

## CASHLESS ECONOMY AND FINANCIAL STATEMENT REPORTING IN NIGERIA

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**ABSTRACT:** *This article examined development and challenges of cashless policy in Nigerian economy and determined its effect on business transactions and financial reporting. Sample size was drawn from the population in South East of Nigeria. Questionnaire and oral interview were main research instruments; analysis of data and test of hypotheses were carried out using Z – test statistics and Chi-square. Main findings in the study include; Stakeholders in the financial statements of corporate entities place more credence on financial statements emanating from cashless-based economies because of its effect on reduced tax evasion, inflation and revenue leakages, easier to comply with auditing standards and effective performance of business transactions. Challenges on adequate and standard infrastructure, low level of literacy and poor banking habits were revealed. There was also this perceived increased cost on the part of vendors while disposing of their wares which would have been avoided if the transaction was by cash.*

**KEYWORDS:** Cashless, Financial system, Financial Reporting, Economy, Business Transaction

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### INTRODUCTION

The Nigerian economy just like every other modern economy is experiencing some revolutions in its developmental process, starting from the exchange of goods for goods and services (Trade by Barter) to the emergence of the use of the Goldsmith receipt in exchange for goods and services, the use of commodity money and subsequently paper money. The payment system has also witnessed a considerable level of sophistication. However, Nigerian economy is heavily cash-oriented in transactions of goods and services which are not in line with the global trend, considering the country's ambition to be one of the top 20 economies of the world by the year 2020. Nigeria has cash-based economy with retail and commercial payments primarily based on cash.

Transactions, cash related transactions represent over 99 percent of customer activity in Nigerian banks. It has been estimated that about 65 per cent of the cash-in-circulation in the Nigerian economy is outside the banking system, thus posing a great threat to the objectives of the Monetary Authority's effort in price and economic stabilization (Sanusi, 2012). It cannot be controverted that central banks in the world are usually at the centre of the development of payment and settlement systems, because of their role in not only overseeing the national payments system but also as a catalyst for its development. Most importantly, an efficient payments system enhances financial inclusion, availability, reliability and cost effectiveness of payments services. It also

facilitates effective transmission mechanism of monetary policy as well as ensuring overall financial stability of the economy. In this wise, the Central Bank of Nigeria (CBN) is not different and has since its inception, vigorously promoted and emphasized the development of a sound, effective, efficient and safe service delivery to the banking populace in the country. The Payment System is an important component of services that banks render to Nigerians hence, its enhancement is crucial to the enthronelement of good banking practices in Nigeria (Sanusi, 2012).

The CBN in conjunction with the Nigerians Bankers Committee carried out to identify the cost drivers and problems of payment systems in Nigeria. The study revealed 'high cash intensity in the economy and high cost structure in the financial value chain. On average, 30% of branch physical space and employees is devoted to cash logistics, handling and storage, these account for an estimated 30% of costs of the Financial System; the total cash management costs (excluding cost of production, distribution, processing and destruction by CBN) was projected to exceed N190 billion by end 2012. The study also shows that only 10% of customers were responsible for cash transactions above N150, 000 in banks'. In view of the findings of this study group, the Central Bank of Nigeria (CBN) introduced a new policy on cash-based transactions-Shared Services Program, on 20<sup>th</sup> April 2011. Cashless economy is a utopian concept. No true Cash-less economy exists in the world. Though there are no deliberate policies that focus on this around the world, However, the resemblance of the concept can be seen in several countries like Denmark, Norway, Sweden, United Kingdom, United States of America, France, Switzerland, Philippines, Italy, Uganda, Zambia, Kenya and Nigeria (Sanusi, 2012).

Cash-less society is therefore a culture where non use of cash prevails and all purchases are made by means of credit cards, charge cards, cheques, or direct transfers from one account to another through mobile banking. The cashless society envisioned here refers to the widespread application of computer technology in the financial system (Dugeri, 2013). It is an economy wherein cash transactions are restricted or reduced to the lowest minimum in the payment system in favour of computer aided payments (credit cards, cheques, charge cards).

