

The Effect of Quality of Money Notes on Automated Teller Machine Efficiency among Deposit Money Banks in Lagos state, Nigeria

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ABSTRACT

The pursuit to understand quality of money notes on automated teller machine efficiency among deposit money banks has become more demanding and attention-grabbing over the years as it results in wasting of man hours. Unmanaged queues are detrimental to the productive operation of banking service systems. It is in light of this that this study investigated the effect quality of money notes on automated teller machine efficiency among deposit money banks in Lagos state, Nigeria. The study used descriptive survey design. The population of the research consisted of 258,699. The sample size was determined using the formula suggested by Cochran to arrive at 931. A multi-stage sampling method was used. A structured questionnaire titled "Quality of Money Notes on Automated Teller Machines" was used. The questionnaire was validated and administered with 82.9 percent response rate. The Cronbach Alpha for the two constructs was 0.879 and 0.880 while the KMO 0.749 and 0.724 respectively. The data was gathered through questionnaire and was analysed using regression analysis. Findings revealed that there was a significant effect of quality of money notes on efficiency of automated teller machines. All the queuing analysis of system factors variables had positive effects on market performance (quality of money notes: $R = 0.461$; $R^2 = 0.212$; $p = 0.000$). The study concluded that quality notes will enhance the efficiency of ATM operations in deposit money banks in Lagos state, Nigeria. The analysis recommended that the managements of money deposit banks should embrace the habit of loading their ATMs with crisp notes to enhance the efficiency of automated teller machines.

Key Words: Quality of Money Notes, Machine Efficiency, ATM, Deposit Money Banks

INTRODUCTION

Performance of Nigerian banks has been enhanced with technological innovation. For a decade, remarkable developments via service delivery, profitability and customers' responses were attained. Banks' staff needed to muddle through the difficulty brought about with the advent of Information and Communication Technology (ICT) reigning in financial sector worldwide. Customers as well enjoyed the enhanced service quality which unavoidably enhanced competition and prosperity among banks. However notwithstanding the developments, have led to, decline or slump in profits of Nigerian banks while scores have nearly liquidated (Dauda & Akingbade, 2011). A study carried out by Owolabi and Ogunlalu (2013) covering a period of 2001 and 2010 on banking Industry consolidation and financial performance on four banks namely, Zenith bank PLC, GTB PLC, First Bank, PLC and UBA, PLC revealed a downturn in the rate of Net Profit Margin, Return on

Assets, Return on Capital Employed while the Shareholders' Funds and Total Assets increased in the period in question. See table 1.1

Table 1.1: Average Performance Evaluation for four banks between 2001-2010

Year	Net Profit Margin (NPM)	Return On Assets (ROA)	Return On Capital Employed (ROCE)	Shareholders' Funds (#million)	Total Assets (#million)
2001	17.58%	2.59%	29.07%	9,861	132,443
2010	16.58%	1.67%	9.60%	268,091	1,716,104

Source: Owolabi & Ogunlalu (2013)

In the face of this innovation except those banks that are proactive and see themselves as pacesetters/ market leaders that managed to survive the turbulence environment. Okere (2014) stated that Automated Teller Machines (ATMs) indicates the development of Information Technology in banking sector. Two types of ATMs need to be addressed, one of which is within the branch ATM, the other being the outside the branch ATM. The dilapidated nature of infrastructural facilities in Nigerian environment via epileptic power supply, poor network connectivity, and poor road structures have contributed negatively towards the effective and efficient ATM operations. Furthermore, he stressed that a large number of ATMs in Nigeria were operating on obsolete software packages which have been de-supported by software providers, hence making the available machines to be susceptible to various dangers such as viruses, attacks, scam and so on and so forth. Existing data suggests that a lot of banks were not in tune with the software support fees (Okere, 2014). An additional impediment is that due to non USB interfaces certain group of ATMs cannot be upgraded, hence, there is a need to replace them and this will further lessen the available stretched machine density (Okere, 2014).

