

Effect of Perceived Security and Trust on E-Banking Service Patronage of Deposit Money Bank's Customers In FCT, Abuja.

ADAMU, Abdul (Ph.D.)
Department of Business Administration
Nasarawa State University, Keffi-Nigeria
adamuabdulmumeen@nsuk.edu.ng

&

HALIRU, Hafiz Muhammad
Ph.D. Candidate, Department of Business Administration,
Nasarawa State University, Keffi- Nigeria
Email: hafiz.haliru@gmail.com

DOI: <https://doi.org/10.70118/ajbam-03-2025-141>

Abstract

The study examined the effect of Perceived security and Trust on customers' patronage of e-banking services in FCT Nigeria which was necessitated by the observed long queues in the banking hall despite the availability of these services which customers could take advantage of at the comfort of the homes for their transactions. Thus, the study examined the effect of Perceived Security, and Trust on e-banking patronage (EBP) in Abuja. Survey design was adopted and data was collected using structured five-point Likert scale questionnaire from a sample of 385 customers of deposit money banks in FCT who were selected conveniently and purposively. PLS-SEM was used to analyse the data and the result revealed a positive and significant effect of perceived security on e-banking patronage also trust has a positive and significant effect on e-banking patronage in Abuja. Hence the study recommends that Banks should invest in robust security protocols, such as advanced encryption technologies and multi-factor authentication, to reassure customers about the safety of their transactions. Also, they should implement educational campaigns to inform customers about e-banking security features and best practices. This can increase their confidence in using these services.

Keywords: *Technology Acceptance Model, Perceived Security, Trust, E-banking, Customer patronage*

INTRODUCTION

The advent of internet, e-commerce, ICT and the response by users to this technology has created numerous service delivery opportunities for businesses, financial institutions inclusive. One of these delivery channels is electronic banking (e-banking). E-banking provides an opportunity to everybody to easily and conveniently access banking activities, which may include retrieving account balance, electronic money transfer, bills payment and other services (Adesina & Ayo, 2010; Ololade & Ogbeide, 2017). Furthermore, it has been explained that e-banking has increasingly become an essential aspect of modern-day banking services.

In Nigeria, e-banking adoption though growing rapidly, is still relatively low in comparison to developed economies. Data from the National Bureau of Statistics (NBS) shows that in the

first quarter of 2021, the banking sector recorded e-payment transactions volume of #1.96bn. This increased in the second quarter by 13.11% to #2.22bn, while in the third quarter the volume recorded was #2.43bn indicating a growth rate of 9.49%. However, there was a 2.16% decrease (2.38bn) in e-transaction volumes in the fourth quarter of 2021 (National Bureau of Statistics, 2022). Furthermore, the population of people that make or receive digital payments is said to be 95% for high income economies and 35% for developing economies as of 2021 (World bank, 2022). This shows a wide disparity between what is obtainable in high income economies and developing economies.

According to (Aminu & Salawudeen, 2019; Ladipo et al., 2021), e-banking is the means of providing products and services of a bank through electronic networks. It provides an

opportunity to everybody to easily and conveniently access banking activities, which may include retrieving account balance, electronic money transfer, bills payment and other services, while addressing the issues related to brick-and-mortar banks, such as queuing and traveling over a long distance in order to carry out banking transactions as simple as the aforementioned (Adesina & Ayo 2010; Ololade & Ogbeide 2017).

One of the main advantages of e-banking services is that it improves efficiency and effectiveness of operations so that transactions can be processed faster and most conveniently. It provides benefits to customers that includes reduced frequency of visiting banking halls as well as reduced cash handling. However, despite these identified advantages of e-banking, there are still long queues in most banking halls and customers still handle too much cash (Ololade & Ogbeide, 2017; Salawudeen & Suleiman, 2025). It is desirable to attain a level of e-banking adoption where DMB customers perform significant banking activities through the e-banking channels and reduce the need for physically appearing at the banks and handling cash.

Ladipo et al., (2021); Apeh and Ibrahim, (2022) explains that several researchers have argued the need to use diverse constructs in order to effectively understand a customer's adoption intent. Furthermore, (Wiratmadja et al., 2017; Abdullateef & Salawudeen, 2020) posit that trustworthiness is a critical factor for the success of e-business, e-banking inclusive. They further explain that while many studies that are related to user's acceptance are done using TAM, only a few integrate Perceived Risk and Trust.

Kotni (2021) explained that Trust is one key additional factor that influences the acceptance of e-banking. According to (Lwoga & Lwoga (2017), there are numerous researches that used TAM in the explanation of E-banking adoption, but only a few have focused on the impact of security factors on e-banking adoption. This position is supported by Abdus Salam et al. (2021). They explain that previous researches on e-banking adoption have revealed other types of challenges, as customers consider privacy and security risk posed by e-banking on their financial information. Therefore, there is the need to

extend TAM to include other variables in the study of e-banking patronage. Hence this study adopts Perceived Security, and Trust as independent variables.

According to (Damghanian et al, 2016; Apeh and Adekeye, 2019), security, in a business context, is being able to provide protection for customer's information against potential threats, or guarantee that a system can be able to prevent attacks that can expose data and services to potential danger. They explained that the act of gathering customers information by businesses has been going on for many years, and the privacy concern associated with it is not a new matter. However, the use of Information Technology to gather customers information has increased these concerns and has become one of the main barriers to e-banking patronage, consequently leading to need for increase studies in the area.

In e-banking transaction, trust is a customers' psychological state that leads to their willingness to carry out their banking transactions over the internet, with the belief that the bank will fulfil its obligations, regardless of the customer's ability to monitor the bank's action (Damghanian et al., 2016; Normalini & Ramayah, 2017). Trust is said to be more crucial in the online environment, this is more so because the extent of unreliability in electronic economic exchanges is higher than that of a traditional environment (Damghanian et al., 2016; Aminu & Salawudeen, 2019). Hence, exploring customer's trust or lack of it, can play a significant role in understanding their patronage of e-banking services.

