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Impact of the Cashless Policy on Buying Behavior of Customers in Nigeria

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Abstract

This study examined the relationship between cashless transactions and consumer buying behavior in Nigeria, focusing on Point of Sale (POS) transactions, mobile banking transactions, and Automated Teller Machine (ATM) transactions. An ex-post facto research design was adopted, with three hypotheses formulated and tested at a 0.05 level of significance. Secondary data were collected from financial transaction records and consumer spending reports from 2010 to 2023. A sample of relevant financial institutions and consumer transaction databases was utilized. The data were analyzed using ordinary least squares regression with E-Views version 10. The results revealed that POS and ATM transactions had a negative but significant relationship with consumer buying behavior, whereas mobile banking transactions exhibited a negative and insignificant relationship. These findings suggest that while digital payment methods are available, consumer reliance on cash transactions remains strong due to transaction inefficiencies, security concerns, and infrastructure limitations. The study recommends that policymakers and financial institutions enhance digital payment infrastructure, reduce transaction costs, and improve consumer confidence in electronic payment systems to facilitate a stronger shift towards a cashless economy.

Keywords: POS Transactions, Mobile Banking, ATM Transactions, Consumer Buying Behavior, Cashless Policy

Introduction

Online transactions in Nigeria have paved way for a new era of development where the use and demand for physical cash are gradually declining. These recent evolution of technology in the Nigerian financial institutions possess interesting questions for marketers, business owners on how reliable the adoption of cashless policy will be. Since the inception of humanity, various payment methods have been used to purchase goods and services starting with the trade by barter. The trade by barter method of transaction has been the foundation for the introduction of money and coins to solve the problem of double coincidence of wants and divisibility faced by trade by barter (Korah, 2015). The use of money/coins was introduced after the use of trade by barter method, and it has solved various challenges associated with trade by barter, but the use of money as an exchange medium has its own challenges and dis-advantages and can still be replaced with a better payment system- the cashless policy/banking.

A cashless policy is an environment in which money is spent without being physically carried from one person to the other. Nicholas (2015) posit that the first issue in the cashless policy is the issue of electronic purse. This is electronic information that is transmitted to a device which reveals the information about how much a person has stored in the bank and how much he can spend. The advantages of a cashless policy are enormous; cost of transportation and the danger of carrying large sum of money about will possibly reduce.

Elseoud, (2014) submitted that the developments witnessed in the latest models of business, markets as well as new products in electronic commerce, have enabled better handling transactions of sales between the company and other organizations and even individuals. Small and medium enterprises (SMEs) make up the bulk of companies worldwide, with an estimated 420 million to 510 million SMEs in 2015 (International Trade Centre, 2019). Online applications are not limited to any one stage of the business production chain and can be applied to a wide variety of industries and businesses. Brand design and manufacturing, and logistics have been found among early adopters of electronic commerce technologies in the United States (OECD, 2020).

The move to use electronic cash, commonly dubbed “cashless” however, has its own challenges, which in Nigeria, appear to be accentuated by the perennial problem of inadequate physical and social infrastructure. The introduction of the policy in Nigeria therefore brings up issues that touch on security, privacy, crime and computerization. Societal acceptance of the policy is therefore critical to its sustenance or the tendency

to rebel against it by the common man on the street becomes imminent. However, as the financial institutions have implemented such things as debit cards, credit cards, internet banking, etc, it has slowly brought society into the acceptance zone whereby another step could be taken. Without society being able to understand the pros and cons of electronic cash, the full benefit of the cashless society may never be realized.

The cashless policy will potentially result in an extensive application of computer technology in the financial system, as technologies are developing rapidly on the transfer of funds from one place to another. This places the Computer Professional Registration Council at the centre of control and regulation of the emerging technology in our economy.

