

- Demski J & Feltham G., (1978). *Economic Incentives in Budgetary Control Systems*.  
Accounting Review Vol.53 , pp.336-359.
- Donaldson L and Davis, J.H., (1989,1991). *CEO governance and Shareholder returns: Agency Theory or Stewardship Theory*. Paper presented at the annual meeting of the academy of management , Washington D.C.
- Eldenburg, e. a. (2004). *Governance, Performance Objectives and Organizational Form: Evidence from Hospitals*. Journal of Corporate Finance Vol.10 , pp.527-548.
- Fama E.F. (1980). "Agency Problems and The Theory of the Firm" Journal of Political Economy, 88:288-307.
- Financial Times, . (1999). "Moves to Halt Another Decade of Excess". Financial Times, August 5, 1999, 10.
- Krejcie, R.V and Morgan, D.W. (1970). "Determining Sample Size for Research Activities".  
Duluth: University of Minnesota.
- Kroszner, R. S. (1996). "Comment on the Efficiency of Self-Regulated Payments Systems".  
Journal of Money, Credit and Banking. , 798-803.
- La Porta, R. E. (2002). *Government Ownership of Commercial Banks*. , Journal of Finance, 57:265-301 .
- Larcker, D.F., Richardson S.A., and Tuna. I. (2004). "Corporate Governance, Accounting outcomes and Organisational Performance". The Accounting Review Vol.82 , pp.271-292.
- Mitnick B. (1986). *The Theory of Agency and Organisational Analysis*. New York: Random House.
- Mitton, T. (2002). "A cross-firm analysis of the impact of corporate governance on the East Asian financial crisis",. Journal of Financial Economics , Vol. 64, pp. 215-241.
- Spencer, A and Zeckhauser, R. (1971). *Insurance Information and Individual Action*. American Economic Review, Papers and Proceedings Vol.61 , 336-359.
- Weisbach, M. (1998). "Outside directors and CEO turnover". Journal of Financial Economics Vol.20 , pp.431-460.
- Wells, H. (2010). "The Birth of Corporate Governance" . Seattle University Law Review, 33.
- Yermack, D. (1996). "Higher Market Valuation of Companies with a Small Board of Directors",.  
Journal of Financial Economics Vol.40 No.2, , pp.185-212.

## **ELECTRONIC PAYMENT SYSTEMS AND PERFORMANCE OF COMMERCIAL BANKS IN UGANDA: A CASE OF EQUITY BANK, NDEEBA BRANCH**

**<sup>1</sup>James Sserunkuuma , <sup>2</sup>Abubaker Nyanzi, <sup>3</sup>Dr. Ssendagi Muhammed**

1. James Sserunkuuma, MBA-IT Student- St. Lawrence University

2. Mr Abubaker Nyanzi, Supervisor- St. Lawrence University

## **ABSTRACT**

This study aimed at establishing the relationship between electronic payment systems and financial performance of commercial banks in Uganda, with specific focus on Equity Bank, Ndeeba Branch. As a way of achieving this research purpose three research objectives were formulated and these included; to establish the relationship between Mobile banking and financial performance at Equity bank, Ndeeba branch, to assess the relationship between internet banking and financial performance at Equity bank, Ndeeba branch, to examine the relationship between Electronic cards and financial performance at Equity bank, Ndeeba branch. The researcher employed a cross sectional research design for the study. A cross sectional design was adopted because it enabled a researcher to obtain both qualitative and quantitative data at the same time. The study population was 60, and comprised top Management (10), finance staff members (35), and (15) field staff members (Equity Bank Ndeeba branch records, 2024) from which 52 respondents were sampled using Krejcie and Morgan (1970) table for sampling. Both purposive and simple random sampling techniques were used in this study. Validity and reliability of the questionnaires were established through expert judgement and pre-testing respectively. Data was analyzed using Special Package for Social Scientists (SPSS). Frequencies and percentages were used to analyse respondents' profiles while mean values and standard deviations. Correlation and multiple regressions were also used to establish the relationship between the research variables. Pearson's correlation between mobile banking and financial performance at Equity bank illustrates that there is a strong positive relationship between the two variables with  $r = 0.655$ . Pearson's correlation between internet banking and financial performance at Equity bank illustrates that there is a strong positive relationship between the two variables with  $(r) = 0.635$ . Findings of the study showed the relationship between electronic cards and financial performance at Equity bank shows that there is a weak relationship between the two variables is  $(r) = 0.470$ . The study recommends that Equity Bank should expand its mobile banking services by adding new features and targeting specific customer segments while promoting adoption through awareness campaigns and incentives. Equity Bank should focus on enhancing its internet banking platform with advanced features like personalized dashboards, automated financial tools, and seamless integration with other digital services.