Ololade and Ogbeide (2017) argue that some banking customers have consciously or unconsciously refused the use of e-banking despite its attendant benefits. This problem, they say, is more prevalent in developing countries such as Nigeria. Consequently, this issue has attracted the attention of many scholars with different views of what the issues are, how to resolve them and how important it is to have such resolutions in an ever-evolving banking system.

Despite the numerous benefits of e-banking, its adoption and patronage in the Federal Capital Territory (FCT), Nigeria, is still low. This is evident in the long queues that are still common at bank branches. This is a problem

because it wastes customers' time and productivity, leads to frustration and dissatisfaction with banking services, and create unnecessary financial and human resource burden on the banks. Additionally, it has been reported that there was a 2.16% decrease (2.38bn) in e-transaction volumes in the fourth quarter of 2021 (National Bureau of Statistics, 2022a, 2022b). Furthermore, the population of people that make or receive digital payments is said to be 95% for high income economies and 35% for developing economies as of 2021(World bank, 2022).

The Central Bank of Nigeria's (CBN) policy regarding cash transactions restricts over the counter cash withdrawal and mandates cash handling charge for daily withdrawals that surpass a certain amount with the aim of decreasing the circulation of physical cash in the economy, while promoting a shift toward electronic transactions such as payments for goods and services, as well as money transfers (CBN, 2013).

This study evaluates factors that determine customer patronage of e-banking services of DMBs in Abuja, FCT, Nigeria. It uses two independent variables (Trust and Perceived Security) to critically assess determinants of e-banking patronage and to give appropriate recommendations, with specific focus on the behaviours of customers of DMBs in FCT that have made use of e-banking services.

To achieve the said objective, the following set of hypotheses were formulated and tested:

- i. H_{01} : *Perceived Security has no significant effect on customers patronage of e-banking services of deposit money banks in FCT, Nigeria.*
- ii. H_{02} : *Trust has no significant effect on customer patronage of e-banking services of deposit money banks in FCT, Nigeria.*

This paper begins with an introduction outlining the research problem and objectives, followed by a literature review identifying gaps in existing studies. The methodology explains the research approach, while the results and discussion section present key findings and interprets their implications.

LITERATURE REVIEW

Electronic banking (e-banking) involves the use of electronic devices and internet-based systems to provide banking services and products to customers anytime and anywhere. It digitizes traditional banking activities, enabling customers to access accounts, conduct transactions, and obtain financial information without visiting a physical branch (Inegbedion et al., 2020; Ghani et al., 2022). E-banking utilizes information and communication technology to facilitate services like account management, funds transfer, and electronic bill payment, positioning the internet as a key delivery medium for efficient and accessible banking operations (Raji et al., 2021; Apeh and Otu, 2025). From the researcher's point of view, e-banking refers to the use of information and communication technology to transform the aspect of banking as it relates to the provision of services and management of customer relationship.

Perceived security is conceptualised as the sensitivity of a customer on how secure a digital financial system is, and how that sensitivity affects their intention to adopt and use the said system. This is made more pertinent by the perception that digital systems have greater susceptibility to possible security attacks and compromise in comparison to the traditional financial and banking systems, thus leading to a feeling of anxiety by the users and consequently influencing patronage (Aminu & Salawudeen, 2019; El Hendy et al., 2020). This perception influences users' confidence, with factors such as system reliability, integrity, and the trustworthiness of exchanged information playing a crucial role (Jones et al., 2019; Salawudeen et al., 2020). The concept of perceived security in e-banking is viewed, by this study, as a persons' observed existence of any situation, condition, or event that has the potential to cause financial hardship or damage to data or network resources.

Trust is conceptualized as an individual's conviction or willingness to rely on others, influenced by personality traits and the anticipation of trustworthy behaviour in transactions (Abdullateef & Salawudeen, 2020; Kaur & Arora, 2021). It reflects a person's readiness to engage in certain behaviours despite a lack of prior experience

or information (Aminu & Salawudeen, 2019; Jouda et al., 2020). In e-banking, trust signifies a customer's confidence in conducting financial transactions electronically, based on the expectation that banks will uphold their promises and ethical responsibilities, even without direct oversight (Salawudeen & Suleiman, 2018; Kaur & Arora, 2021). This research defines trust in e-banking as customers' belief in the ability and commitment of e-banking services to protect their privacy and financial interests during online transactions.

Customer patronage refers to the consistent and continued use of a service or technology, driven by trust, loyalty, and user conviction about its benefits (Jouda et al., 2020). In the context of e-banking, patronage is the personal decision to habitually adopt and rely on electronic banking services for financial transactions, reflecting customers' acceptance and integration of these technologies into their routines (Ladipo et al., 2021; Apeh and Obochi, 2024). It signifies the degree to which users embrace e-banking as a preferred and reliable service option.

Perceived Security and E-banking Patronage

Odutolu and Fallon (2023) carried out an empirical investigation into factors influencing the patronage of e-banking channels in the Nigerian banking sector. The study combined elements of the TAM, the Diffusion of Innovation Theory (DIT) and Demographic related factors. To meet research objectives, a convergence parallel mixed-method research design was employed, where quantitative and qualitative research approach were blended. The data collection process of the study involved the administration of a survey questionnaire to a sample of 176 banks customers of Guaranteed Trust and First City Monument Bank in Nigeria. Data analysis was done with the use of multiple regression analysis for the questionnaire-sourced data. Findings arrived at from the analysis carried out indicated that perceived security was positive and significant in affecting the patronage of e-banking services. However, only two banks were covered by the study, limiting the extent to which findings can be generalized for the Nigerian banking sector. Additionally, the sample size used seemed too low and might not

have been adequately representative of the population from which it was drawn.