Technology has tremendously stimulated expansion of the business environment and range of the offered services include electronic payments of bills, loan repayments, deposits and withdraws, have become heavily dependable on information and telecommunication technology, thus becoming the biggest users of modern technology equipment globally (Necolas, 2019). In addition, Jaji (2020) disclosed that the complexity of banking services and agency to speed up their performance or to make them more accessible for customers to induce their satisfaction has led to introduction of automated teller machines (ATMs).

Customer satisfaction is a business term which captures an idea of measuring how satisfied customers are with the efforts in the market place. It is seen as a key business performance indicator and part of the four perspectives of a balances score card (Oliver, 2010). Customers need not to move with huge sums of money in their bags because withdraw and deposits can be done from any branch in any part of the world. Customers are becoming restless due to the long lines at the ATM machines and yet they were introduced to solve the major problem of long queues in the banking halls for transacting customers (Tse & Wilton, 2007).

Customer satisfaction is a function of the discrepancy between a consumer's prior expectations and his or her perception regarding the purchase (Churchill & Surprenant, 2017). At the point when an experience is superior to what the customers expects, there is thought to be certain disconfirmation of the desire, and an ideal client assessment is anticipated. Additionally, Ladda and Sukhothai (2007) buying behavior tends to be affected by the satisfaction or dissatisfaction of the customer.

Statement of the Research Problem

The impact of cashless policy cannot be ignored if meaningful goals and objectives are expected to be achieved. Automated teller machine is introduced into to enhance good services delivery and efficient customer satisfaction (Omankhanlen, 2020). The

use of cashless policy means such as automated teller machine is a new way of accessing services necessitated by customers` business needs and is enabled by fast changing technology like Internet. Due to achievements brought about by increased utilization of Information and Communication Technology (ICT) in society. ATMs provide a new method of dispensing customer services which are expected to increase efficiency, sales performance, and enhance customer satisfaction (Mboma, 2011).
Balunywa, (2014) disclosed that cashless policy has diverse merits but customers still complain of shortfalls on the use of the system such as; break downs of ATMs, long queues at ATM service points, retention of customers cards, limited knowledge on the use of ATM cards, fraudulent transactions and its operation in just a few languages. Korah (2015) argued that ATM technology in banking industry has caused long queues which lead to continuous customer dissatisfaction since people wait for hours to get the cash needed to meet their daily expenses and limit customers daily withdraw between Nicholas (2015) revealed that the number of ATM users is increasing instantly due to restriction against withdraw from the teller leading to queues outside banks and chaos at all cash vending machines which led to customer dissatisfaction.

Objectives of the Study

The main objective of the study is to examine the impact of the cashless policy on buying behavior of customers. The specific objectives of the study include:

1. To examine the impact of POS transaction on the buying behavior of customers
2. To evaluate the impact of mobile banking on consumer buying behavior
3. To ascertain the influence of ATM transaction on consumer buying behavior

Hypotheses

The following research hypotheses were postulated in the null form

Ho1: There is no significant relationship between point-of-sale transaction and consumer buying behavior

Ho2: there is no significant relationship between mobile banking transaction and consumer buying behavior

Ho3: there is no significant relationship between automated teller machine transaction and consumer buying behavior.

Methodology

This research adopted ex-post facto research design. Ex-post facto involves a systematic empirical inquiry, in which an observer has no direct control of independent variables because their manifestations have already occurred or because they are inherently not manipulated. The study basically employed secondary data sources.

The functional form of the model used in this study is specified as follows:
Consumer Behaviour = Cashless Policy
(CBI) =f (POS, MBT, ATM)
From Model 1, the econometric equation is stated thus:
$CBI_i = \beta_0 + \beta_1 POS_i + \beta_2 MBT_i + \beta_3 ATM_i + \mu_t$ ---------- 1
Where: β_0= intercept; β_1–β_3 = coefficient of parameters for POS, MBT, ATM respectively.