The Cash-less economy policy of the central bank of Nigeria (CBN) was designed to provide mobile payment services, breakdown the traditional barriers hindering financial inclusion of millions of Nigerians and bring in low-cost, secure and convenient financial services to both urban, semi-urban and rural areas across the country. Though, it has however, become albatross to some elites, the poor, uneducated and traders (Abiodun and Chima, 2012). The President of Nigeria (Dr. Goodluck Jonathan) had earlier directed in 2009 that electronic payments should be adopted for all government staff salaries, suppliers and the contractors to help add verve to the acceptability of electronic payments among Nigerians. This therefore compelled the CBN to put more efforts towards ensuring that safe and qualitative electronic payments services are rendered to Nigerians at reasonable cost while at the same time, guaranteeing adequate consumer protection. This is an important factor that led to the introduction of cashless economy in Nigeria. The Cash-less Policy initiative in Nigeria was introduced with the objective of driving the expansion, deepening and modernization of the payment systems in line with Nigeria's vision 2020 goal of being one of the top 20 economies by the year 2020. (Sanusi, 2012).

The huge volume of cash transactions carried out in the economy impose tremendous costs to both the banking sector and the customer, in terms of cash management, frequent printing of currency notes, currency sorting and cash movements. As the volume of cash-in-circulation grows, so does the cost of cash management to the financial system.

There are also the risks involved in keeping or moving large amounts of cash, namely the high incidences of robberies and burglaries and the public's propensity to abuse and mishandle currency notes. There are also other incidences of revenue leakages arising from significant handling of cash, inefficient treasury management due to nature of cash outside the formal economy, terrorist funding, election rigging, corruption, kidnapping and so on. Other specific issues that are challenging to the growth of Cashless economy in Nigeria include:

Infrastructural challenges, Low level of consumer enlightenment on product stability, Porous information technology platforms, Cost of electronic banking services. The gap in this study relates to the issue of effect of cashless policy on flow of business transactions and financial statement reporting in Nigeria. Therefore, the study seeks:

1. To examine the effect of the CBN's policy of cashless economy on the flow of business transactions and economic growth in Nigeria.
2. To examine whether the development of cashless economy will affect the effectiveness of the financial statement reporting in Nigeria.

The following hypotheses and Research questions were formulated for better understanding of the data and analysis of the study:

1. There is no significant relationship between cashless economy and the effectiveness and efficiency of financial statement reporting in Nigeria.
2. There is no significant effect on the effective performance of business transactions and  
Policy of Cash-less economy in Nigeria.

#### **Research Questions:**

1. To what extent will the cashless economy affect the effectiveness of the financial statement reporting for economic development in Nigeria?
2. To what extent will the effective performance of business transactions be affected by the policy of cashless economy in Nigeria?

### **THEORITICAL FRAMEWORK**

#### **History of Banknotes**

Banknote first emerged in China, when paper was invented, during the Tang Dynasty (618 A.D. –907 A.D.) in form of merchant receipts of deposit. That development allowed merchants to avoid heavy bulk of c

## ON THE SUM OF EXPONENTIALLY DISTRIBUTED RANDOM VARIABLES: A CONVOLUTION APPROACH

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**ABSTRACT:** *In this paper, Exponential distribution as the only continuous statistical distribution that exhibits the memoryless property is being explored by deriving another two-parameter model representing the sum of two independent exponentially distributed random variables, investigating its statistical properties and verifying the memoryless property of the resulting model.*

**KEYWORDS:** Exponential, Independent, Memoryless, Convolution, Hazard, Cumulant.

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### INTRODUCTION

Exponential distribution is a continuous probability model that is similar in one way to the geometric distribution (the duo are the only probability models that exhibit memoryless property). It is the only continuous probability distribution that has a constant failure rate (Garcia-Ortega, 2005 and Montgomery and Runger, 2003). It has been used severally for the analysis of Poisson processes and it is perhaps the most widely used statistical distribution for problems in reliability.

It has been established in literatures that if  $X_i, \quad i = 1, 2, 3, \dots, n$  are independently and identically distributed Exponential random variables with a constant mean  $\frac{1}{\lambda}$  or a constant parameter  $\lambda$  (where  $\lambda$  is the rate parameter), the probability density function (pdf) of the sum of the random variables results into a Gamma distribution with parameters  $n$  and  $\lambda$ .

