

Customer Perceived Risk and Adoption of E-Banking Services in Southeast Nigeria: The Moderating Effect of Educational Qualification

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ABSTRACT

The study examined the relationship between perceived risk and the adoption of electronic banking in Southeast, Nigeria with the moderating effect of selected Socio-demographics. Specifically, the study addressed the relationship between the seven dimensions of perceived risk (financial, performance, social, physical, privacy, time and psychological risks) and the adoption of electronic banking in the south-eastern region of Nigeria using the moderating effect of educational qualification. The study adopted a descriptive survey research design; questionnaires were employed in collecting primary data while documentary sources were adopted for secondary data. The population of the study was made up of electronic banking users in the five States that make up the south-east region of Nigeria. Since the population is unknown, the Cochran formula for determining sample size for an infinite population was adopted to get the sample size of four hundred and ninety (490) electronic banking adopters. Descriptive statistics were used to check the behaviour of the data. The data from 424 valid responses were analysed and hypotheses tested using the Structural Equation Model (SEM) and with the aid of WarpPLS 6.0 software. Results from the study revealed that perceived risks in its seven dimension examined, has a significant relationship with the adoption of E-banking in Southeast, Nigeria. The results showed that the following risk dimensions were significantly moderated by educational qualification: Financial risk, privacy risk, social risk and Psychological risk, meanwhile, performance, physical and time risk were not moderated by educational qualification thus recommended that Managers of financial institutions should strategically develop plans to reduced or eliminate the risk perceived by customers by organizing educational programs to facilitate the adoption of e-banking services in Nigeria.

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KEYWORDS: Perceived Risk, Electronic banking, Demographics

1. INTRODUCTION

Technological advancement and increasing competition for effective service delivery has led to the implementation of self service at different levels. These demands have greatly affected the financial sector which is required to carry out service delivery at lower cost and less time. Consequently, this has necessitated the implementation of electronic system called E-banking. According to Tan & Teo (2000), electronic banking has recently become the way for the development of banking system, and the functions

of electronic banking is increasing in many countries. It provides opportunities to create services processes that demand less internal resources, and thus, lower cost and provides greater availability and feasibility to reach more customers. From the customers' point of view, electronic banking provides customers with easier access to financial services and time saving. Electronic banking provides 24hours and 7 days a week availability. Also, e-banking adoption has the propensity to increase an economy's Gross Domestic

Product (GDP) by 0.2% annually (Moody's Analytics, 2010). Electronic banking aids banks to maintain profitable growth through the reduction of fixed costs and operation costs (Chung & Paynter, 2002). Electronic banking provides great opportunities in terms of competitive edge. Specifically, it provides banks with the opportunity to develop a stronger and beneficial business relationship with their customers (Chemtai, 2016; Taiwo & Agwu, 2017). For instance, it makes access to finance from banks attractive with funds appearing to be always available (Salehi & Alipour, 2010), and customers are offered the opportunity to conduct transactions at their convenience (Offei & Nuamah-Gyambrah, 2016). Before the introduction of electronic banking, transactions took longer time to execute which was frustrating. Now, services are rendered faster, efficiently with less time, as well as reducing human errors and personnel overhead cost. Other benefits derived from e-banking services are increased customer satisfaction, extended geographic reach and expanded products offerings. These have helped in attracting more customers since the satisfaction rate is high and also aided in reducing the workload of staff thus giving them the opportunity to put in their best into the roles they have to play in the bank. The benefits of e-banking can simply be summarized into increased bank products offerings (Chemtai, 2016), increased comfort and timesaving, quick and continuous access to information, better financial management (Salehi & Alipour, 2010; Taiwo & Agwu, 2017) and improved customer experience (Onodugo, 2015; Taiwo & Agwu, 2017).

Irrespective of the fact that e-banking services are beneficial it's adoption rate in southeast Nigeria is all time low (Ezeoha, 2005; Odumeru, 2012). Different approaches have been adopted by individual banks and the government, but in State and federal levels to boost the adoption rate of e-banking services, but all the measures taken haven't yielded the required fruits.

Previous studies conducted by different researchers shows that Perceived risks are the major factors that influence the adoption of e-banking services (Lee, 2009; Luo et al, 2010; Agwu, 2017). Studies conducted by various researchers reveal that Perceived risks are the major factors that influence electronic Marketing services and Perceived risks is a multidimensional construct (Jacoby & Kaplan, 1972; Cunningham et al, 2005; Featherman et al, 2002). Therefore, the thrust of this study was to identify the risk dimensions that lead to the low adoption of e-banking using the moderating variable of Educational qualification. The researcher tried to bridge the aforementioned gap.