Subburaj's (2023); Apeh et al., (2021) study was concerned with an empirical assessment of e-banking patronage among bank customers in the Palakkad district of Kerala, India. Taking a causal format, primary data was collected from a cross-section of bank customers in the district via the administration of a questionnaire and semi-structured interviews. Respondents of the survey were 100 individuals selected using purposive sampling technique. The data obtained was analysed using tables, graphs and simple percentages. It was found that perceived security was a factor that exerted positive influence on the patronage of e-banking among bank customers. However, the sample used may not have been representative of the population from which it was drawn; the number was arbitrarily determined by the study's authors and might not have taken into consideration the different characteristics of the study area.

Trust and E-banking Patronage

Nangin et al. (2020) sought to determine the implications of selected components of the TAM on Fintech adoption in Indonesia. Using quantitative methods, primary data was collected, in the study with the use of a questionnaire, from a sample of 100 individuals in Jakarta who were users of brands of Fintech in making payments. Variable relationships were estimated with the use of PLS-SEM. The study found Trust to be a positive and statistically significant predictor of electronic banking patronage. The study was, however, restricted to only fintech, which is mostly mobile banking. The current study improves on this by accommodating a broader range of electronic banking services.

El Hendy et al. (2020; Salawudeen & Suleiman, 2025) conducted a survey in the United Arab Emirates to ascertain the influence of trust in predicting user intention of adopting mobile banking applications in the country. Using a survey design and convenience sampling technique, they collected data from 283 users of m-banking using a 5-point Likert scale self-administered questionnaire. The questionnaire used was distributed via social networking sites and email along with the consent form to obtain the informed consent of the participants. With the use of PLS-SEM, the study analysed the causal relationship between the two variables and found that trust had a positive but

insignificant impact on the intention to use m-banking applications. However, only m-banking customers were targeted in this study as against the intent of this study to cover all e-banking channels.

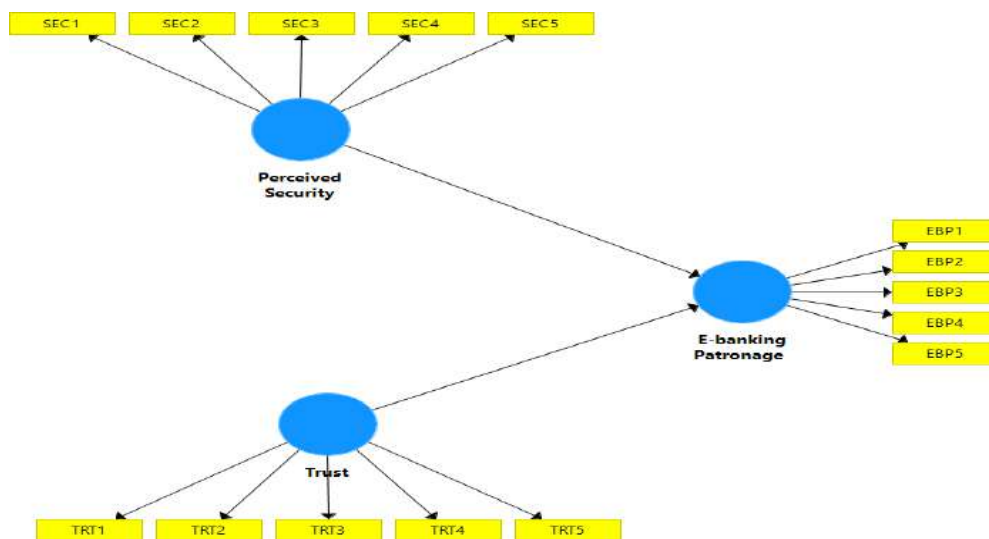
This study is grounded in the Technology Acceptance Model (TAM), proposed by Davis in 1989. TAM explains or predicts users' beliefs, attitudes, intentions, and behaviours regarding the acceptance of information technology (Adesina & Ayo, 2010; Dzandu et al., 2016).

Ridwan-Lanre et al. (2018) emphasize that the Technology Acceptance Model (TAM) has been extensively applied by scholars such as (Aboobucker et al., 2018; Abdullateef & Salawudeen, 2020), Sinha and Mukherjee (2016), Nasri and Charfeddine (2012), Khalil et al. (2010), and Lee (2009) to examine factors influencing e-banking patronage. Konalingam et al. (2017) describe TAM as a robust and straightforward framework for explaining technology acceptance and predicting user behavior. Nevertheless, Ladipo et al. (2021) contend that the traditional TAM lacks the depth to fully capture the intentional adoption of certain electronic services. In response to these limitations, the model has been subject to numerous refinements, validations, and extensions, which accounts

for its continued relevance and widespread application in e-banking research (Inegbedion et al., 2020).

Methodology

This study adopted a survey research design. The population of the study consist all the customers of deposit money banks in FCT. The population of this kind as regards to customers is infinite. Therefore, Cochran formula was used to obtain a sample size of 385. The respondents were selected using convenience and purposive sampling technique. The choice of purposive sampling technique is to ensure that only customers who have access to e-banking platforms but yet visit the bank for transactions were selected. Five-point Likert scale questionnaire adapted from (Kim et al., 2010; Ridwan-lanre et al., 2019; Thong & Yap, 2004; Igbaria et al., 1995; Ahn et al., 2004; Anderson & Srinivasan, 2003) was administered to the sampled respondents using google forms. Data collected were analysed using partial least square structure equation modelling and the model of the SmartPLS. The use of PLS-SEM is due to its relaxed distributional assumptions as explained by Hair, et al., (2019). The model of the analysis is specified in model 1.