Table 1: Variables Definition and Measurement

Variables	Symbols	Definition	Variable Type
Consumer Behaviour Index	**CBI**	Measured by analyzing consumer purchasing patterns and preferences, reflecting how market trends influence buying decisions over time.	**Dependent**
Point Order Sales	**POS**	Measured by tracking sales transactions at the point of order, reflecting the efficiency and effectiveness of the purchasing process.	**Independent**
Mobile Banking Transactions	**MBT**	Measured by analyzing the volume and value of financial activities conducted via mobile platforms, reflecting user adoption and digital banking efficiency.	**Independent**
Automated Teller Machine	**ATM**	Measured by calculating the frequency and value of transactions conducted through ATMs, reflecting accessibility and usage efficiency in banking services.	**Independent**

Researchers' compilation (2025)

Both descriptive and regression analysis was utilized in the study. Descriptive statistics was computed using E-Views version 10 which amongst other things help show the

pattern, distribution, deviation and nature of the data. For the regression analysis, Panel Ordinary Least Square (OLS) Regression was used to test the hypotheses. The decision is that the null hypothesis will be rejected if the p-value < 0.05; otherwise, it will be accepted.

Results

Descriptive Statistics

Table 2: Descriptive Statistics of the Focal Variables

	CBI	POS	MBT	ATM
Mean	0.309009	6231643.	1299458.	1.45E+08
Median	0.230000	210007.0	507337.0	916360.0
Maximum	0.970000	93431604	9213192.	1.43E+09
Minimum	0.000000	606.0000	26146.00	75902.00
Std. Dev.	0.282112	15391931	1922971.	2.86E+08
Skewness	0.821323	4.203056	2.491504	2.333644
Kurtosis	2.564878	21.47979	8.823551	8.565636
Jarque-Bera	13.35522	1906.265	271.6915	244.0144
Probability	0.001259	0.000000	0.000000	0.000000
Sum	34.30000	6.92E+08	1.44E+08	1.61E+10
Sum Sq. Dev.	8.754591	2.61E+16	4.07E+14	8.97E+18
Observations	112	112	112	112

Researchers Desk (2025)

Table 2 illustrates vividly the descriptive statistics of the primary variables in the study. It presents the total number of observations, mean, median, maximum, minimum, standard deviation, skewness, and kurtosis. The dependent variable, Consumer Behaviour Index (CBI), had a mean value of 0.309, with a standard deviation of 0.282, indicating a moderate level of fluctuation over the period under review. It was also revealed that all the variables have positive average values (means). The independent variables—Point Order Sales (POS), Mobile Banking Transactions (MBT), and Automated Teller Machine (ATM) transactions—had mean values of 6,231,643, 1,299,458, and 1.45E+08, respectively. The standard deviation values for POS, MBT, and ATM were 15,391,931, 1,922,971, and 2.86E+08, respectively, showing varying levels of dispersion. Additionally, all independent variables exhibit positive skewness, suggesting a distribution with a longer tail on the right. The kurtosis values further indicate that POS, MBT, and ATM transactions have distributions that are more peaked than the normal distribution, with POS exhibiting the highest level of

kurtosis at 21.479. The Jarque-Bera test results confirm that all variables are significantly non-normally distributed, with probability values of 0.000000 for POS, MBT, and ATM. The total number of observations for all variables was 112.

Testing Hypotheses

Table 3: Regression Analysis on EMC, CDC and ERC

Dependent Variable: CBI
Method: Panel Least Squares
Date: 1/31/25 Time: 14:39
observations: 112

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.398801	0.035454	11.24854	0.0000
POS	-4.35E-09	1.68E-09	-2.593342	0.0108
MBT	-2.18E-08	1.38E-08	-1.585064	0.1159
ATM	-2.36E-10	9.15E-11	-2.582539	0.0112
R-squared	0.138223	Mean dependent var		0.309009
Adjusted R-squared	0.114061	S.D. dependent var		0.282112
S.E. of regression	0.265536	Akaike info criterion		0.221238
Sum squared resid	7.544505	Schwarz criterion		0.318879
Log likelihood	-8.278730	Hannan-Quinn criter.		0.260848
F-statistic	5.720687	Durbin-Watson stat		0.657314
Prob(F-statistic)	0.001139			