2. Literature Review

2.1. Electronic banking:

Banking in Nigeria has come a long way from the time of ledger cards and other manual filling systems (Offei & Nuamah-Gyambrah, 2016; Taiwo & Agwu, 2017). At that time, it was a tiring and stressful profession, with piles of files, and customers waiting long hours on queues and may not achieve their goals at the end of the day. Computerization in the Nigerian banking sector started in the 1970s. It was introduced by Society General Bank (Nigeria) Limited. Till the middle of the 90s, banks that were computerized employed the Local Area Network (LAN) within the bank branches. The more technologically advanced banks used the WAN by linking branches within cities while one or two employed intercity connectivity using leased lines (Salaw& Salawu, 2007; Ekwueme et al, 2012). So as to flow with the modern banking system brought about by changes in technology, the ATM was introduced into the Nigerian banking industry in 1989 as an electronic delivery channel and followed by the introduction of the GSM in 2001. Mobile banking is an innovation that has successfully rendered itself as a universal tool that has been adopted by several financial institutions and other sectors of the economy (Taiwo & Agwu, 2017). The rate of growth of electronic banking services in Nigeria can be traced to the decision of banks to make better use of e-banking facilities for the purpose of providing quality services (Agwu & Murray, 2014). Meanwhile, electronic banking started officially in 1996 (Ekwueme et al, 2012). According to Ekwueme et al (2012) "The introduction of e-banking (e-payment) products in Nigeria commenced in 1996 when the CBN granted All States Trust Bank approval to introduce a closed system electronic purse called ESCA. In February 1997, Diamond bank introduced a "Paycard" that assumed an open platform with the authorization from Smartcard Nigeria PLC in February 1998. Smartcard Nigeria PLC is a organization floated by a consortium of 19 banks to produce and mange cards called value card and offered by the member banks. Gemcard Nigeria Limited is another consortium of more than 20 banks that obtained CBN approval in November 1999 to introduce the "Smartpay" Scheme (Dogarawa, 2005). However, the number of participating banks in each of the two schemes had been increasing ever since. Despite these innovations, it is worthy of note that lack of security for fraud prevention as well as high illiteracy rate had a negative effect on e-banking in the southeastern parts of the country. In the same vein, the epileptic power supply and poor network connectivity services, is of great concern to the usage of e-banking in Nigeria, as customers are at times

finding it difficult to transact business at their own convenience, thus negatively affecting the development of an efficient monetary transfer system. To ensure the efficient employment of electronic banking in Nigeria, basic infrastructure such as power, security and telecommunication should be strengthened (Onodugo, 2015). Apart from all this, the introduction of e-banking services in Nigeria have made transactions easier and more convenient, a lot of bank transactions can be done without customers visits to bank halls; bills can now be paid and even phones can be recharged via the use of ATMs, POS, internet and mobile banking, etc. Banks have adopted electronic means to do banking operations, servicing both local and global customers. They also adopt electronic channels to receive instructions and deliver their products and services to their customers (Al-Smadi, 2012). Moreover, the variety of services offered by banks over the electronic channel differ widely in content. (Azouzi, 2009; Al-Smadi, 2012) Electronic banking has been defined as the delivery of data or services by a bank to its customers, as an electronic link between bank and its customers so as to prepare and manage financial transactions (Lusaya & Kalumba, 2018). Accordingly, Daniel, (1999), sees electronic banking as the delivery of banking services to customers over internet technology. E-Banking is also defined as a way of delivering both new and traditional banking products and services directly to customers in an automated manner via electronic, interactive communication channels (Lusaya & Kalumba, 2018). E-banking has been considered as a high-order construct that provides many distribution channels. Notwithstanding several people are confused about the concepts of e-banking and online banking, actually e-banking is a larger concept than online banking (Pham et al, 2013; Nguyen & Nguyen, 2017). In particular, e-banking includes the products or services of PC banking, TV banking, mobile banking, and the integrated channels with bank systems such as ATM, POS, e-wallet, e-payment (Nguyen & Cao, 2014; Nguyen & Nguyen. 2017). Electronic banking services are beneficial to banks and customers. For banks; electronic banking helps them to achieve competitive edge and increase their market share. Also, using electronic services reduces operational costs, which are needed for traditional banking services (Jayawardhena & Foley, 2000; Al-Smadi, 2012). From the customers' view, Aladwani, (2001) found that electronic banking provides faster, easier and more reliable services to customers. However, customers are still cautious to the use of electronic banking services, because they are concerned with security issues, and they do not have

sufficient ability to deal with the applications of electronic banking (Ayriga, 2011; Al-Smadi, 2012).