Model 1: Model Specification (Source: SMART-PLS Output, 2025)

Table 1: Variable Information

| Name | Definition | Description | Source |
|------|---------------------|--|---|
| eBP | e-banking Patronage | Dependent variable of the model of the study, used to measure adoption of e-banking services | See, for example, Echchabi's (2018), Carranza et al. (2021), Adepoju and Adeniji (2020) |
| SEC | Perceived Security | Independent variable measuring the extent individuals believe that using e-banking is safe | Al-Sharafi et al. (2018), Jusoh and Jing (2019), Gupta and Hakhu (2021) |
| TRT | Trust | Independent variable measuring comfort and confidence an individual has that using e-banking services is free of problems. | Kaur and Arora (2021), Magboul and Abbad (2018), Namahoot and Laohavichien (2018) |

Results and Discussion

In assessing the measurement model, the researcher began by assessing the item outer loadings. As a rule, loadings above 0.708 are recommended, as they indicate that the construct explains more than 50 percent of the

indicator's variance, thus providing acceptable item reliability (Hair, et al., 2019). However, Hair, et al., (2019) posited that low but significant indicator loading of 0.50 can be included.

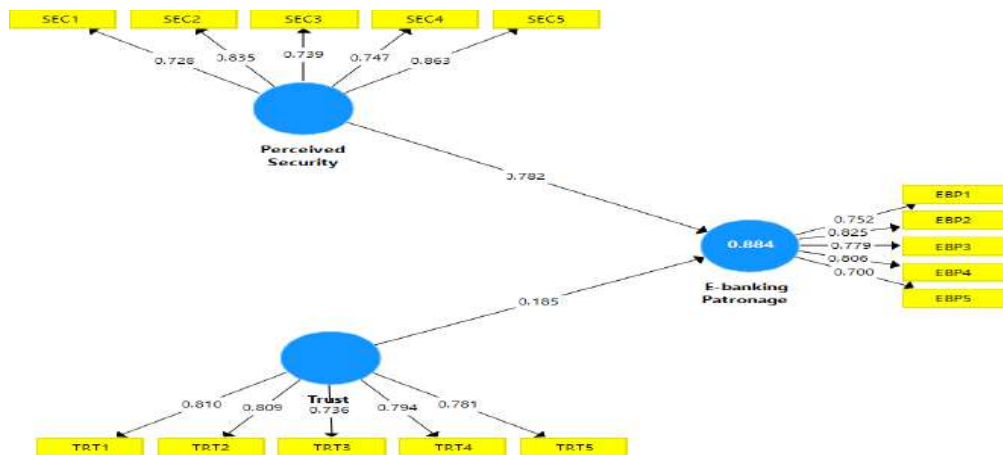


Fig 2: Indicator Loadings. (Source: SMART, PLS Output, 2025)

Table 2: Reliability of study scale

| S/N | Variables | Factor Loadings | Cronbach Alpha | Composite Reliability | Average Variance (AVE) | No of Items |
|-----|----------------------------------|-----------------|----------------|-----------------------|------------------------|-------------|
| 1 | Perceived Security (SEC) | SEC1 | 0.728 | 0.842 | 0.888 | 0.615 |
| | | SEC2 | 0.835 | | | |
| | | SEC3 | 0.739 | | | |
| | | SEC4 | 0.747 | | | |
| | | SEC5 | 0.863 | | | |
| 2 | Trust (TRT) | TRT1 | 0.810 | 0.848 | 0.890 | 0.618 |
| | | TRT2 | 0.809 | | | |
| | | TRT3 | 0.736 | | | |
| | | TRT4 | 0.794 | | | |
| | | TRT5 | 0.781 | | | |
| 3 | E-banking Patronage (EBP) | EBP1 | 0.752 | 0.833 | 0.881 | 0.598 |
| | | EBP2 | 0.825 | | | |
| | | EBP3 | 0.779 | | | |
| | | EBP4 | 0.806 | | | |
| | | EBP5 | 0.700 | | | |

Source: SmartPLS Output, 2025

Composite reliability of Jöreskog’s (1971) was applied to test for internal consistency of the study. All the values fall within the Hair, et al., (2019) rating of good consistency. The Cronbach alpha value was above 0.60 which is the minimum threshold as recommended by Sekaran (2010). To test for the convergent validity, the average variance extracted (AVE) was used. All the latent variables showed values greater than 0.50 which indicates that the constructs explain at least 50 percent of the variance of its items. According to Henseler, et al., (2015) the Fornell-Larcker criterion does

not perform well when explaining discriminant validity, particularly when the indicator loadings on a construct differ only slightly. As a replacement, they proposed the Heterotrait-Monotrait (HTMT) ratio of the correlations which is the mean value of the item correlations across constructs relative to the (geometric) mean of the average correlations for the items measuring the same construct (Voorhees et al., 2016). Discriminant validity problems are present when HTMT values are high than 0.90 for structural models (Henseler, et al., 2015).

Table 3: Heterotrait-Monotrait Ratio (HTMT)

| | Perceived Security | Trust | E-banking Patronage |
|----------------------------|--------------------|-------|---------------------|
| Perceived Security | 1.000 | | |
| Trust | 0.848 | 1.000 | |
| E-banking Patronage | 0.654 | 0.852 | 1.000 |

Source: SmartPLS Output, 2025

The variance inflation factor (VIF) was used to evaluate collinearity of the formative indicators. All the VIF values were less than 5 which indicates the absence of critical collinearity issues among the indicators of formatively measured constructs (Hair, et al., 2019).