Comparatively, a prominent revelation between the work speed of the Nigerian ATMs and United Kingdom is that the former have to dispense at the speed of five notes to one than the later. Nigerian ATMs speed, inadequate availability of the machines in addition to quality of money notes lead to recurrent machine failures (Okere, 2014). The competitive nature of the Nigerian banks is becoming more severe, somewhat as a result of the introduction of universal banking as well as also customers' understanding of their rights, hence, customers are becoming ever more demanding of total quality management in terms of service delivery from their chosen banks (Kasum, Abdulraheem & Olaniyi, 2006) in which most banks cannot offer due to the highlighted reasons, except the few ones who were able to offer quality customers service, which gave them the competitive advantage over others who could not give the required service quality. Presently, the quality of money notes in the ATM is aberrant. At the beginning, ATM was the appropriate channel for a customer who wanted new notes (Okere, 2014). Nowadays, the quality of money notes in the machines is occasionally not as good as those we collect at the marketplace. This is underscored by the fact the security features and general quality of the money notes could do with some enhancements. Filthy or unclean money notes usually generate paper dirt to be stuck in

susceptible parts of the machines when giving out cash, hence, ensuing in more recurrent structure burden or notes jams (Okere, 2014) which will disrupt the machine's efficiency.

THEORETICAL FRAMEWORK

This study is hinged on marketing resources theory which assumes that resources are the assets controlled by the firm that serve as inputs to organizational capabilities and thus have rent-earning potential (Grant, 1991; Miller & Shamsie, 1996). As such, resources provide the "raw materials" for firms' business and marketing strategies (Black & Boal, 1994; Peteraf, 1993). The criticism is that not all organizations have assets and capabilities that are valuable, rare, inimitable, and non-substitutability. From marketing perspective, marketing resources may therefore be defined as the assets available to marketers and others within the organization in which service quality is inclusive that-when transformed by the firm's marketing capabilities-can create valuable outputs like competitive advantage. A number of different resource typologies have been proposed in the strategic management literature. Integrating these suggest that an inclusive conceptualization of firm resources should include: tacit knowledge (Grant, 1996) and physical (Barney, 1991), financial (Roos & Von-Krogh, 1992), human (Wernerfelt, 1984), organizational (Mahoney, 1995), reputational (Hall, 1992), relational (Morgan & Hunt, 1994), informational (Chatterjee & Wernerfelt, 1991) and legal (Coyne, 1986).

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Quality of Money Notes

In order to differentiate between genuine money notes and counterfeits, build a proper image for a nation and promote efficient and effective notes processing activities, quality of money notes in a country is very crucial. Frequent usage and the way in which the nations' currencies are handled often worsen the quality of money notes in such economy. However, such notes need to be identified from time to time and replaced regularly with new money notes so as to maintain the quality of money notes in such given economy (Currency Department Central Bank of Sri Lanka, 2013). Quality of money notes was classified into two (2) by Currency Department of Central Bank of Sri Lanka as:

Fit (Serviceable) with the following attributes: genuine, free from excessive soiling, not limp or faded, free from stains, tears, holes, or missing portion, free from significant defacing and not damaged. The money notes are genuine and in good conditions which are not exceeding the sorting parameters highlighted above unfit (Unserviceable), the money notes which have exceeded the sorting parameters, hence, are not suitable for recirculation. For good quality of money notes to be maintained in any given economy, the notes must be certified fit through proper evaluation done through visual or machine inspection.

MACHINE EFFICIENCY

Efficiency and effectiveness are twin concepts in the fields of engineering and management connoting how well a significant action is carried out and choosing the best action respectively, hence, an effective firm is the one that identifies suitable strategic goals, and is said to be efficient, if it accomplishes them with minimum inputs (Lee & Johnson, 2012). The

field of engineering and management associate efficiency with how well a relevant action is performed, that is, "doing things right" and effectiveness with selecting the best action, that is, "doing the right thing" (Lee & Johnson, 2012). Thus, a firm is effective if identifies appropriate strategic goals, and efficient if it achieves them with minimal resources (Lee & Johnson, 2012). The word "efficiency" is used to describe the work you get out of a machine compared with the work you put into that machine. An efficient machine puts out a lot of work when compared with the work put into it. On the other hand, if you put a lot of work into machine and get very little work out of it, then you would say the machine is not very efficient, or it is "inefficient" (Kurtus, 2016).

Machine efficiency is a measure of how well a machine converts input energy, work and power into output energy, work and power (Kurtus, 2016). The efficiency of an ideal machine is 100% because the input work is equal to the output work (Kurtus, 2016). Kurtus (2016) submitted that real machines do not achieve efficiency of 100% because heat may be lost from the system due to the friction between the moving parts.