2.2. Perceived Risks

In the views of Zhang et al. (2015), the idea of perceived risk was founded in 1960 by Bauer. He stressed that consumers' purchase behaviour were likely to lead to hard-to-predict and even unpleasant outcomes. Thus, consumers' purchase decision comprises the uncertainty of the outcome, which was the initial concept of perceived risk (Zhang et al., 2015; Eugene & Tinashe, 2017). Lumpkin & Dunn (1990) stressed that perceived risk research is one of the few research areas in consumer behaviour which can be said to have a research tradition. However, perceived risk is not the only explanatory factor of consumers' buying intentions. Perceived risk has been established as a major part of the purchase decision (Lumpkin & Dunn, 1990; Eugene & Tinashe, 2017). Parumasur & Roberts-Lambard (2012) described perceived risk as the amount of risk that the consumer perceives in the buying decision and or the potential consequences of a poor decision. Thakur & Srivastava (2015) suggested that perceived risk is a construct that measures beliefs of the hesitation concerning likely negative consequences or dangers. In the domain of consumer behaviour, perceived risk has been defined as a blend of uncertainty associated with the seriousness of outcome involved and the expectation of losses associated with purchase and acts as an inhibitor to purchase behaviour (Thakur & Srivastava, 2015; Eugene & Tinashe, 2017). Perceived risk refers to the nature and amount of risk perceived by a consumer in contemplating a particular purchase decision (Khan & Chavan, 2015). The most common definition of perceived risk is the consumers' subjective loss likelihood, which means that any act of a consumer has a resultant consequences, which he cannot forestall with anything approximating certainty, and some of which are likely to be unpleasant (Eugene & Tinashe, 2017). Shin (2010) explains that perceived risk is considered a fundamental concept of consumer behaviour and is used often to explain customers' risk perceptions and reduction approaches. Featherman & Pavlou (2003) described perceived risk as the possibility of loss when pursuing a desired result. Lee (2009) sees perceived risk in online banking as subjectively determined expectation of loss by an online bank user in deciding a given online transaction. Cunningham (1967) stated that perceived risk consisted of the size of the potential loss (ie that which is at stake) if the result of the act were not favourable and the individual's subjective feelings of certainty that the result will not be favourable. The seven dimensions

of perceived risk adopted for this study were defined below:

Financial risk: It is described as the subjective expectation for monetary loss due to transaction failure. According to Kuisma et al. (2007), Lot of customers are scared of losing money while conducting transactions or transferring money via the Internet. At present online banking transactions is devoid of the assurance provided in traditional setting through formal proceedings and receipts. Thus, consumers usually have difficulties in asking for compensation when transaction errors occur (Kuisma et al., 2007; Lee, 2009).

Performance risk: This refers to loss incurred via malfunction of electronic banking websites. Customers are often scared that a collapse of system servers or disconnection from the Internet will happen while conducting an online transactions because these situations may lead to unexpected losses (Kuisma et al., 2007; Lee, 2009).

Social risk: refers to the possibility of negative responses from the consumers' social networks. As Littler & Melanthiou (2006) stressed, the social status of the customer who adopts e-banking services may be affected because of the positive or negative perceptions of electronic banking services by family, peers etc (Aldas-Manzano et al, 2008).

Physical risk: Refers to the risk to the buyer's or customers' safety in procuring products (Jacoby & Kaplan, 1972). It is the subjective expectation for loss of safety due to transaction error. Safety loss could occur in various ways, for example, loss of money incurred through failed e-banking transaction could lead to physical illness like headache or even more severe cases such as High blood pressure.

Psychological Risks: The possibility that the service may reduce the user's self-image (Jacoby & Kaplan, 1972). Customers often become anxious or stressed out in the verge of making e-banking transactions. For instance, when a transaction experience does not go down as expected, people seem to get nervous. This nervousness can be referred to as psychological risk. (Demirdogen et al, 2010).

Privacy risk: This refers to the possibility that consumers' personal data (address, name, phone numbers, etc.) will be disclosed (particularly) to direct marketers, either inside or outside of the company (Aldas-Manzano et al, 2008). Gerrard & Cunningham (2003) found out that customers worry that the bank may share their profiles with other firms or individuals in the banking industry and therefore, the information to try to sell additional products. The fear of the divulgence of personal information and

feelings of insecurity have a negative influence on electronic banking services adoption (Howcroft et al, 2002; Aldas-Manzano et al, 2008).