**Key Terms:** *Electronic payment systems, commercial banks, Mobile banking, internet banking, Electronic cards*

## **1.0 INTRODUCTION**

The purpose of this study was to examine the relationship between electronic payment systems and financial performance of commercial banks in Uganda, with specific focus on Equity Bank, Ndeeba Branch. In Uganda, Equity Bank Uganda Limited is a significant player in the banking sector. It operates under the license of the Bank of Uganda, providing banking services to individuals and small and medium-sized enterprises. Equity Bank Uganda Limited is headquartered in Kampala and was ranked as the fourteenth largest commercial bank in Uganda as of December 2013, with assets totaling approximately US\$146.3 million (UGX: 370 billion) (Equity Bank Annual Report, 2018). The banking sector in Uganda has undergone significant technological transformations to remain competitive, simplifying processes such as account opening. Numerous banks have introduced innovative mobile banking products, including Equity Bank's M Cash and Equi duuka, KCB's Mobi-bank, and Centenary Bank's Cente mobile.

The history of electronic payment systems can be traced back to 1918 when the Federal Reserve Bank in the United States first utilized telegraph technology to transfer currency. However, it wasn't until 1972 that

the Automated Clearing House (ACH) was incorporated, making a significant milestone in the widespread adoption of electronic currency in the United States. Concurrently, credit card usage began in 1914 when various entities began issuing cards for payments. Over decades, credit cards evolved from paper-based forms to entirely electronic formats, gaining widespread acceptance for various transactions, particularly in the field of transportation (Mohamad et al., 2019).

In the 1990s, some African countries, including Uganda, started adopting electronic retail payment procedures. This era marked the beginning of opportunities to enhance transaction security and the overall efficiency of electronic payment systems (Kassie, 2019). Uganda introduced electronic payment systems in commercial banks as early as 1997. However, customer adoption has only reached 39%, and there is a notable gap in research exploring the relationship between electronic payment systems and customer satisfaction, particularly concerning Automatic Teller Machine, online banking, and mobile banking services.

Electronic payment systems represent a critical innovation in the financial sector, providing a digital alternative to traditional cash and check transactions. These systems facilitate various forms of transactions, including purchases, bill payments, and fund transfers, enhancing convenience and accessibility for users. Among these methods, Electronic Funds Transfer (EFT) enables the direct movement of funds between accounts, bypassing the need for physical checks. Automated Teller Machines (ATMs) allow customers to withdraw cash, make deposits, or conduct account inquiries at any time, providing round-the-clock banking services. Debit and credit cards offer customers the ability to make payments directly from their bank accounts or through credit lines, respectively, while electronic wallets (e-wallets) consolidate multiple payment methods into a single, digital platform for seamless transactions. These innovations not only streamline the payment process for individuals but also enable businesses to reduce transaction costs and improve cash flow management through quicker and more secure settlements (Miao & Jayakar, 2019).