Machine efficiency = $\frac{\text{output work (j)}}{\text{Input work (j)}} \times \frac{100}{1} \%$ (Kurtus, 2016).

Machine efficiency is among the factors that are commonly disregarded by the management and this can lead to losses which lessens the return on investment (Daniel, 2006; Konopka & Trybula, 1996). Machines not well maintained will amount to low standards of output and escalates the cost of maintenance. Preventive maintenance is a principal factor that keeps the machine functioning through the production process without any machine breakdowns. The preventive maintenance on machines requires additional attention by the executives in line with responsible of the workers to ensure maximum usage of the machines, hence, get rid of superfluous wastages as a result of machine breakdowns (Subramaniam, Husin, Yusop & Hamidon, 2009).

Hackman (2008) submitted that the analysis of productivity and efficiency is associated with production economics which focuses on assessment and uses an aggregate description of technology to answer questions such as:

- How efficient is the firm in utilizing its input to produce its output?
- Is the firm using the right mix of inputs or producing the right mix of outputs given prevailing prices?
- How will the firm respond to a price hike of a critical input?
- How efficient is the firm in scaling its operation?
- Has the firm improved its productive capability over time?
- How does the firm compare to its competitors?

In conclusion, measuring the machine efficiency and man power utilization should be on-line, accurate and truthful. The management should be able to look for relevant production data and to accurately interpret these data in order to identify the various faults at production level and to immediately take steps to improve efficiency (Subramaniam, Husin, Yusop & Hamidon, 2009).

Okere (2014) revealed that filthy or unclean money notes usually generate paper dirt to be stuck in susceptible parts of the machines when giving out cash, hence ensuing in more

recurrent structure burden or notes jams which will disrupt the machine efficiency. In this study, it is expected that, quality of money notes has a significant effect on machine efficiency. Many of the studies on quality of money notes have shown that quality of money notes pose a serious technical challenge in terms of processing speed and accuracy. With the current technology, fit notes are often shredded along with unfit ones (Balke, Geusebroek & Markus, nd) and the contamination of naira notes with microorganisms showed that these organisms are widely distributed in the environment and are associated with humans (Awe, Eniola, Ojo & Sani, 2010; Dalen, Ibrahim, Adamu & Egbere, 2014; Mbajiuaka, Obeagu, Nwosu & Agbo, 2014; Umeh, Jukulu & Ichor, 2007; Yakubu, Ehiowemwenguan & Inetianbor, 2014). The contamination shows that the microorganisms are associated with humans and does not relate it to its impact on the machines. This has necessitated this hypothesis.

METHODOLOGY

The design for this study was survey research design of the descriptive type. A descriptive survey research can be adopted when an investigator seeks to examine numerous variables at an instance, at one-time only. The investigator considered the descriptive survey research design suitable since all the variables of the study were examined at an instance. It moreover concerned the use of prepared questionnaires that are intended to acquire information from respondents. The independent variable of the study was service quality, while the dependent variable was competitive advantage. The primary population for this research consisted of all the people between ages of 18 and above in Lagos state which was given as 6, 160,991 (National Population Commission, 2010). It is expected that at this age, the user has a right to have account and use ATM. The secondary population consisted of all ATM users in Lagos state which was given as 258, 699. NIBSS, 2015 submitted that out of 6, 160, 991 of the population, only 90.2% are banked adults with 70.4% owned credit/debit cards, while 57.5% of this population have BVN and 11.5% used their cards on daily basis, this resulted in the target population given as 258,699. Specifically, a high density urban centers of Ikeja, Lagos Island, Eti-Osa, Surulere, Apapa, Osodi/Isolo and Mushin as identified by NIBSS (2015) were used for the study. Lagos state was chosen because it is the most heavily populated state in Nigeria with population of over 21 million. Presently, it has a population growth rate of 8% which makes it anticipated population to become the third largest mega city in the world by 2015 as projected by United Nations.