Time-loss risk: Time loss risk is the perception that the adoption of e-banking services would lead to wastage of time. More so, in the instance of e-banking, the time risk may be associated to the time involved in handling erroneous transactions and downloading data (Jayawardhena & Foley, 2000; Aldas-Manzano et al, 2008). The time loss may be caused by poor network in areas that are backward technologically.

2.2.1. The Moderating Role of Educational qualification (Demographic Variable)

Socio-demographic variables or information enables researchers to obtain meaningful characteristics of a sample (Mwirigi et al, 2018). These features explain the differences in consumer behaviour and attitudes towards products and services (Narteh & Kuada, 2014; Mwirigi et al, 2018). There are a number of demographic variables which include: age, educational qualification, employment status, marital status, profession, income level, total number of individuals living in the house and living arrangements, gender etc. But this study will focus on age and educational qualification. These were described below:

Educational qualification as moderator: refers to a title, knowledge and skill obtained through the process of formal education which is recognized in the industry and makes someone eligible for a position or job. The decision to adopt or use a new technology is governed or determined by the degree of knowledge or information one has on how to use it appropriately. Liebermann & Stashevsky (2002) discovered that users with low education qualification will perceive high barriers to Internet and e-commerce adoption as compared to users with high educational level. A higher educational level may lead to a higher level of knowledge in new technologies, thereby accelerating the early adoption of a new technology. This is clearly shown in a study done by Rhee and Kim (2004) in their findings, people that possess a higher level of education were found to be more likely to adopt the Internet services. According to Porter & Donthu (2006), early adopters of new technologies seems to have higher educational qualification while less educated individuals feel more technology anxiety which affects (negatively) their ability to learn newer technologies. Weijters et al. (2007) suggests that people who possess a higher educational qualification are likely to be more technologically exposed, not only at their workplace, but also in the course of their daily activities. Onyia

& Tagg (2011) empirical study revealed that the level of education greatly influence Nigerian banking customer's attitude towards e-banking. Chong (2013) suggested that educational level has a significant relationship with m-commerce usage. The researcher employed Educational qualification as the moderating variable for the study. Two educational ranges were adopted; e-banking users that possess first degree (BSc and equivalent) and above, and below first degree.

2.3. Perceived Risk and Adoption of Electronic Banking:

Tan & Teo (2000) blended the diffusion of Innovation Theory (ID) and Theory of Planned Behaviour (TPB) to describe intention to adopt Internet banking. Their research revealed that relative advantage, compatibility, trialability, perceived risk, perceived self-efficacy, and government support of Internet commerce are significant predictors. Brown et al (2003) discovered perceived relative advantage, trialability, the number of banking services required, and perceived risk to be major factors influencing mobile banking adoption. The risk construct in their study is limited to information risk and security risks. Anchored on Theory of Planned Behaviour (TPB) and Technology acceptance model (TAM) literature, Luarn et al (2005) suggested an e-banking acceptance model and introduced the construct "perceived credibility" into the e-commerce context. Perceived credibility is considerably related to, but varies from, perceived risk and trust constructs. It points to the level to which an individual perceives that adopting e-banking has no security or privacy threats. They found out that perceived credibility has a stronger influence on behaviour intention than other factors analysed, though perceived usefulness and perceived ease-of-use are strong determinants; perceived self-efficacy and perceived financial cost, also fees paid for e-banking services and money spent on mobile devices and communication time, have some effect on behavioural intention. Kim et al (2009) and Kim et al (2008) viewed the issue from a more focused perspective, which is the formation of consumers' initial trust in e-banking. Their studies revealed that initial trust is a major predictor of mobile banking (a form of e-banking) adoption intention. Variables that contribute to the formation of initial trust comprises; the relative advantage of mobile banking over other banking channels, personal propensity to trust new technology and new business partners, and perceived structural assurance provided by mobile banking firms. Lee et al (2007) also analysed the effect of trust

on e-banking adoption and combined a perceived risk construct under Technology acceptance model (TAM). They suggested that adoption behaviour was affected by trust, perceived risk, and perceived usefulness. Different trust dimensions (trust in bank, telecom provider, and wireless infrastructure) and different risk dimensions were studied. Their results show that both trust and perceived usefulness have a significant, direct influence on adoption behavior while the impact of perceived risk is only mediated by trust. Recent research in e-banking has revealed that perceived risk and trust as major factors predicting adoption behaviour, this study thus designs a conceptual construct to examine the following risk variables (financial risk, performance risk, social risk, privacy risk, physical risk, psychological risk and Time risk) and how they affect the intention to adopt e-banking.