Sequel to the need to validate the PLS model, there is a need to assess the goodness of fit of the model as Hair, et al. (2017) suggested. This study used the standardised root mean square residual’s (SRMR). The choice of this index was based on the fact that the SRMR provides

the absolute fit measure where a value of zero indicates a perfect fit. The study adopted Hu &

Bentler (1998) suggestion that a value of less than 0.08 represents a good fit while applying SRMR for model goodness of fit. The study result indicates an SRMR value of 0.030. This indicates the model is fit.

Having satisfied the measurement model assessment, the next step in evaluating PLS- SEM results is to assess the structural model. Standard assessment criteria, which was considered include the path coefficient, t- values, p-values and coefficient of determination (R^2). The bootstrapping procedure was conducted using a resample of 5000.

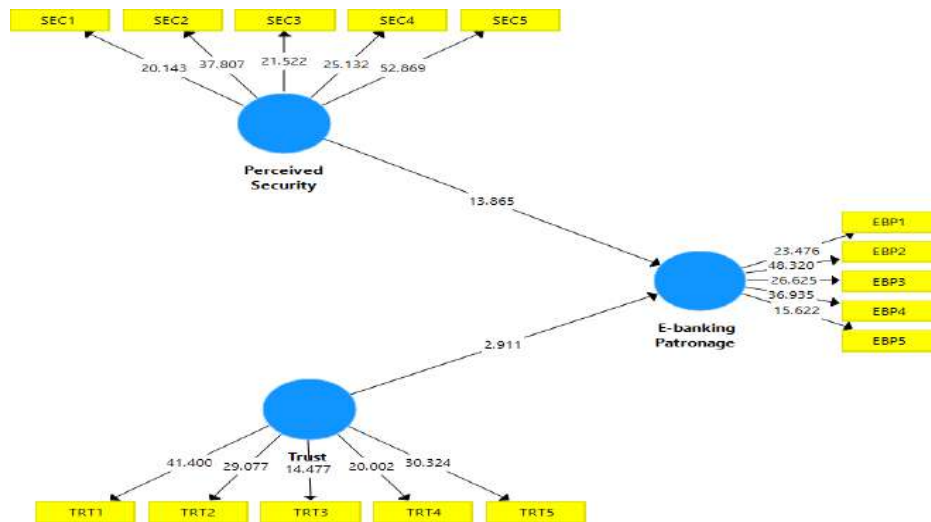


Fig. 3: Path Coefficients of the Regression Model. (Source: SMART, PLS Output, 2025)

Table 4: R² and predictive Relevance of the Model

| | R Square | Q ² (=1- P val. SSE/SSO) |
|-------------|----------|-------------------------------------|
| Performance | 0.884 | 0.887 |

Source: SmartPLS Output, 2025

The R-square value, shown in table 4, stood at 88.4% indicating that the independent variables, perceived security and trust, are responsible for 88% variation in the customer

patronage. The remaining 12% variation could be explained by other factors not included in the study. Based on Hair, et al., (2019), the r-square is considered substantial.

Test of Hypotheses

Table 5 shows the path coefficients, t-values and p-values used to test the hypotheses of the study:

Table 5: Path Coefficients

| Variable | Path Coefficient ***(Beta) | t-value | p-value | Findings |
|---|-------------------------------|---------|---------|----------|
| Perceived Security-> Customer patronage | 0.782 | 13.865 | 0.000 | Rejected |
| Trust-> Customer Patronage | 0.185 | 2.911 | 0.004 | Rejected |

Source: SmartPLS Output, 2025

Hypothesis One

H₀₁: Perceived Security has no significant effect on customers patronage of e-banking services of deposit money banks in FCT, Nigeria.

The result from the analysis indicates that Perceived Security has positive and significant effect on e-banking patronage among DMB customers in FCT, Nigeria. The decision was reached based on the t-value of 13.865 which is greater than 1.964 and a beta value of 0.782 with a p-value of 0.000. The positive effect implies that building consumer confidence through visible security protocols (like encryption, secure login processes, and fraud detection systems) is essential. Customers are more inclined to patronize e-banking services

when they trust that their data is protected. This finding is in agreement with that of Odutolu and Fallon (2023) and Subburaj’s (2023), who found that Perceived Security has positive and significant effect on e-banking patronage among DMB customers in Nigeria and India respectively.

Hypothesis Two

H₀₂: Trust has no significant effect on customers patronage of e-banking services of deposit money banks in FCT, Nigeria.

The result from the analysis indicates that Trust has positive and significant effect on the patronage of e-banking services among customers of DMB in FCT, Nigeria. The

decision was reached based on the t-value of 2.911 which is greater than 1.964 and a beta value of 0.185 with a p-value of 0.004. This implies that clear communication regarding services, fees, and security measures can enhance trust. Banks that are transparent in

their operations are likely to build stronger relationships with their customers. This finding agrees with that of Nangin et al. (2020) who made similar findings about trust and Customer patronage in Indonesia. Also, this study disagrees with the finding of El Hendy et al. (2020) who found that trust has positive but insignificant effect on e-banking patronage among bank customers in northern India.

Conclusion and Recommendations

This study examined factors influencing the adoption and customer patronage of e-banking service of deposit money banks in FCT, Nigeria. Based on the research findings, the study concluded that Perceived security and Trust are significant factors which affect and determines adoption of e-banking services of deposit money banks in FCT, Nigeria. This implies that if customers will be more willing to patronize e-banking services if they believe there is a significant level of security measures deployed by the bank. Furthermore, if customers have a sufficient level of trust that the banks will take significant steps to ensure adequate safeguard measures are deployed to protect their money and privacy, they may likely increase their patronage of e-banking services.