Furthermore, it is Nigeria's economic, commercial and manufacturing heart, harboring above 60% of the Nigeria's total manufacturing investments and overseas business, 65% of the country's business transactions and above 200 monetary institutions including the Nigeria's stock exchange- the Nigerian Stock Exchange. Conclusively, more than 40% of all remunerations paid in the country are done in Lagos State (Lagos State Government, 2014). With a population of about 9.1 million, different ethnic groups that form the nation are present in Lagos (National Population Commission, 2010) which was limited to a certain age bracket. The sample frame for this study was made up of all the ATM users in Lagos state, Nigeria and was further limited to age 18 and above. Convenience sampling as a non-

probability sampling technique was used in administering research questions. This technique was employed not only because respondents are necessarily easy to recruit, but also because of their expedient accessibility (Yakubu & Najim, 2014). Also, the technique is frequently used in the preliminary stages of study, since it permits a great amount of respondents to be interviewed within a short period of time (Bryman & Bell, 2011; Shiu, Hair, Bush & Ortinau, 2009). The instrument used was structured questionnaire tagged "Quality of money notes and Machine Efficiency Questionnaire" (QMN/MEQ). The questionnaire consisted of two sections (A & B). Section A contained questions on demographic profile of the respondents in terms of gender, age, status, income level, and educational qualification. Demographic variables are typically nonspecific variables in most research works, so this section essentially sought the personal profile of the respondents in order to actually classify the respondents, while section B consist questions necessary to generate useful data for the study, i.e. it measured the quality of money notes and its impact on ATMs in deposit money banks.

The section has a six (6) point Likert-type scale for responses to specific items as thus; Strongly Agreed (6), Agreed (5), Partially Agreed (4), Partially Disagreed (3), Disagreed (2) and Strongly Disagreed (1). For the dependent and independent variables, aside demographic information, total of (11) questions were drawn for the respondents. In order to ensure the validity and reliability of the instrument, 93 copies of the questionnaire were pre-tested among the ATM card users in Babcock University. However, they did not form part of the total respondents used for this study. The Cronbach-alpha method was used to determine reliability co-efficient of the instrument and the values of 0.879 and 0.880 were obtained for quality of money notes and machine efficiency respectively. The KMO values for quality of money notes and machine efficiency were 0.749 and 0.724 respectively while the Bartlett's value for both was 0.000. The administration of the questionnaire was done by the researchers and assistants who divided themselves into various ATM terminals of a high density urban center, which comprises of seven local governments in Lagos state. Out of the 931 copies of the questionnaires distributed to respondents, 772 questionnaires were retrieved representing 82.8% response rate. Statistics such as frequency count and percentages were put to use in the analysis of research questions while research hypothesis was tested using simple regression analysis at 0.05 level of significance. Analysis was carried out with the aid of Statistical Package for Social Sciences (SPSS).

ANALYSIS & RESULTS /DISCUSSION

To determine the effect of quality of money notes on machine efficiency in banks in Lagos State. What is the effect of quality of money notes on machine efficiency in banks in Lagos State?

Table 1.2 Descriptive Analysis on Quality of Money Notes

	Strongly Agree	Agree	Partially Agree	Partially Disagree	Disagree	Strongly Disagree	Total
The notes are free from excessive soiling.	82	498	159	18	0	15	772
	10.6%	64.5%	20.6%	2.3%	0.0%	1.9%	100.0%
The notes are not limp or faded	39	398	301	19	0	15	772
	5.1%	51.6%	39.0%	2.5%	0.0%	1.9%	100.0%
The notes are free from significant defacing.	54	344	327	46	1	0	772
	7.0%	44.6%	42.4%	6.0%	0.1%	0.0%	100.0%
The notes are not damaged.	31	351	312	63	15	0	772
	4.0%	45.5%	40.4%	8.2%	1.9%	0.0%	100.0%
The notes are free from tears and holes.	42	337	360	31	2	0	772
	5.4%	43.7%	46.6%	4.0%	0.3%	0.0%	100.0%
The notes are free from missing portion.	73	356	325	16	2	0	772
	9.5%	46.1%	42.1%	2.1%	0.3%	0.0%	100.0%

Source: Researcher's Field Survey Report, 2017

INTERPRETATION

Table 1.2 shows the descriptive analysis of respondents' responses as regards quality of money notes. Combining the responses under strongly agree, agree and partially agree, 739(95.7%) of the respondents agreed that the notes are free from excessive soiling. 738(95.6%) of the respondents accepted that the notes are not limp or faded, 725(93.9%) agreed that the notes are free from significant defacing. 694(89.9%) respondents accepted that the notes are not damaged. 739(95.7%) respondents agree that the notes are free from tears and holes. And lastly, 754(97.7%) agreed that the notes are free from missing portion.