3. Research Model and Hypotheses Development

3.1. Research Model

This study was anchored on the Perceived Risk Theory (PRT) which was founded by Bauer (1960) in his consumer behavior study. The theory has it that, consumers' perceived risk is caused by the fact that they face uncertainty and potentially undesirable consequences as a result of purchase or usage of products/services. In other words, the more risk consumers perceive, the less likely they will use a product or service (Bhatnagar, Misra & Rao, 2000, Mwencha et al, 2014). The perceived risk construct in this research is derived from the perceived risk theory and adapted to electronic banking context. The core constructs of the theory have been decomposed by researchers into several perceived risk dimensions (Mwencha et al, 2014). For example, Cunningham (1967) conceptualized six dimensions of perceived risk: performance, financial, time, safety, social, and psychological risk, Jacoby & Kaplan (1972) identify five types of risk: financial risk, performance risk, psychological risk, physical risk, and social risk. Time risk is proposed as another type of perceived risk (Roselius, 1971; Brooker 1984). These risks are assumed to be prevalent in every transaction but in different degrees, depending on the particular nature of the decision (Taylor, 1974). Moreover, different individuals have different levels of risk tolerance or aversion (Bhatnagar et al., 2000; Mwencha et al, 2014). The research thus modified the theory to adopt seven risk demission for the study of adoption of e-banking. The model is represented below