In this article, it is of interest to know the resulting probability model of  $Z = X_1 + X_2$ , the sum of two independent random variables  $X_1$  and  $X_2$ , each having an Exponential distribution *but not with a constant parameter*. That is,  $X_1 \sim \text{Exp}(\lambda_1)$  and  $X_2 \sim \text{Exp}(\lambda_2)$ . Besides, we seek to know if the resulting model will still exhibit the memoryless property of the Exponential distribution and to investigate some of the statistical properties of the new model.

The technique of Convolution of random variables which has notably been used to derive the Convoluted Beta-Weibull distribution (Nadarajah and Kotz, 2006; Sun, 2011) and Convoluted Beta-Exponential distribution (Mdziniso, 2012; Shitu et al., 2012) shall be adopted.

opper coinage in large commercial transactions. By 960 A.D. - 1279 A.D, the Song Dynasty, short of copper for striking coins, issued the first generally circulating notes used concurrently with coins. Paper banknotes were limited to regional zones of the empire and did not become a nationwide standard currency until the late Southern Song era (1265 A.D. - 1279 A.D.).

The successive Yuan Dynasty (1276 A.D. - 1368 A.D.) of the Mongol Empire was the first dynasty in China to use paper currency as the predominant circulating medium. During the Mongol invasion in Europe in the 13th century and the international trading through the Middle East; four ancient Chinese inventions were introduced to the Europeans in form of Gunpowder, Compass, paper and printing technology which created books to facilitate widespread of knowledge that eventually led to the Renaissance from the 14th to the 17th century and turned the concept of paper banknotes into reality. These Chinese inventions enabled some European nations to ascend to superpowers and built a hegemony that lasted for a few centuries (Taxwiz Accounting and consulting Inc., 2013). Since the 17th century, European countries began to use paper money and metal coins until now. Paper money and coins are costly to make and maintain due to wear and tear. In Canada for instance, each Canadian penny costs Mint 1.6 cents to make. The production cost exceeds the nominal value of the penny. That is why the penny was dumped. Furthermore, counterfeiting has always been a problem since the inception of paper bills.

### **Security and Privacy Issues**

Security and privacy are challenges to the cashless economy just as it is in paper money. Privacy connotes some aspects of philosophical beliefs which may aid or hinder public acceptance of means of cashless economy. While we recall a biblical prophecy given by Apostle John about 2013 years ago in the books of Revelation, we infer from that vision or prophecy a description of a cashless monetary system built on device (microchips) implantation on human body. Apostle John described his vision thus:

‘He also forced everyone, small and great, rich and poor, free and slave, to receive a mark on his right hand or on his forehead, so that no one could buy or sell unless he had the mark, which is the name of the beast or the number of his name. This calls for wisdom. If anyone has insight, let him calculate the number of the beast, for it is man's number. His number is 666’ (Revelation 13:16-18, ‘NIV’). Humanly speaking, the concept of electronic cash could not have been imagined during John's epoch. So it is doubtful that John fully understood what he was told to write. Yet the Bible predicts the use of a powerful means which is forcibly imposed on the populace to control trade, without which no one could buy or sell. John did not say exactly what this is other than a mark on the right hand or on the forehead. And it allows government to acquire total control on the livelihood of all people, hence substantially enhances its power. Going by the description above, the only option that remains to those who refuse to partake in such system is to exchange by barter. In this our present age, we do not need to put marks on our foreheads or right hands in order to effect a cashless economy. For instance, in 2012, the Royal Canadian Mint introduced the MintChip – a form of electronic money after her 2012 Canadian federal budget. MintChip is a digital currency. It allows anonymous transactions backed by the Government of Canada and denominated in a variety of currencies. It is a secure smart card chip, which may be integrated with a SD card for easier connection to computers and mobile devices.

Also, in January 2012, India launched a nationwide program allocating a Unique Identification Number (UID) to its 1.2 billion citizens to build a new cashless biometric system. The alleged purpose is to prevent identity theft and social welfare fraud. This is a reduced version of a full scale cashless economy.



‘If all things are perfect, there are still a few down sides to a cashless economy. Money by its nature is abstract. The less cash that flows through our hands, the more intangible it becomes and the more we lose our sense of its real value. Our banked assets are now an electronic apparition and the fear of not having cash on hand is in a downturn’ (Ezumba, 2011).

