**Trust and the ATM Adoption**

The study also found that Trust influences the individual’s decision to use or not to use the machine. This finding stems from the fact that trust affects perceived risk of the ATM transaction. Lack of trust affects perceived risk of the ATM use. This finding is also in line with extant literature (see Cheung et al., 2009; Flavian et al., 2006; Luarn and Lin, 2005; Mukherjee and Nath, 2003). The more credible and trustworthy customers perceive the ATM, and may be the bank deploying it, the higher the rate of adoption of the machine.
The perception of the relatively high risk (distrust) associated with ATM usage may hinder continued usage and possibly generate negative word-of-mouth. This finding in the study suggests some of the things the banks should guard against in their bid to make more of their customers to use the ATM. Some of these are the series of complaints by ATM users in the country, which include over debiting of accounts in excess of actual withdrawals and system failures. Other complaints include unauthorized debiting of accounts and network failure. These complaints against the ATM usage are likely to have some negative effect on the adoption of the machine in the South-South region of Nigeria.

Privacy concern and the ATM adoption

The study also found that the individual considers privacy-in-use in the decision to adopt or not to adopt the ATM. Lack of privacy increases perceived risk (distrust), which was also found above to correlate with the ATM adoption. This is even more so in the present security situation in the country in general, and in the South-South geopolitical zone, in particular. The finding is supported by Muniruddeen (2007), who investigated factors that influence adoption of e-banking in Malaysia. The report found that perceived security and privacy are the main concerns of e-banking customers. This finding suggests deployment of the machine in enclosed points, where confidential information of the individual using the machine at the time will not be exposed to others.

Peer Group and Adoption

The null hypothesis here was supported, and the finding was, therefore that the peer group of the individual has no effect on the individual’s decision to, or not to, use the ATM. This can be explained by the fact that people are highly rational in decision making when it comes to a thing like management of their money. Emotional considerations like peer pressure take a back seat and are subordinated to more concrete considerations such as Trust and Privacy-in-use.

Summary and Conclusion

The past few years has witnessed an increased deployment of electronic devices by deposit accepting banks to facilitate financial transactions in Nigeria. Internet banking, mobile banking, the automatic teller machines (ATMs), and the e-wallets payment systems are some of these services supported by new technology in the banking sector. This study was on Trust, Privacy, and Peer group as antecedents of the ATM adoption by deposit accepting bank customers in the South-South geopolitical zone of Nigeria. It was found that Trust and Privacy-in-use strongly influence, and are antecedents of, the ATM adoption by bank customers in the South-South geopolitical zone of Nigeria. However, it was found that peer pressure does no significantly influence the ATM adoption in the region.

Recommendations

Based on the conclusions drawn from the findings of the study, the following recommendations are made to guide managerial decisions:

1. The banks should consider privacy-in-use and Trust in their managerial decisions to increase the ATM adoption in South-South Nigeria.

2. Since privacy-in-use has the highest influence on the ATM adoption, banks should consider it paramount and ensure that the ATM is always installed in places where the user customer will not feel somebody is watching and is likely to have access to confidential information such as the pin code. An enclosure that takes only one person at a time is advised.

3. The banks should intensify efforts on image building exercise to enhance trust on the banks and their ATM.

References


Czepiel, J.A. and Gilmore, K. (1987); *Exploring the Concept of Loyalty in Services*; Chicago: American Marketing Association


Tan, M. and Teo, T. S. H. (2000); “Factors influencing the adoption of Internet banking”; Journal of the AIS vol. 1 no. 5, pp. 142.

Table 1 Model Utility

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<th>Mean Square</th>
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<td>Total</td>
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a. Predictors: (Constant) Privacy, Trust, Peer group

Table 2 Test of Goodness of Fit

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<th>Model</th>
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<th>Durbin Watson</th>
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<td>.210</td>
<td>.23478</td>
<td>1.718</td>
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</table>

a. Predictors: (Constant) Privacy Trust Peer group

b. dependent Variable: Intention to adopt
Table 3 Coefficients of variables

<table>
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<tr>
<th>Model</th>
<th>Unstandardized coefficients</th>
<th>Standardized coefficients</th>
<th>t</th>
<th>Sig.</th>
<th>Collinearity Statistics</th>
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<td>Tolerance</td>
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<td>Peer Group</td>
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</table>

a. Dependent Variable: Intention to adopt

*Source*: SPSS output
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