The performance of commercial banks is a critical indicator of the financial health and stability of the broader economy, encompassing various dimensions such as profitability, liquidity, asset quality, operational efficiency, and customer satisfaction. Key performance metrics include return on assets (ROA), return on equity (ROE), net interest margin (NIM), and the efficiency ratio, which collectively reflect a bank's ability to generate income relative to its assets and equity while managing costs effectively (Athanasoglou, Brissimis, & Delis, 2018). High profitability is often associated with a bank's ability to efficiently allocate resources, manage risks, and leverage its customer base to drive revenue growth. Liquidity, another vital aspect, ensures that the bank can meet its short-term obligations and customer withdrawals, which is crucial for maintaining trust and stability. Asset quality, measured through indicators such as non-performing loan (NPL) ratios, reflects the bank's effectiveness in managing credit risk and minimizing potential losses from defaults (Ali & Pua, 2018).

### **1.1 Problem Statement**

The banking sector in Uganda has experienced significant transformation in recent decades, largely due to rapid technological advancements and the increasing adoption of electronic payment systems. Commercial banks have played a key role in modernizing the country's financial infrastructure, promoting financial inclusion, and improving the efficiency of transactions (BOU, 2023).

Despite these efforts, challenges in achieving financial performance targets persist. For example, Equity Bank Ltd aimed for a 40% improvement in financial performance from 2022 in its strategic plan, with

specific goals related to return on assets, return on equity, and liquidity (Equity Bank Strategic Plan, 2022). However, between 2023 and 2024, the bank only realized a 17% improvement, falling short of its objectives (Equity Bank Internal Audit Report, 2024). In response to these challenges, Ugandan banks have focused on enhancing electronic payment systems, such as mobile and internet banking, and ATM services, to boost financial performance (Bank of Uganda Report, 2024).

However, these measures have not delivered the expected outcomes, with active bank accounts stagnating at 6 million while mobile money accounts have surged to over 21 million (Financial Inclusion Report, 2024). Therefore, this study examined the impact of electronic payment systems on the financial performance of commercial banks in Uganda, with a focus on Equity Bank Ndeeba Branch as a case study.

## **1.2 Purpose of the Study**

The general objective of this study was to examine the relationship between electronic payment systems and financial performance of commercial banks in Uganda, with specific focus on Equity Bank, Ndeeba Branch.

## **1.3 Study Objectives**

- (i) To establish the relationship between Mobile banking and financial performance at Equity bank, Ndeeba branch.
- (ii) To assess the relationship between internet banking and financial performance at Equity bank, Ndeeba branch.
- (iii) To examine the relationship between Electronic cards and financial performance at Equity bank, Ndeeba branch.

## **1.4 Research questions**

- (i) What is the relationship between mobile Banking and financial performance at Equity bank, Ndeeba branch?
- (ii) How does internet banking affect financial performance at Equity bank, Ndeeba branch?
- (iii) What is the relationship between Electronic cards and financial performance at Equity bank, Ndeeba branch?

## **2.0 REVIEW OF LITERATURE**

The review of literature precedes with the theoretical framework since it covers research theory preferred to guide contextual application of the study. That's why such theoretical review was preceded by the conceptual framework from which the review of related literature was built.

### **2.1 Theoretical Framework**

Analysis of related literature covers all scientific data in the field specified by the authors. Much of this is usually achieved by reference to previous publications or reviews. This study draws on the Technological Acceptance and Innovation Diffusion Theory as its theoretical framework.

#### **2.1.1 Technological acceptance Model**

It regarded as one of the most commonly model that was linked to the electronic payment system, it includes Innovation, acceptance and use of new technologies that influences the performance of organisation and

individuals and customer's services being easy and fast. For Example, focusing on Technological issues (Davis 1989) and improving technological acceptance model (TAM). This theory deals with individual behavioral intentions and how they apply ICT to solve their problems on daily basis. TAM suggests that the conduct of some body is influenced by his intentions to use the information communication technology and ultimately affect the user's height in terms of perception of the usage of technology and its impact on the use. On the other hand, the usage will depend on the attitude and flexibility in terms of use.