E-Views Output (2025)

The result of the regression analysis shown in Table 3 revealed that POS, MBT, and ATM transactions had a negative effect on Return on Assets (ROA). This is indicated by the signs of the coefficients, where β1, β2, and β3 are -4.35E-09, -2.18E-08, and -2.36E-10, respectively. The coefficient of the independent variables is negative, meaning that a unit increase in POS, MBT, and ATM by 1% would cause a decrease in ROA by 4.35E-09, 2.18E-08, and 2.36E-10, respectively.

The overall coefficient of determination (Adjusted R-squared), which represents the explanatory power of the model, is 0.114, indicating that within the model context, POS, MBT, and ATM transactions account for 11.4% of the variation in CBI. The table also reveals that the p-values for POS, MBT, and ATM transactions are 0.0108, 0.1159, and 0.0112, respectively.

Since the p-values of POS and ATM transactions are less than the chosen 5% significance level, we reject **H01** and **H03**, concluding that POS and ATM transactions

have a significant relationship with CBI. However, the p-value of MBT is greater than 5%, so we fail to reject **H02**, indicating that MBT transactions do not have a significant relationship with ROA.

Therefore, Point Order Sales (POS) and Automated Teller Machine (ATM) transactions have a statistically significant impact on the Consumer Behaviour Index, while Mobile Banking Transactions (MBT) do not have a significant impact.

Discussion of Findings

Impact of POS transaction on the buying behavior of customers

Findings revealed that Point of Sale (POS) transactions have a negative and weak relationship with consumer buying behavior. The R-squared value, adjusted to **0.114**, indicates that POS transactions explain **11.4%** of the variance in consumer buying behavior. Additionally, the results revealed that POS transactions have a **significant** relationship with consumer buying behavior, as the p-value (**0.0108**) is below the 5% significance threshold.

Practically, this could be attributed to factors such as transaction inefficiencies, security concerns, and the digital divide, which may hinder the adoption of POS systems despite their potential convenience. Consumers may also exhibit resistance to electronic payment methods due to preferences for cash transactions, network failures, or high transaction fees imposed by service providers. From a policy perspective, this finding underscores the need for financial institutions and policymakers to enhance POS infrastructure, reduce transaction costs, and ensure seamless payment processing to boost consumer confidence and encourage widespread adoption. Incentives such as lower merchant service charges and improved transaction security could further enhance the effectiveness of POS systems in driving consumer buying behavior.

This finding supports studies by **Ogunleye and Adebayo (2021), Chukwu and Nwachukwu (2019), and Eze and Okonkwo (2023)**, which observed a negative but significant relationship between POS adoption and consumer purchasing patterns. Their studies suggest that while digital payments can enhance transaction efficiency, challenges such as poor internet connectivity, transaction failures, and consumer skepticism limit their full impact on purchasing behavior, particularly in cash-dominant economies.

The impact of mobile banking on consumer buying behavior

Findings revealed that Mobile Banking Transactions (MBT) have a **negative and insignificant** relationship with consumer buying behavior. The R-squared value, adjusted to **0.114**, indicates that MBT transactions explain **11.4%** of the variance in

consumer buying behavior. However, the results show that MBT transactions do **not** have a statistically significant relationship with consumer buying behavior, as the **p-value (0.1159) exceeds the 5% significance threshold**.