Based on the study's findings, it is recommended that;

- i. Banks should invest in robust security protocols, such as advanced encryption technologies and multi-factor authentication, to reassure customers about the safety of their transactions. Also, they should implement educational campaigns to inform customers about e-banking security features and best practices. This can increase their confidence in using these services.
- ii. Banks should clearly articulate data protection measures and privacy policies to customers. Ensuring robust data security can significantly enhance trust in e-banking. They should also Actively participate in community

development projects and financial literacy programs. This engagement can create a positive image and foster trust among potential customers.

Reference

- Abdullateef, I. & Salawudeen, A. (2020). Adoption Of International Financial Reporting Standards (IFRS) And Earnings Quality: A Differential Examination of Listed Firms in Nigeria. *Ksu Research Journal of Accounting and Finance*, 3(1), 1-15.
- Abdus Salam, M., Saha, T., Habibur Rahman, M., & Mutsuddi, P. (2021). Challenges to mobile banking adaptation in COVID-19 pandemic. *Journal of Business and Management Sciences*, 9(3), 101–113. <https://doi.org/10.12691/jbms-9-3-2>
- Aboobucker, I., & Bao, Y. (2018). What obstructs customer acceptance of internet banking? Security and privacy, risk, trust and website usability and the role of moderators. *The Journal of High Technology Management Research*, 29(1), 109–123. <https://doi.org/10.1016/j.hitech.2018.04.010>
- Adepoju, A., & Adeniji, A. (2020). Technology acceptance of e-banking services in an unnatural environment. *SEISENSE Journal of Management*, 3(3), 34–50. <https://doi.org/10.33215/sjom.v3i3.336>
- Adesina, A. A., & Ayo, C. K. (2010). An empirical investigation of the level of users' acceptance of e-banking in Nigeria. *Journal of Internet Banking and Commerce*, 15(1), 1–13.
- Adiele, K. C., Grend, M. D., & Chinedu, E. A. (2015). Physical evidence and customer patronage: An empirical study of Nigeria banking sector. *British Journal of Economics, Management & Trade*, 7(3), 188–199. <https://doi.org/10.9734/BJEMT/2015/14176>
- Al-Sharafi, M. A., Arshah, R. A., Herzallah, F. A. T., & Abu-Shanab, E. A. (2018). The

impact of customer trust and
perception

- of security and privacy on the acceptance of online banking services: Structural equation modeling approach. *International Journal of Industrial Management*, 4, 1–14.
- Aminu, I. M & Salawudeen, A. (2019). Board characteristics, dividend policy and shareholders' wealth of listed manufacturing companies in Nigeria. *Journal of Applied Business and Economics*, 21(9), 24-45.
- Anderson, R. E., & Srinivasan, S. S. (2003). E-satisfaction and e-loyalty: A contingency framework. *Psychology & Marketing*, 20(2), 123–138. <https://doi.org/10.1002/mar.10063>
- Apeh, P. E., & Adekeye, J. A. (2019). Manpower development and employee's utilisation in the Nigerian public service: Issues and challenges. *International Journal of Human Capital Management*, 1(1), 1–22.
- Apeh, P. E., Adekeye, J. A., & Danladi, H. (2021). Democratic consolidation and development in Nigeria's Fourth Republic: An evaluation. *Gombe Journal of Administration and Management*, 4(1), 170–179.
- Apeh, P. E., & Ibrahim, F. A. (2022). Corporate governance and leadership in organizations: Challenges and prospects. *Review of Public Administration and Management (ROPAM)*, 19(2), 89–98.
- Apeh, P. E., & Obochi, C. I. (2024). Situational leadership and organisational performance: A conceptual analysis. *Abuja Journal of Administration and Management*, 11(4A), 110–127.
- Apeh, P. E., & Otu, A. J. (2025). Project execution and rural development in selected area councils in Nigeria. *Journal of Public Administration, Finance and Law*, 33(33), 59–77.
- Carranza, R., Díaz, E., Sánchez-Camacho, C., & Martín-Consuegra, D. (2021). e-Banking adoption: An opportunity for customer value co-creation. *Frontiers in Psychology*, 11, Article 621248. <https://doi.org/10.3389/fpsyg.2020.621248>
- Central Bank of Nigeria. (n.d.). *Cashless policy*. Retrieved November 21, 2024, from <https://www.cbn.gov.ng/cashless/#:~:text=The%20Central%20Bank%20of%20Nigeria,N3%2C000%2C000%20for%20Corporate%20bodies>
- Damghanian, H., Zarei, A., & Siah Sarani Kojuri, M. A. (2016). Impact of perceived security on trust, perceived risk, and acceptance of online banking in Iran. *Journal of Internet Commerce*, 15(3), 214–238. <https://doi.org/10.1080/15332861.2016.1191052>
- Dzandu, M. D., Boateng, H., Agyemang, F., & Quansah, F. (2016). Social media adoption among university students: The role of gender, perceived usefulness and perceived ease of use. *International Journal of Social Media and Interactive Learning Environments*, 4(2), 124–136. <https://doi.org/10.1504/IJSMILE.2016.077490>

- Echchabi, A. (2018). E-banking acceptance in Thailand: An emphasis on Islamic banks' customers. *European Journal of Islamic Finance*, 9, 1–4. <https://doi.org/10.14641/ejif.9.4>
- El Hendy, M., Faizal Bin Hashim, K., & Mahmuddin, M. (2020). Examining the influence of perceived security and trust on user's intention to use mobile banking application in the United Arab Emirates. *International Journal of Management*, 11(10), 2298–2312. <https://doi.org/10.34218/IJM.11.10.20.20.223>
- Ghani, E. K., Ali, M. M., Musa, M. N. R., & Omonov, A. A. (2022). The effect of perceived usefulness, reliability, and COVID-19 pandemic on digital banking effectiveness: Analysis using technology acceptance model. *Sustainability*, 14(18), 11248. <https://doi.org/10.3390/su141811248>
- Gupta, P., & Hakhu, R. (2021). An empirical analysis of customer perception towards cashless transactions: A case study of Haryana. *International Journal of Applied Research*, 7(12), 1–6. <https://doi.org/10.22271/allresearch.2021.v7.i12a.9165>
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate data analysis* (8th ed.). Cengage Learning.
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A primer on partial least squares structural equation modeling (PLS-SEM)* (2nd ed.). Sage Publications.
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24. <https://doi.org/10.1108/EBR-11-2018-0203>
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*,