When using the Theory, the requirements regarding how it is easy to use should be recognized (Pederson, Leif, Methlie and Thorbjornsen,2020)

### **2.1.2 Innovation Diffusion Theory**

This diffusion of innovation is considered as most widely used model in technological world for organizational and individual analysis. This theory brings a number of factors that can have impact or affect diffusion of innovation. The first explains how all technological innovations pass from one level of invention to the wide spread use or not Rogers (2018) , the innovations will be useful it provides a relative which is the level in which technological innovations provides some improvements over the existing, in harmony with the social practices and beliefs among the users, in terms of complexity which is easy to learn, training opportunity which is ability to provide experiment with innovation before the use, and the level to which the results of technology are beneficial and clearly visible .these issues do not depend on each other and therefore it's not easy to predict the speed or diffusion. Dissemination research has shown that innovation that offers advantages comparability with the current practices and norms, limited training skills and the observability are more likely to spread easier and faster than innovations with a set of reciprocity features Dillon and Morris, (2019)

## **2.2 Review of related literature**

Different papers carried out on electronic payment systems and financial performance of commercial banks.

### **2.2.1 The Effect of Mobile Banking on the Financial Performance of Banks**

Mobile banking has revolutionized the financial sector by enhancing accessibility and convenience for consumers. According to a study by Masinga and Nkosi (2020), mobile banking has led to increased transaction volumes and customer engagement, significantly impacting banks' financial performance. The authors highlight that the adoption of mobile banking platforms has enabled banks to reach previously underserved populations, thereby expanding their customer base and increasing revenue streams. Mobile banking's role in driving financial inclusion has proven to be a critical factor in enhancing the profitability and operational efficiency of banks, as it reduces the reliance on traditional branch networks and operational costs.

The impact of mobile banking on operational efficiency and cost reduction is further supported by research conducted by Li and Zhang (2021). Their study emphasizes that mobile banking services streamline banking operations by automating routine transactions, thus lowering transaction costs and improving service delivery. Li and Zhang found that banks with robust mobile banking platforms experience significant reductions in overhead costs related to branch maintenance and manual processing. The study also notes that mobile banking contributes to higher customer satisfaction by providing a more convenient and user-friendly banking experience, which in turn enhances customer loyalty and retention.

However, challenges related to security and regulatory compliance remain significant concerns for banks implementing mobile banking solutions. A study by Tetteh and Nkrumah (2022) explores the risks associated with mobile banking, including fraud and data breaches, which can negatively impact financial performance if not adequately addressed. Tetteh and Nkrumah argue that while mobile banking offers substantial benefits, banks must invest in robust security measures and regulatory frameworks to mitigate potential risks. Their research underscores the importance of balancing innovation with security to ensure sustainable financial performance and maintain customer trust in the mobile banking ecosystem.

### **2.2.2 The Impact of Internet Banking on the Financial Performance of Banks**

The advent of internet banking has significantly reshaped the banking industry, leading to substantial improvements in financial performance for many institutions. Research by Bátiz-Lazo and Wood (2020) highlights that online banking facilitates a reduction in operational costs by minimizing the need for physical branch infrastructure and manual processing. The authors demonstrate that banks with well-implemented online banking systems experience increased efficiency and cost savings, which positively impact their profitability. By leveraging digital channels, banks can streamline their operations, reduce overhead expenses, and allocate resources more effectively, resulting in improved financial outcomes.

Moreover, internet banking has been shown to enhance customer acquisition and retention, contributing to banks' financial performance. A study by Gounaris and Dimitriadis (2019) reveals that online banking platforms offer customers greater convenience and accessibility, which helps banks attract new clients and retain existing ones. The authors find that banks with robust online banking services see increased customer engagement and loyalty, leading to higher transaction volumes and revenue. Gounaris and Dimitriadis argue that the ability to offer 24/7 banking services through digital channels not only meets the evolving needs of customers but also enhances banks' competitive positioning in the market.