### **Challenges to Cashless economy in Nigeria**

There is no doubt on the capability of the cashless economy in transforming the lives of Nigerians and the Nigerian economy if well implemented. But this development in the history of our economy has brought with it a mirage of challenges for its sustenance. Availability of infrastructural facilities like electricity supply and internet facilities in the rural areas are some of these challenges that needed to be addressed adequately. Even in the urban areas, constant power failures are still inherent even though the government is promising seriously that it will soon be a thing of the past. ‘The ratio of bank locations to potential clients has been estimated to 1: 20,000 people,’ (Ezumba, 2011). ‘Only 22 million individuals in Nigeria had bank accounts out of 150 million Nigerians,’ (Fatokun, 2012). This implies that only 15% of Nigerians operate bank account. There are also concerns of marginalizing technologically-deprived individuals in Nigeria. Launching this project quietly will mitigate public resistance. Gathering public support and user acceptance are vital to replace paper money. Other challenging needs in this process include; Reducing illiteracy, Porous Information Technology platforms, Low level of consumer enlightenment on product stability, Lack of understanding of security implications of divulging personal information, Access to customers’ information by fraudsters, Weak Information Technology controls, and Reversal of POS and ATM errors.

### **Prospects of cashless economy in Nigeria**

The call for cashless economy from the governor of CBN, (Sanusi), shows that Nigeria is poised to reduce the above challenges to the barest minimum in the very short period. Due to the nature of Nigerian economy which is characterised with larger population of the populace in the peasant farming sector and trading including low level of education, government decided to carry out its cashless economy policy in phases – starting first with Lagos state. It was really a guided cashless economy. Some of the policy directives of government include; (a) Only CIT licensed companies shall be allowed to provide cash pick-up services. (b) 3<sup>rd</sup> party cheques above N150, 000 shall not be eligible for payment over the counter. (c) A ‘cash service charge’ on daily cash withdrawals or cash deposits that exceed N500, 000 for individuals and N3, 000,000 for corporate bodies shall be 2% and 3% respectively and so on. The CBN in collaboration with other stakeholders have been driving the implementation of the cash-less Project and had put in place, measures for making the cash-less economy a success.

### **Financial statement reporting**

The cashless economy in Nigeria will fundamentally have little impact on accounting practice and procedures. However, it will significantly reduce the importance of tax audit as tax evasion will be almost impossible, except when taxpayers evade tax by exchange of barter. Auditing of business and government entities will equally be highly facilitated since accuracy, efficiency and quality will be enhanced. Wayne (2001), has identified some variables that will make difference in the ‘new economy’ as ‘more

disclosure of nonfinancial information, more information about intangible Assets and more forward- looking information' will be more manifest.

The financial statement of companies in a cashless economy will tend to receive more credibility since exchange rate fluctuations (including inflation) which cause distortions in financial statements will be lower. Finally, valuable socio-economic data used in marketing, financial, economic, social studies and policy analysis for reporting will be available conveniently and accurately at the press of a button, rendering the operations of Statisticians and Accountants in Nigeria much more efficient and economical.

## METHODOLOGY

This article is descriptive in nature and examines the development, challenges and Implications of cashless economy in Nigeria. Both secondary and primary data were made use of in the study in form of questionnaire, interview, books and journal materials including good download of materials from internet. The universe of this study constitutes of all elements in Nigerian economy which the cashless policy impacts upon whereas population of the study comprises of traders, artisans and Commercial Banks in the South East of Nigeria. In determining the sample size for an infinite population of this nature, the researcher used the Freud and Williams (1992) formula which is stated below:

$$n = \frac{z^2(pq)}{e^2}$$

Where;

n = required sample size

z = standard deviation for the desired confidence level (1.65)

p = probability (estimated proportion) of the attribute that is present in the population (0.95)

q = (1-P) = probability of negative response

e = limit of standard error /sampling error permitted (0.05)

In the application of the formula, we have assumed 'e' to be 5%, level of confidence desired = (1.65) and P is 0.95

$$n = \frac{z^2(pq)}{e^2} = \frac{1.65^2(0.95 \times 1 - 0.95)}{(0.05)^2}$$

$$n = \frac{1.65^2(0.95 \times 0.05)}{(0.05)^2} = \frac{2.7225 \times 0.0475}{0.0025}$$

$$n = \frac{0.12931875}{0.0025} = 51.72 \approx 52$$

## RESULTS OF DATA ANALYSIS

### Test of Hypothesis 1

There is no significant relationship between cashless economy and the effectiveness and efficiency of financial statement reporting in Nigeria. In testing this hypothesis, Friedman chi-square was used in testing the responses to question 11 of the research instrument (To what extent would you agree that the policy of cashless economy impacts positively on accuracy, effectiveness and efficiency of the financial statement reporting by controlling; Money laundering, Tax evasion, Inflation, Balance of payment problems and Revenue leakages?).