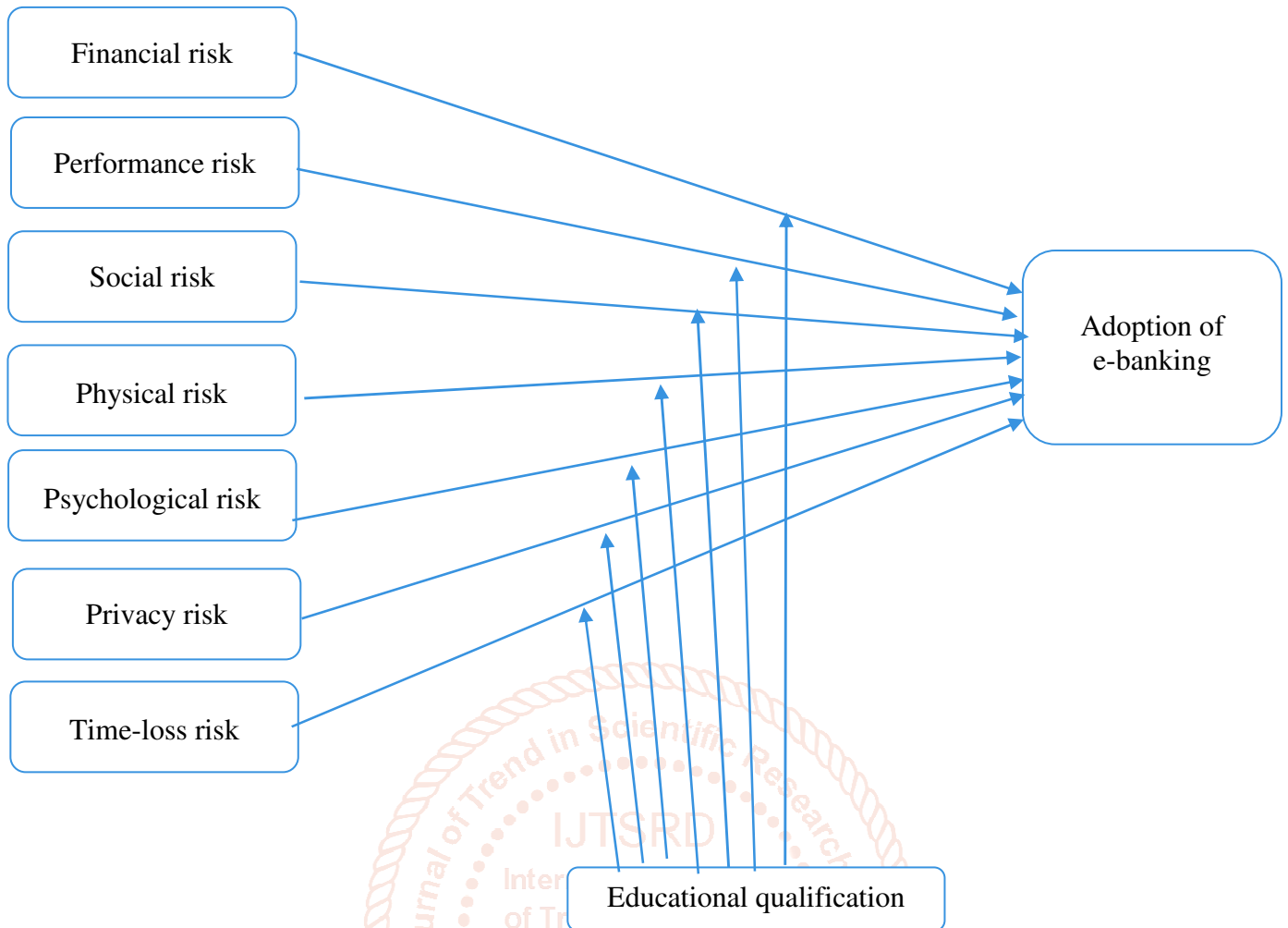


Figure 3.1 Research Model in Diagram

3.2. Hypotheses Development

Based on the proposed research model, the following research hypotheses in the context of adopting electronic banking services are formulated:

1a: There is a significant relationship between financial risk and the adoption of e-banking in Nigeria.

1b: There is a significant moderating effect of Educational qualification on the relationship between financial risk and the adoption of e-banking in Nigeria.

2a: There is a significant relationship between Performance risk and the adoption of e-banking in Nigeria.

2b: There is a significant moderating effect of Educational qualification on the relationship between performance risk and the adoption of e-banking in Nigeria.

3a: There is a significant relationship between Social risk and the adoption of e-banking in Nigeria.

3b: There is a significant moderating effect of Educational qualification on the relationship between Social risk and the adoption of e-banking in Nigeria.

4a: There is a significant relationship between Physical risk and the adoption of e-banking in Nigeria.

4b: There is a significant moderating effect of Educational qualification on the relationship between Physical risk and the adoption of e-banking in Nigeria.

5a: There is a significant relationship between Privacy risk and the adoption of e-banking in Nigeria.

5b: There is a significant moderating effect of Educational qualification on the relationship between Privacy risk and the adoption of e-banking in Nigeria.

6a: There is a significant relationship between Time risk and the adoption of e-banking in Nigeria.

6b: There is a significant moderating effect of Educational qualification on the relationship between Time risk and the adoption of e-banking in Nigeria.

7a: There is a significant relationship between Psychological risk and the adoption of e-banking in Nigeria.

7b: There is a significant moderating effect of Educational qualification on the relationship between Psychological risk and the adoption of e-banking in Nigeria.

4. Methodology, Results and Discussion

4.1. Methodology

The Researcher employed the descriptive survey research design with the aid of a 5-scale likert questionnaire to elicit data from the respondents. The unit of analysis for the research was the individual electronic banking customers and thus the population of the study was made up of adopters of e-banking in the five States that comprises the south eastern region of Nigeria. Since the number of adopters of e-banking services in the five States that comprises the southeastern region of Nigeria cannot be ascertained, the population for the study was thus an infinite population. The Cochran general accepted formula for determining sample size for an infinite population was adopted to determine the sample size for the proposed research. The formula was stated as follows:

$$S_s = Z^2 P (1-P)$$

C2

$$Z = \text{Confidence Interval} = 95\% = 1.96$$

$$P = \text{Percentage of Population} = 50 = 0.5$$

$$C = \text{Confidence Level} = 0.05 = 0.1$$

Substituting the figures in the formula

$$S_s = 1.96 \times 0.5 (1-0.5)$$

$$0.1$$

$$S_s = 4.90 \times 100 = 490$$

The researcher thus employed the stratified random sampling technique to distribute the questionnaire to the determined sample size. Descriptive statistics were adopted to check the behaviour of the data and to ready the data for inferential statistics analysis. The major statistics were: mean and standard deviation; minimum, maximum, skewness and kurtosis. The data was analysed and hypotheses tested using the Structural Equation Model (SEM) and with the aid of WarpPLS 6.0 software.