However, the growth of internet banking also brings challenges related to cybersecurity and regulatory compliance. According to a study by Huang and Zhao (2021), the expansion of online banking services increases the risk of cyber threats and data breaches, which can negatively affect banks' financial performance and reputation. Huang and Zhao emphasize that while internet banking provides numerous benefits, banks must invest in robust security measures and adhere to regulatory standards to protect customer data and maintain trust. Their research underscores the importance of balancing innovation with security to ensure that the financial gains from internet banking are not overshadowed by potential risks and vulnerabilities.

The influence of internet banking on the financial performance of banks also extends to improved customer service and satisfaction. Research by Gupta and Kaur (2018) underscores that online banking platforms enhance customer experience by providing faster, more convenient access to banking services. Their study shows that features such as real-time account monitoring, online bill payments, and instant fund transfers contribute to higher levels of customer satisfaction. Gupta and Kaur find that banks with effective online banking services often see increased customer loyalty and reduced churn rates, which translate into stable and growing revenue streams.

### **2.2.3 The Effect of Electronic Cards on the Financial Performance of Banks**

The proliferation of electronic debit and credit cards has had a profound impact on the financial performance of banks by driving increased transaction volumes and revenue. According to a study by Nguyen and Sim (2019), the widespread adoption of electronic cards has significantly boosted transaction activity and fees for banks. The authors find that electronic cards facilitate more frequent and higher-value transactions compared to cash or checks, which enhances banks' fee income from transaction processing and interchange fees. Nguyen and Sim's research highlights that banks benefiting from high card usage can experience substantial revenue growth and improved financial performance as a result of these increased transaction volumes.

In addition to revenue growth, electronic cards contribute to improved customer loyalty and retention. Research by Jones and Wilson (2020) indicates that banks offering a diverse range of electronic card products, including rewards and cashback options, can attract and retain customers more effectively. The authors demonstrate that electronic cards with value-added features enhance customer satisfaction and encourage repeat usage. Jones and Wilson find that banks leveraging these features see higher customer engagement and loyalty, leading to more stable and predictable revenue streams. Their study underscores the role of electronic cards in strengthening customer relationships and contributing positively to banks' financial performance.

However, the increased reliance on electronic cards also brings challenges related to fraud and security, which can impact financial performance. A study by Patel and Gupta (2021) explores the risks associated with electronic card transactions, including data breaches and fraudulent activities. The authors note that while electronic cards provide numerous benefits, they also expose banks to significant security threats that can lead to financial losses and reputational damage. Patel and Gupta emphasize the need for banks to invest in advanced fraud detection technologies and robust security measures to mitigate these risks. Their research highlights that addressing security challenges is crucial for maintaining the positive financial impact of electronic cards and ensuring long-term success in the competitive banking industry.

The adoption of electronic debit and credit cards has also been shown to enhance banks' operational efficiency and cost management. Research by Martinez and Fernandez (2020) highlights that electronic card transactions streamline payment processes, reducing the need for manual processing and handling of cash. The authors find that the automation of transaction processing through electronic cards lowers operational costs associated with traditional payment methods, such as cash handling and check processing. Martinez and Fernandez's study suggests that banks can achieve significant cost savings and improved operational efficiency by leveraging electronic card systems, which positively impacts their overall financial performance.

### **3.0 METHODOLOGY**

#### **3.1 Research Approach**

The researcher employed a cross sectional research design for the study. A cross sectional design was adopted because it enabled a researcher to obtain both qualitative and quantitative data at the same time. In addition, it enabled the researcher to make an in-depth study about the impact of electronic payment systems on the financial performance of commercial banks in Uganda. This is supported by Sekaran (2003) who recommends that a study which takes days, weeks and months is justified to use a cross sectional study

design. In the study, both quantitative and qualitative techniques were employed in the data collection process, analysis, presentation and discussion of findings. Under quantitative techniques, the researcher used the self-administered questionnaires to collect quantitative data, which were later analysed with the aid of the Statistical Package for the Social Sciences (SPSS) while an interview guide was used to collect qualitative data that was analysed using thematic analysis.