Table 1.3 Descriptive Analysis on Machine Efficiency

	Strongly Agree	Agree	Partially Agree	Partially Disagree	Disagree	Strongly Disagree	Total
The ATMs always dispense cash on time.	54	424	244	46	2	2	772
	7.0%	54.9%	31.6%	6.0%	0.3%	0.3%	100.0%
The ATMs give clear guidance in support of transactions	65	389	297	17	4	0	772
	8.4%	50.4%	38.5%	2.2%	0.5%	0.0%	100.0%
My banks ATMs are sensitive to problem	114	356	267	32	2	1	772
	14.8%	46.1%	34.6%	4.1%	0.3%	0.1%	100.0%

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identification.							
The ATMs in my bank take immediate actions on problem identified.	65	451	237	0	19	0	772
	8.4%	58.4%	30.7%	0.0%	2.5%	0.0%	100.0%
The ATMs demonstrate appropriate interactions with customers.	69	416	267	19	1	0	772
	8.9%	53.9%	34.6%	2.5%	0.1%	0.0%	100.0%

Source: Researcher's Field Survey Report, 2017

Table 1.3 shows the descriptive analysis of respondents' responses as Machine Efficiency. Combining the responses under strongly agree, agree and partially agree, 722(93.5%) of the respondents agreed that the ATMs always dispense cash on time. 751(97.3%) of the respondents accepted that the ATMs give clear guidance in support of transaction. 737(95.3%) agreed that their banks' ATMs are sensitive to problem identification. 753(97.5%) respondents accepted that the ATMs in their bank take immediate actions on problem identified. And lastly, 752(97.4%) agreed that the ATMs demonstrate appropriate interactions with customers.

RESTATEMENT OF HYPOTHESIS (H₀)

The quality of money notes will not have any significant effect on machine efficiency in banks in Lagos State.

To test the hypothesis, linear regression analysis was used.

Table 1.4: The Goodness-of-fit (Model Summary) of Quality of Money Note and Machine Efficiency in Banks in Lagos State

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.461 ^a	.212	.211	2.07435
a. Predictors: (Constant), Quality of Money Note				

Source: Researcher's Field Survey Report, 2017

Table 1.5: The Overall Significance

ANOVA ^a						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	891.796	1	891.796	207.254	.000 ^b
	Residual	3313.245	770	4.303		
	Total	4205.040	771			
a. Dependent Variable: Machine Efficiency						
b. Predictors: (Constant), Quality of Money Note						

Source: Researcher's Field Survey Report, 2017

Table 1.6: Regression Coefficients

Coefficients								
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	13.293	.703		18.911	.000	11.913	14.673
	Quality of Money Note	.368	.026	.461	14.396	.000	.318	.418
a. Dependent Variable: Machine Efficiency								

Source: Researcher's Field Survey Report, 2017

The result presented in Table 1.4 shows that quality of money notes has a positive relationship with machine efficiency and this relationship was statistically significant at $p = .000$ [$R = .461$, $p < .05$]. This indicates that quality of money note and machine efficiency move in positive and same direction, that is, as quality of money note increases, machine efficiency also increases. The model R^2 (coefficient of determination) was 0.212 shows that quality of money note explained 21.2% of the variance observed in machine efficiency in banks in Lagos State. In Table 1.5, the F statistic = 207.254 was significant at $p < 0.05$ which revealed that the model was significant in explaining the effect of quality of money note on machine efficiency in banks in Lagos State. This finding is supported by a positive and significant unstandardized B coefficient in Table 1.6 that quality of money note is [$B = 0.368$, $t = 18.911$, $p < 0.05$]. Therefore, the null hypothesis five (H_{05}) which states the quality of money notes will not have any significant effect on machine efficiency in banks in Lagos State is hereby rejected. The regression model used to explain the variation in machine efficiency due to the effect of quality of money notes of banks in Lagos State can be stated as follows:

$$ME = 13.293 + 0.368QMN + \varepsilon \dots\dots\dots \text{(eqn 1)}$$

Where:

ME = Machine Efficiency

QMN = Quality of Money Notes

ε = Error term

DISCUSSION

The regression equation 5 in Table 1.6 indicates that the parameter estimates is in line with a priori expectation which explains that quality of money notes will increase machine efficiency of banks in Lagos State. The constant is 13.293 implies that if quality of money notes is zero, machine efficiency would be 13.293. The coefficient of quality of money notes was 0.368 indicates that a 1-unit increase in quality of money notes was associated with a 0.368 units increase in machine efficiency of banks. This implies that an increase in quality of money notes will subsequently increase machine efficiency of banks in Lagos State. The result of hypothesis five demonstrates that quality of money notes of banks had a significant effect on machine efficiency in banks in Lagos State.