- 43(1), 115–135.
<https://doi.org/10.1007/s11747-014-0403-8>
- Hu, L., & Bentler, P. M. (1998). Fit indices in covariance structure modeling: Sensitivity to underparameterized model misspecification. *Psychological Methods*, 3(4), 424–453.
<https://doi.org/10.1037/1082-989X.3.4.424>
- Igbaria, M., Guimaraes, T., & Davis, G. B. (1995). Testing the determinants of microcomputer usage via a structural equation model. *Journal of Management Information Systems*, 11(4), 87–114.
<https://doi.org/10.1080/07421222.1995.11518061>
- Inegbedion, H. E. (2018). Factors that influence customers' attitude toward electronic banking in Nigeria. *Journal of Internet Commerce*, 17(4), 325–338.
<https://doi.org/10.1080/15332861.2018.1463482>
- Inegbedion, H., Inegbedion, E. E., Osifo, S. J., Eze, S. C., Ayeni, A., & Akintimehin, O. (2020). Exposure to and usage of e-banking channels: Implications for bank customers' awareness and attitude to e-banking in Nigeria. *Journal of Science and Technology Policy Management*, 11(2), 321–341.
<https://doi.org/10.1108/JSTPM-01-2019-0006>
- Jones, S., Johnson-Yale, C., Millermaier, S., & Pérez, F. S. (2019). U.S. college students' internet use: Race, gender, and digital divides. *Journal of Computer-Mediated Communication*, 14(1), 244–264.
<https://doi.org/10.1111/j.1083-6101.2008.01456.x>
- Jouda, H., Jarad, A. A., Obaid, T., Mdallalah, S. A., & Awaja, A. (2020). Mobile banking adoption: Decomposed theory of planned behavior with perceived trust. *SSRN Electronic Journal*.
<https://doi.org/10.2139/ssrn.3660403>
- Jusoh, Z. M., & Jing, T. Y. (2019). Perceived security, subjective norm, self-efficacy, intention, and actual usage towards e-payment among UPM students. *Journal of Education and Social Sciences*, 12(2), 8–22.
- Kaur, S., & Arora, S. (2021). Role of perceived risk in online banking and its impact on behavioral intention: Trust as a moderator. *Journal of Asia Business Studies*, 15(1), 1–30.
<https://doi.org/10.1108/JABS-08-2019-0252>
- Khalil, N. M., Sutanonpaiboon, J., & Mastor, N. H. (2010). Malay, Chinese, and internet banking. *Chinese Management Studies*, 4(2), 141–153.
<https://doi.org/10.1108/17506141011053069>
- Kim, C., Mirusmonov, M., & Lee, I. (2010). An empirical examination of factors influencing the intention to use mobile payment. *Computers in Human Behavior*, 26(3), 310–322.
<https://doi.org/10.1016/j.chb.2009.10.013>
- Konalingam, K., Ratnam, U., Sivapalan, A., & Naveen, M. (2017). Enhancing customer loyalty through e-banking practices. *Business Management and Strategy*, 8(2), 45–61.
<https://doi.org/10.5296/bms.v8i2.12054>
- Kotni, D. P. (2021). Determinants of customer patronage for online banking outlet choice in emerging economies. *Academy of Marketing Studies Journal*, 25(5), 1–16.
- Ladipo, P., Dixon-Ogbech, B., Enyinnaya, N., & Akeke, O. (2021). Influence of Technology Acceptance Model (TAM) on customer adoption of e-banking practice in Lagos State. *Journal of Social Sciences*, 4(3), 124–138.
[https://doi.org/10.52326/jss.utm.2021.4\(3\).13](https://doi.org/10.52326/jss.utm.2021.4(3).13)
- Lee, M. C. (2009). Factors influencing the adoption of internet banking: An integration of TAM and TPB with perceived risk and perceived benefit. *Electronic Commerce Research and Applications*, 8(3), 130–141.