### 3.2 Population of the Study

The study population was 60, and comprised top Management (10), finance staff members (35), and (15) field staff members (Equity Bank Ndeeba branch records, 2024). The above population was used because it constituted members involved in electronic payment systems who were in position to provide reliable data on its effect on financial performance of the bank.

### 3.3 Determination of Sample Size

The researcher had a total sample selected for the study as 52 respondents using the table for sample determination (Krejcie & Morgan, 1970). The table for sample determination by Krejcie and Morgan was used because it satisfies that the general rule relative to acceptable margins of error in educational and social research which is that of a 5% margin error in determining the sample size (Hashim, 2010). The study considered 52 who included top management, finance staff and field staff members. The total population was considered for this study since it was already small and hence sampling further reduced the chances of getting more respondents.

**Table 3.3 Sample Size**

Category of respondents	Population	Sample size	Techniques
Top Management	5	5	Purposive
Finance staff	25	20	Purposive
Field staff	30	27	Simple random
<b>Total</b>	<b>60</b>	<b>52</b>	

**Source:** Equity bank Ndeeba branch records (2024)

### 3.4 Data Collection

Data was collected by conducting a questionnaire survey using of a structured questionnaire. The questionnaire comprised of close-ended items that provided choice alternatives from which study participants were requested to tick the best choice that matches their opinion about the problem of investigation and situation. The researcher also used in-depth interviews to obtain data from bank Management.

### 3.5 Data Analysis

Data analysis was completed using descriptive and inferential statistics based on the Scientific Package for Social Scientists (SPSS), v.23. The descriptive statistical analysis tools used included the frequency and percentage tables and inferential statistics comprised the Pearson's correlation coefficient and simple linear regression analyses. For qualitative data analysis, the researcher organized statements and responses to



generate useful conclusions and interpretations on the research objectives (Sekaran, 2003). During the study, thematic analysis was employed thereby identifying all data that related to the already classified patterns and the identified patterns expounded on.

#### 4.0 FINDINGS/ RESULTS

Findings of the study were also presented and analyzed in a formation consistent with the specific research objectives stated in section 1.3 above.

##### 4.3.2 Inferential findings on correlation and regression

To establish the relationship between mobile banking and financial performance at Equity bank, the researcher carried out a correlation and linear regression test. The results are presented in the tables below;

**Table 4.3.2: Correlation between mobile banking and financial performance at Equity bank**

		Mobile banking	Financial performance
Mobile banking	Pearson Correlation	1	.655**
	Sig. (2-tailed)		.000
	N	45	45
Financial performance	Pearson Correlation	.655**	1
	Sig. (2-tailed)	.000	
	N	45	45
**. Correlation is significant at the 0.01 level (2-tailed).			

*Source; Primary Data, 2024*

Correlation results in table 4.3.2 above show that there is a positive strong significant relationship between mobile banking and financial performance at Equity bank ( $r = 0.655$ ,  $\text{Sig} = 0.01$ ). The positive correlation implies that mobile banking affects financial performance at Equity bank and vice versa. Thus this implies that mobile banking affects financial performance at Equity bank.

##### 4.4.1 Inferential findings on correlation and regression

To establish the relationship between internet banking and financial performance at Equity bank, the researcher carried out a correlation and linear regression test. The results are presented in the tables below.

**Table 4.4.1: Correlation between internet banking and financial performance at Equity bank**

		Internet banking	Financial performance
Internet banking	Pearson Correlation	1	.635**
	Sig. (2-tailed)		.000
	N	45	45
Financial performance	Pearson Correlation	.635**	1

	Sig. (2-tailed)	.000	
	N	45	45
**. Correlation is significant at the 0.01 level (2-tailed).			