Yakubu, Ehiowemwenguan & Inetianbor (2014), in an article titled "microorganisms associated with mutilated naira notes in Benin-city, Nigeria". The study was aimed at isolating, identifying and determining the level of contamination with microorganisms of mutilated naira notes in circulation in Benin City. A total of forty (40) samples of Nigerian naira notes in consisting of five (5) pieces each of (N5, N 10, N 20, N 50, N 100, N 200, N500 and N1000 notes) were collected from volunteers. The study shows that these organisms are widely distributed in the environment and are associated with humans. Personal hygiene of handling naira notes should be encouraged and CBN should put in place a retrieval system, which will ensure that mutilated notes do not remain in circulation for too long. Awe, Eniola, Ojo and Sani (2010) in a study titled "Bacteriological quality of some Nigerian currencies in circulation". The study revealed that Nigerian notes had high bacteria counts: ranging from 1.5×10^4 to 4.2×10^4 cfu/cm²; there was no significant difference in the bacteria counts. They further revealed that susceptibility pattern suggests that some of the isolates had potentials for multiple antibiotic resistances. The health and mechanical implications of the organisms encountered are discussed and suggestions are provided to enable safe handling of the notes.

Dalen, Ibrahim, Adamu and Egbere (2014) in an article titled "studies on some quality parameters of the Nigerian polymer and paper bank notes". It was revealed that polymer notes exhibit far superior physio-mechanical properties with very low coli form count compared to paper notes. Okere (2014) in a study titled "demystifying the ATM customer experience in Nigeria". The study revealed that, the quality of notes in the ATM is far cry from standard. In the early days, the ATM was where to go if you wanted crisp notes. Today the notes in the ATM are sometimes worse than that the change you receive at the flea market. This is underscored by the fact the security features and general quality of the naira could do with some enhancements. Dirty notes generally cause paper dirt to be lodged in sensitive parts of the ATM when it is dispensing cash, therefore resulting in more frequent system faults or currency jams. Many of the studies on quality of money notes have shown that quality of money notes pose a serious technical challenge in terms of processing speed and accuracy. With the current technology, fit notes are often shredded along with unfit ones (Balke, Geusebroek & Markus, nd) and the contamination of naira notes with microorganisms showed that these organisms are widely distributed in the environment and

are associated with humans (Awe, Eniola, Ojo & Sani, 2010; Dalen, Ibrahim, Adamu & Egbere, 2014; Mbajiuka, Obeagu, Nwosu & Agbo, 2014; Umeh, Jukulu & Ichor, 2007; Yakubu, Ehiowemwenguan & Inetianbor, 2014). The contamination shows that the microorganisms are associated with humans and does not relate it to its impact on the machines. Okere (2014) revealed that filthy or unclean money notes usually generate paper dirt which is stuck in susceptible parts of the machines when giving out cash, hence ensuing in more recurrent structure burden or notes jams which will disrupt the machine efficiency. In this study, it is expected that, quality of money notes has a significant effect on machine efficiency. Based on this finding and past literature reviewed, this study therefore reject the null hypothesis that quality of money notes will not have any significant effect on machine efficiency in banks in Lagos State.

CONCLUSION AND RECOMMENDATIONS

The null hypothesis: H_0 : The quality of money notes will not have any significant effect on machine efficiency. The result presented in Table 1.4 shows that quality of money notes had a positive relationship with machine efficiency and this relationship was statistically significant at $p = .000$ [$R = .461$, $p < .05$]. This indicates that quality of money note and machine efficiency move in positive and same direction, that is, as quality of money notes increases, machine efficiency also increases. The model R^2 (coefficient of determination) was 0.212 shows that quality of money note explained 21.2% of the variance observed in machine efficiency in banks in Lagos State.

In order to avoid incessant breakdown of ATMs, the study recommended that banks should ensure that the quality of money notes in their machines are to a large extent free from dirt that may affect the sensitive parts of the machines.

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