- <https://doi.org/10.1016/j.elerap.2008.11.006>
- Lwoga, E. T., & Lwoga, N. B. (2017). User acceptance of mobile payment: The effects of user-centric security, system characteristics and gender. *The Electronic Journal of Information Systems in Developing Countries*, 81(3), 1–24. <https://doi.org/10.1002/j.1681-4835.2017.tb00595.x>
- Maduku, D. K. (2014). Customers' adoption and use of e-banking services: The South African perspective. *Banks and Bank Systems*, 9(2), 78–88.
- Magboul, I., & Abbad, M. (2018). Antecedents and adoption of e-banking in bank performance: The perspective of private bank employees. *Interdisciplinary Journal of Information, Knowledge, and Management*, 13, 361–381. <https://doi.org/10.28945/4132>
- Namahoot, K. S., & Laohavichien, T. (2018). Assessing the intentions to use internet banking: The role of perceived risk and trust as mediating factors. *International Journal of Bank Marketing*, 36(2), 256–276. <https://doi.org/10.1108/IJBM-11-2016-0159>
- Nangin, M. A., Rasita, I., Barus, G., & Wahyoedi, S. (2020). The effects of perceived ease of use, security, and promotion on trust and its implications on fintech adoption. *Journal of Consumer Sciences*, 5(2), 153–167.
- Nasri, W., & Charfeddine, L. (2012). Factors affecting the adoption of internet banking in Tunisia: An integration theory of acceptance model and theory of planned behavior. *The Journal of High Technology Management Research*, 23(1), 1–14. <https://doi.org/10.1016/j.hitech.2012.03.001>
- Nasri, W., & Zarai, M. (2014). Empirical analysis of internet banking adoption in Tunisia. *Asian Economic and Financial Review*, 4(12), 1812–1825.
- National Bureau of Statistics. (2022a). *Selected banking sector data* (October report).
- National Bureau of Statistics. (2022b). *Telecoms data: Active voice and internet per state, porting and tariff information* (October report).
- Normalini, M., & Ramayah, T. (2017). Trust in internet banking in Malaysia and the moderating influence of perceived effectiveness of biometrics technology on perceived privacy and security. *Journal of Management Sciences*, 4(1), 3–26. <https://doi.org/10.20547/jms.2014.1704101>
- Odotolu, S. A., & Fallon, J. (2023). An empirical investigation of the factors affecting customers towards e-banking adoption in the Nigerian banking sector. In *Advances in management and innovation conference proceedings* (pp. 1–10). Cardiff School of Management.
- Ololade, B., & Ogbeide, S. (2017). E-banking in Nigeria: Issues and challenges. *Research Journal of Finance and Accounting*, 8(6), 16–24.
- Raji, A. A., Zamani, A., & Abdulwakil, M. M. (2021). Effect of electronic banking on customer satisfaction in Kwara State, Nigeria. *International Journal of Academic Research in Business and Social Sciences*, 11(7), 1–15. <https://doi.org/10.6007/IJARBS/v11-i7/10258>
- Ridwan-Lanre, I., Eregha, P. B., & Sampson, H. (2019). Determinants of e-banking adoption in Lagos State. *NDIC Quarterly*, 34(4), 1–12. <https://ndic.gov.ng/wp-content/uploads/2020/08/NDIC-Quarterly-Vol-34-No-12-2019-Article-Determinants-of-E-Banking-Adoption-in-Lagos-State.pdf>
- Salawudeen, A. & Dandago, K. I. (2020). Board Gender Diversity and Size: Implication on the Market Price Per Share of Listed Manufacturing Companies in Nigeria. *African Journal of Research*, 1 (1), 22-36.

- Salawudeen, A. & Shuaibu, O. (2025). Corporate Governance and Non-Financial Performance of Firms in Nigeria. *Journal of Economics and Business Management*, 3 (4), 46-53.
- Salawudeen, A. & Suleiman, U. G. (2018). Human capital accounting and financial performance of listed consumer goods firms in Nigeria. *Lapai International Journal of Management and Social Sciences*, 10(1&2), 167-182.
- Salawudeen, A. & Suleiman, U. G. (2025). Financial Evolution and Firm Value of Listed DMBs in Nigeria. *International Journal of Accounting Finance and Social Science Research*, 3(3), 83-101.
- Salawudeen, A., Aminu, I. M., & Salaudeen, M. Y. (2020). Shareholders' preference and dividend policy: An empirical analysis of listed industrial goods companies in Nigeria. *Research Journal of Finance and Accounting*, 11(24), 70-80.
- Salawudeen, A., Aminu, I. M., & Salaudeen, M. Y. (2020). Shareholders' preference and dividend policy: An empirical analysis of listed industrial goods companies in Nigeria. *Research Journal of Finance and Accounting*, 11(24), 70-80.
- Sinha, I., & Mukherjee, S. (2016). Acceptance of technology, related factors in use of off branch e-banking: An Indian case study. *The Journal of High Technology Management Research*, 27(1), 88–100. <https://doi.org/10.1016/j.hitech.2016.04.008>
- Smith, J., & Ng, Y. (2021). Building trust in online banking: The role of website aesthetics and information quality. *International Journal of Human-Computer Interaction*, 37(7), 679–694. <https://doi.org/10.1080/10447318.2020.1865210>
- Subburaj, N. (2023). A study on perception of customer's towards e-banking - special reference to Palakkad district, Kerala. *International Journal for Multidisciplinary Research*, 5(2), 1–9. <https://doi.org/10.36941/ijmra.v5i2.4102>
- The World Bank Group. (2019). *Nigeria digital economy diagnostic report*. <https://documents1.worldbank.org/curated/en/873161568595944247/pdf/Nigeria-Digital-Economy-Diagnostic-Report.pdf>
- Thong, J. Y. L., Hong, S. J., & Tam, K. Y. (2006). The effects of post-adoption beliefs on the expectation-confirmation model for information technology continuance. *International Journal of Human-Computer Studies*, 64(9), 799–810. <https://doi.org/10.1016/j.ijhcs.2006.05.001>
- Voorhees, C. M., Brady, M. K., Calantone, R., & Ramirez, E. (2016). Discriminant validity testing in marketing: An analysis, causes for concern, and proposed remedies. *Journal of the Academy of Marketing Science*, 44(2), 119–134. <https://doi.org/10.1007/s11747-015-0455-4>
- Wiratmadja, I. I., Dameria, N., & Kurniawati, A. (2017). The role of perceived trust of physical bank towards perceived risk on internet banking acceptance from the user perspective. *Journal of Economics, Business and Management*, 5(4), 168–172. <https://doi.org/10.18178/joebm.2017.5.4.506>
- World Bank Group. (2021). *Global Findex database 2021*. <https://globalfindex.worldbank.org/>
- World Bank. (2022). *The Global Findex database 2021: Financial inclusion, digital payments, and resilience in the age of COVID-19*. World Bank. <https://www.worldbank.org/en/publication/globalfindex>