**Source; Primary Data, 2024**

Results in table 4.4.1 above show the relationship between internet banking and financial performance at Equity bank. It shows that through bivariate means, the correlation between internet banking and financial performance at Equity bank is  $(r) = 0.635$ . This implies that there is a strong positive relationship between the two variables since the p-value is 0.000 which is less than 0.05 ( $p < 0.05$ ). This implies that internet banking affects financial performance at Equity bank.

**4.5.2 Inferential statistics on correlation and regression**

To establish the relationship between electronic cards and financial performance at Equity bank, the researcher carried out a correlation and linear regression test. The results are presented in the tables 4.5.2

**Table 4.5.1: Correlation between electronic cards and financial performance at Equity bank**

		Electronic cards	Financial performance
Electronic cards	Pearson Correlation	1	.470**
	Sig. (2-tailed)		.000
	N	45	45
Financial performance	Pearson Correlation	.470**	1
	Sig. (2-tailed)	.000	
	N	45	45
**. Correlation is significant at the 0.01 level (2-tailed).			

**Source; Primary Data, 2024**

Findings of the study in table 4.5.2 above show the relationship between electronic cards (independent variable) and financial performance at Equity bank (dependent variable). It shows that through bivariate means, the correlation between electronic cards and financial performance at Equity bank is  $(r) = 0.470$ . This implies that there is a low positive correlational relationship between the two variables since the significant value is 0.000 which is less than 0.05 ( $p < 0.05$ ). This therefore implies that electronic cards affect financial performance at Equity bank.

**5.0 DISCUSSION OF FINDINGS**

**5.2.1 Relationship between mobile banking and financial performance at Equity bank**

The findings revealed that there is a strong positive relationship between mobile banking and financial performance which is  $r = 0.655$ . These findings are in agreement with Masinga and Nkosi (2020) who found that mobile banking has led to increased transaction volumes and customer engagement, significantly impacting banks' financial performance. The authors highlight that the adoption of mobile banking platforms has enabled banks to reach previously underserved populations, thereby expanding their customer base and increasing revenue streams.

### **5.2.2 The relationship between internet banking and financial performance at Equity bank**

The findings revealed that there is a strong positive relationship between internet banking and financial performance which is  $r = 0.635$ . These findings are in agreement with Bátiz-Lazo and Wood (2020) who highlighted that online banking facilitates a reduction in operational costs by minimizing the need for physical branch infrastructure and manual processing. The authors demonstrate that banks with well-implemented online banking systems experience increased efficiency and cost savings, which positively impact their profitability.

### **5.2.3 Relationship between Electronic cards and financial performance at Equity bank, Ndeeba branch**

The findings revealed that there is a weak relationship between electronic cards and financial performance which is  $r = 0.470$ . These findings are in agreement with Nguyen and Sim (2019) who found that the widespread adoption of electronic cards has significantly boosted transaction activity and fees for banks. The authors find that electronic cards facilitate more frequent and higher-value transactions compared to cash or checks, which enhances banks' fee income from transaction processing and interchange fees.

## **6.0 CONCLUSIONS**

The study concludes based on the adjusted R Square, that 42.5% of financial performance at Equity bank, Ndeeba branch is affected by mobile banking, the remaining 57.5% of financial performance at Equity bank, Ndeeba branch being explained by other factors. This therefore means that there is a relationship between mobile banking and financial performance at Equity bank, Ndeeba branch.

The study concludes that; internet banking affects financial performance at Equity bank, Ndeeba branch considering Pearson product-moment correlation coefficient of  $r = 0.635$ . The positive value of ( $r$ ) implies that, improvement in the internet banking improve on financial performance at Equity bank, Ndeeba branch and vice versa. Therefore, research objective two was achieved and research question two was answered.

The study concludes that; electronic cards affect financial performance at Equity bank, Ndeeba branch, considering Pearson product-moment correlation coefficient of  $r = 0.470$ . The positive value of ( $r$ ) implies that a better electronic card affects financial performance at Equity bank, Ndeeba branch and vice-versa. Therefore, research objective three was achieved and research question three was answered.