Results:

Hypothesis One:

Hypothesis 1a: There is a significant relationship between financial risk and the adoption of e-banking in Southeast, Nigeria. The path $\text{FinRisk} \rightarrow \text{EBA}$ has a coefficient (β) of 0.105, t -value of 2.234 and p -value of 0.014 which is much lower than the 0.05 margin of error hence we confirm H_{1a} and conclude that: there is a significant relationship between financial risk and the adoption of e-banking in Southeast, Nigeria. **Hypothesis 1b:** There is a significant moderating effect of Educational

qualification on the relationship between financial risk and the adoption of e-banking in Southeast, Nigeria. $\text{FinRisk} * \text{Edu} \rightarrow \text{EBA}$ coefficient = -0.360, t -value = -7.50, p -value = <0.001, which is well below the 0.01 margin of error hence Hypothesis 1b is validated and accepted and we conclude that Education mediates the relationship between Financial risk and e-banking adoption.

Hypothesis Two:

Hypothesis 2a: There is a significant relationship between performance risk and the adoption of e-banking in Southeast, Nigeria. The path $\text{PerRisk} \rightarrow \text{EBA}$ has a coefficient (β) of 0.174, t -value of 3.625 and p -value of <0.001 which is much lower than the 0.01 margin of error hence we confirm H_{2a} and conclude that: there is a significant relationship between performance risk and the adoption of e-banking. **Hypothesis 2b:** There is a significant moderating effect of Educational qualification on the relationship between performance risk and the adoption of e-banking in Nigeria. $\text{PerRisk} * \text{Edu} \rightarrow \text{EBA}$ coefficient = -0.030, t -value = -0.625, p -value = 0.267, which is well above the 0.05 margin of error hence Hypothesis 2b is not accepted and we conclude that Education does not mediate the relationship between performance risk and e-banking adoption.

Hypothesis Three:

Hypothesis 3a: There is a significant relationship between social risk and the adoption of e-banking in Southeast, Nigeria. The path $\text{SoRisk} \rightarrow \text{EBA}$ coefficient (β) = 0.138, t -value of 2.875 and p -value of 0.002 which is lower than the 0.01 margin of error. Based on this we confirm H_{3a} and conclude that: there is a significant relationship between social risk and the adoption of e-banking. **Hypothesis 3b:** There is a significant moderating effect of Educational qualification on the relationship between social risk and the adoption of e-banking in Southeast, Nigeria. $\text{SoRisk} * \text{Edu} \rightarrow \text{EBA}$ coefficient = -0.123, t -value = -2.563, p -value = 0.005, which is well below the 0.05 margin of error hence Hypothesis 3b is accepted and we conclude that There is a significant moderating effect of Educational qualification on the relationship between social risk and the adoption of e-banking in Southeast, Nigeria.

Hypothesis Four:

Hypothesis 4a: There is a significant relationship between physical risk and the adoption of e-banking in Southeast, Nigeria. The path $\text{PhyRisk} \rightarrow \text{EBA}$ coefficient (β) = -0.266, t -value of -5.660 and p -value of <0.001 which is lower than the 0.01 margin of error. Based on this H_{4a} is accepted and we conclude that: there is a significant relationship

between physical risk and the adoption of e-banking. **Hypothesis 4b:** There is a significant moderating effect of Educational qualification on the relationship between physical risk and the adoption of e-banking in Southeast, Nigeria. $\text{PhyRisk} * \text{Edu} \rightarrow \text{EBA}$ coefficient = -0.066, t – value = -1.375, and p –value = 0.084, which is above the 0.05 margin of error hence Hypothesis 4b is rejected and we conclude that There is no significant moderating effect of Educational qualification on the relationship between physical risk and the adoption of e-banking in Southeast, Nigeria.

Hypothesis Five:

Hypothesis 5a: There is a significant relationship between privacy risk and the adoption of e-banking in Southeast, Nigeria. The path $\text{PriRisk} \rightarrow \text{EBA}$ coefficient (β) = 0.277, t – value of 5.771 and p – value of <0.001 which is lower than the 0.01 margin of error. Based on this H_{5a} is accepted and we conclude that: there is a significant relationship between privacy risk and the adoption of e-banking.

Hypothesis 5b: There is a significant moderating effect of Educational qualification on the relationship between privacy risk and the adoption of e-banking in southeast, Nigeria. $\text{PriRisk} * \text{Edu} \rightarrow \text{EBA}$ coefficient = -0.402, t – value = -8.375, and p –value = <0.001, which is well below the 0.05 margin of error hence hypothesis 5c is accepted and we conclude that: there is a significant moderating effect of Educational qualification on the relationship between privacy risk and the adoption of e-banking in Southeast, Nigeria.