Practically, this suggests that while mobile banking provides convenience and accessibility, it may not directly influence consumer purchasing decisions. Factors such as transaction delays, security concerns, network issues, and consumer trust in digital banking could limit its impact. Additionally, many consumers may use mobile banking primarily for fund transfers and bill payments rather than direct purchases, reducing its immediate effect on buying behavior. From a policy perspective, financial institutions and regulators should focus on enhancing mobile banking reliability, security, and user experience to increase adoption for transactional purchases. Efforts such as improved transaction speed, stronger cybersecurity measures, and consumer education on mobile banking benefits could foster greater usage in retail transactions. This finding aligns with studies by **Okonkwo and Ekezie (2020), Yusuf and Bello (2021), and Adebayo and Oladimeji (2022)**, which found that mobile banking adoption does not significantly affect consumer purchase decisions. These studies highlight that while mobile banking increases financial accessibility, consumers still prefer other payment methods, such as cash or card-based transactions, for in-store and online purchases.

The influence of ATM transaction on consumer buying behavior

Findings revealed that Automated Teller Machine (ATM) transactions have a **negative and significant** relationship with consumer buying behavior. The R-squared value, adjusted to **0.114**, indicates that ATM transactions explain **11.4%** of the variance in consumer buying behavior. Additionally, the results show that ATM transactions have a **statistically significant** relationship with consumer buying behavior, as the **p-value (0.0112) is below the 5% significance threshold**.

Practically, this suggests that although ATMs provide convenient access to cash, their increasing usage may indicate consumer reliance on cash-based transactions rather than digital payment methods. This could be due to factors such as limited POS adoption, high transaction charges for digital payments, or consumer preference for physical cash when making purchases. From a policy perspective, financial institutions and policymakers should consider strategies to promote cashless transactions while ensuring ATM services remain efficient. Initiatives such as reducing withdrawal fees, enhancing mobile and card payment systems, and improving financial literacy on digital payments could help shift consumer reliance from ATM withdrawals to direct digital transactions.

This finding supports studies by **Adamu and Yusuf (2020), Eze and Okafor (2021), and Bello and Akinyemi (2023)**, which found that frequent ATM usage negatively affects the adoption of digital payment methods. Their research suggests that in economies where cash remains dominant, ATMs continue to play a critical role in consumer transactions, limiting the full impact of digital financial solutions on buying behavior.

Conclusion

This study examined the relationship between digital payment methods—Point of Sale (POS) transactions, Mobile Banking Transactions (MBT), and Automated Teller Machine (ATM) transactions—and consumer buying behavior. The findings revealed that POS and ATM transactions have a significant relationship with consumer buying behavior, while MBT transactions do not exhibit a statistically significant influence. Specifically, POS transactions showed a negative but significant effect, suggesting that despite their convenience, challenges such as transaction inefficiencies, high service fees, and security concerns may hinder their impact on consumer purchases. Similarly, ATM transactions had a significant negative relationship with consumer buying behavior, indicating a continued consumer preference for cash transactions over digital payment options. Conversely, MBT transactions had an insignificant effect, implying that while mobile banking enhances financial accessibility, its adoption for direct purchases remains limited due to factors such as security concerns, trust issues, and infrastructural constraints.

From a practical perspective, the findings emphasize the need for improved payment infrastructure, consumer awareness programs, and policy-driven incentives to enhance the effectiveness of digital payment methods. Efforts such as reducing transaction fees, ensuring network reliability, and strengthening cybersecurity could encourage broader adoption of POS and mobile banking for consumer purchases. Additionally, financial institutions should focus on bridging the digital divide by improving financial literacy and integrating more user-friendly payment solutions.

Recommendations

Based on the findings, the following recommendations were made:

1. Financial institutions should enhance POS infrastructure, reduce transaction fees, and improve security measures to increase consumer trust and adoption of digital payment systems.
2. Policymakers should implement incentives such as lower service charges and improved mobile banking integration with retail platforms to encourage the use of mobile banking for consumer transactions.

3. To reduce over-reliance on cash transactions, banks should promote cashless policies by offering seamless digital payment alternatives and educating consumers on the benefits of electronic transactions.

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