## **References**

- Abor, J., & Biekpe, N. (2007). Small business reliance on bank financing in Ghana. Achieng, A. D., & Ouma, C. A. (2017). *Extent of Customer Satisfaction with Mobile Banking: A Case Study of Barclays Bank of Kenya's Hello Money*.
- Aharony, J. and I. Swary, 2006, *The Effect of Common-Stock Dividend Reductions on the Returns of Nonconvertible Preferred Stocks: A Note*. The Journal of Finance, 38(3), 1019-1024.
- Altman, E.I. and V.Kishore, 1999, *The Default Experience of U.S. Bonds, Working Paper, Salomon Center*.
- Amihud, Y., B. Christensen and H. Mendelson, 1992, *Further Evidence on the Risk- Return Relationship, Working Paper, New York University*.

- Asokan, N., Janson, P. A., Steiner, M., & Waidner, M. (2008). The state of the art in electronic payment systems. *Computer*, 30(9), 28-35
- Chimaobi, C. M. (2018). *Impact of Internet banking on Profitability of commercial banks in Nigeria. Study of Zenith BankPlc (2005-2017)* (2005-2017) (Doctoral dissertation, Godfrey Okoye University).
- Chorafas, D. N. (2016). Globalization's limits: conflicting national interests in trade and finance. CRC Press. *CLEAR International Journal of Research in Commerce & Management*, 7(2).
- Dahlberg, T., Mallat, N., Ondrus, J., & Zmijewska, A. (2008). *Past, present and future of mobile payments research: A literature review*. *Electronic commerce research and applications*, 7(2), 165-181.
- Delone, W. H., & Mclean, E. R. (2004). Measuring e-commerce success: Applying the Delone & McLean information systems success model. *International Journal of electronic commerce*, 9(1), 31-47.
- DeYoung, R. (2005). The performance of Internet\_ based business models: Evidence from the banking industry. *The Journal of Business*, 78(3), 893-948. *Emerging Markets Finance and Trade*, 43(4), 93-102
- Estibel, T. (2014). *Factors Affecting on Electronic Banking Adoption of Customers in Commercial Bank of Ethiopia, Addis Ababa* (Doctoral dissertation, St. Mary's University).
- Forth, T. J., & Pierce, J. D. (2009). U.S. Patent No. 7,609,873. Washington, DC: U.S. Patent and Trademark Office.
- Journal of health communication, 9(S1), 13-19
- Kalakota, R., & Whinston, A. B. (2007). *Electronic commerce: a manager's guide*. Addison-Wesley Professional.
- Karatepe, E., Boztepe, M., & Colak, M. (2007). Development of a suitable model for characterizing photovoltaic arrays withshaded solar cells. *Solar Energy*, 81(8), 977-992.
- vi (2015). *Electronic Payment System in Nigeria: Its Economic Benefits and Challenges*. *Journal of Education and Practice*, 6(16), 56-62.
- KOHLI, G. (2016). *E-commerce transaction security issue and challenges e-commerce: Kumaga, D. (2011). The challenges of implementing electronic payment systems–The case of Ghana’s E-zwich payment system*
- Lamond, D., Dwyer, R., Herciu, M., & Ugrian, C. (2008). Interrelations between competitiveness and responsibility at macro and micro level. *Management Decision*.
- Lin, T. C., & Huang, C. C. (2008). Understanding knowledge management system usage antecedents: An integration of social cognitive theory and task technology fit. *Information & Management*, 45(6), 410-417.
- Mugenda, O. M. (2003). *Mugenda. AG (1999). Research methods*
- Mwesigwa, R. (2010). *Consumers’ attitudes, perceived risk, trust and internet banking adoption in Uganda* (Doctoral dissertation, Makerere University)
- Nwaolisa, E. F., & Kasie, E. G. (2012). *Electronic retail payment systems: User acceptability and payment problems in Nigeria*. *Oman Chapter of Arabian Journal of Business and Management Review*, 34(953), 1-18.