Hypothesis Six:

Hypothesis 6a: There is a significant relationship between time risk and the adoption of e-banking in southeast, Nigeria. The path $\text{TimRisk} \rightarrow \text{EBA}$ coefficient (β) = 0.203, t – value of 4.319 and p – value of <0.001 which is lower than the 0.01 margin of error. Based on this we accept H_{6a} and conclude that: there is a significant relationship between time risk and the adoption of e-banking. **Hypothesis 6b:** There is a significant moderating effect of Educational qualification on the relationship between time risk and the adoption of e-banking in Southeast, Nigeria. $\text{TimRisk} * \text{Edu} \rightarrow \text{EBA}$ coefficient = 0.073, t – value = 1.553, p –value = 0.065, which is above the 0.05 margin of error hence Hypothesis 6c is rejected and we conclude that There is no significant moderating effect of Educational qualification on the relationship between time risk and the adoption of e-banking in Southeast, Nigeria.

Hypothesis Seven:

Hypothesis 7a: There is a significant relationship between psychological risk and the adoption of e-banking in Southeast, Nigeria. The path

$\text{PsyRisk} \rightarrow \text{EBA}$ coefficient (β) = -0.191, t – value of -4.152 and p – value of <0.001 which is lower than the 0.01 margin of error. Based on this we accept H_{7a} and conclude that: there is a significant relationship between psychological risk and the adoption of e-banking. **Hypothesis 7b:** There is a significant moderating effect of Educational qualification on the relationship between psychological risk and the adoption of e-banking in Southeast, Nigeria. $\text{PsyRisk} * \text{Edu} \rightarrow \text{EBA}$ coefficient = -0.352, t – value = -7.489, p –value = <0.001, which is well below the 0.01 margin of error hence Hypothesis 7c is accepted and we conclude that there is a significant moderating effect of Educational qualification on the relationship between psychological risk and the adoption of e-banking in Southeast, Nigeria.

4.2. Discussion of Findings

Results from the analysis done showed risk in its seven dimension employed in this study, namely; financial risk, performance risk, social risk, physical risk, privacy risk, time risk and psychological risk, all had a significant relationship with adoption of E-banking in southeast, Nigeria. This however would explain the various reasons adoption of E-banking in Nigeria is still not seriously embraced. People are scared that they could lose money in the process especially when there is a malfunctioning of the E-banking equipment or a failed transaction. The time taken to recover such money from the bank is another discouraging factor as people often here that a failed transaction, if not automatically reversed immediately may take up to seven (7) working days to get reversed manually and in some rare and extreme case, thirty (30) working days. These however is a long period of time for someone who has urgent need of the money, and can lead the person to develop some sought of physical illness such as headache. People also get skeptical about E-banking as they feel that their private information may be made public and hackers may infiltrate their account with such information.

However, the significant relationships shown by these risk dimensions with adoption of E-banking were either moderated by educational qualification or not. The significant relationship between financial risk and adoption of E-banking was moderated by educational qualification, same with privacy risk, Social risk and psychological risk. Performance risk, physical risk and Time risk were not moderated by educational qualification meaning that whatever level of education one possess does not influence the relationship between performance risk, physical risk and Time risk and adoption of E-banking in southeast, Nigeria.

5. Conclusion and Recommendation

Perceived risk has been described as the amount of risk that the consumer perceives in the buying decision and or the potential consequences of a poor decision. It is a construct that measures beliefs of the uncertainty regarding possible negative consequences or dangers. Its effect on the adoption of E-banking is very important owing to the wide range of activities or services that can be offered to the public via E-banking. However, most customers may still be skeptical about E-banking because of these perceived risks. Identifying about seven demission of perceived risk to include, financial, performance, social, physical, privacy, time and psychological, the concept was broadly disintegrated and their various effect on E-banking examined. Risk perception has been studied in customer behaviour for years, and the first reports in the marketing research began with Bauer in the 1960s. In the present study it was noted that the sense of loss, or the perception that something negative might happen, influences the decision to use E-banking. The results also indicated that the more customers perceive risks in the operation, the lower their intention to use internet banking will be. However, when the customer has higher levels of acceptance of risk, or when he or she interprets that such risks are not too high and accepts such risks, the perception of the risks does not have an effect on intention to use internet banking. The study therefore concluded that perceived risks in its seven dimension studied, has a significant relationship with the adoption of E-banking in Nigeria and thus recommended that Managers of financial institutions should to develop workable plans to eliminate the negative effect of perceived risk, by increasing acceptance of risk which could be done by offering training to customers to facilitate their use of e-banking.

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