The results are presented below.

### Test Ranks Result

	Mean Rank
money laundering	2.16
tax evasion	3.64
Inflation	3.39
balance of payment problems	2.24
other revenue leakages	3.56

### Friedman Test Result

N	52
Chi-Square	99.761
Df	4
Asymp. Sig.	.000

a. Friedman Test

With a Friedman test result of 99.761, which is greater than the critical chi-square result of 9.488, the null hypothesis is rejected. This indicates that there is a significant relationship between cashless economy and the effectiveness and efficiency of financial statement reporting.

Based on the mean rank, the results reveals that the cashless economy will have the most effect on tax evasion, followed by other revenue leakages, then inflation, balance of payment problems and finally money laundering.

### Test of Hypothesis 2

There is no significant effect on the effective performance of business transactions and policy of cashless economy in Nigeria. In testing this hypothesis, the responses to question 6 of the questionnaire were tested using the Z-test statistics. The results are presented below.



**One-Sample Kolmogorov-Smirnov (Z) Test Result for Hypothesis 2**

		cashless economy policy has effect on effective performance of business transactions
N		52
Normal Parameters <sup>a,b</sup>	Mean	3.8462
	Std. Deviation	1.24278
Most Extreme Differences	Absolute	.242
	Positive	.177
	Negative	-.242
Kolmogorov-Smirnov Z		1.742
Asymp. Sig. (2-tailed)		.005

a. Test distribution is Normal.

b. Calculated from data.

Based on the Z-test result of 1.742 which is greater than the critical Z-value of 1.64 (95% significance level for 2-tailed test), the null hypothesis is rejected. This indicates that the policy of cashless economy in Nigeria has significant effect on the effective performance of business transactions.

**FINDINGS /DISCUSSION ON FINDINGS**

From the results of data analysis and test of hypotheses, we find out that stakeholders in the financial statements of corporate entities place more credence on financial statement reporting emanating from cashless-based economies because of its effect on reduced tax evasion, inflation and revenue leakages. Our findings revealed also an effective performance of business transactions in a state of cashless economy. Other findings include more accurate and timely preparation of financial statements even at a press of a button on the computer; auditing and complying with auditing standards made easier. Apart from these, there were challenges on adequate and standard infrastructure, low level of literacy and poor banking habits, there was also this perceived increased cost on the part of vendors while disposing of their wares which would have been avoided if the transaction was by cash.

**IMPLICATIONS TO RESEARCH AND PRACTICE**

The cashless economy has the capacity to heighten the level of transparency and visibility of transactions in the financial system in an economy. Nigeria has just adopted the International Financial Reporting Standards (IFRS) and International Auditing Standards (IAS) and compliance to these Standards will be more enhanced in a cashless economy. The burden or tension on auditors/audit work will be less; even demand for external auditors in a 'routine work' will be less. This is because there will be more visibility in accounting information in such a way that audit trail and minor verifications of accounting data can be achieved without involving external auditors. Furthermore, cost minimization is very strategic in cost management strategies for any product or transaction (Emengini, 2014).

## CONCLUSION

Being cashless is an emerging trend prevailing in most modern economies in the world although that does not necessarily mean that one would be without cash at all. But it is the extensive use of computer technology in carrying out transactions in the financial system. The cashless policy in Nigeria is in line with Nigerian vision 2020 goal of being one of the top 20 economies by the year 2020. This vision will also enhance the realization of Nigerian millennium Development Goals (MDGs) especially on the areas of global partnership for development and collaboration. Despite the challenges of Nigerian vision 2020 regarding the above, the cashless economy is a veritable tool in subverting money laundering, tax evasion, inflation, poor balance of payments and also increased efficiency and effectiveness in financial statement reporting.

## FURTHER RESEACHER

Further research may come from following areas;

- 1 Reducing impact of transaction costs on vendors while disposing their wares.
- 2 Impact of cashless economy on financial corruption.
- 3 Effect of cashless economy on a country's Balance of payments.

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