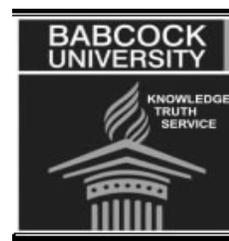




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**Research**

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**TOWARDS CASHLESS NIGERIA: ROLE OF INFORMATION TECHNOLOGY AND OPPORTUNITIES FOR POVERTY ALLEVIATION**

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**Abstract**

*Most citizens all over the world wish to live in a utopian society of sameness that would be less stressful. Ideally there would be no poverty, no unemployment, no upper, middle, or lower class. Everyone would have health-care, a home, enough to eat, and the same education. There would be no competition, no struggle for jobs, and no personal choices. Everything would be decided for each and every individual within the Utopian society. Though, no complete utopia society exist in the world, developed countries are more close to achieving the utopia dream of their citizens compared to developing countries like Nigeria. The inability of Nigeria to satisfy most of the utopia dreams of her citizens is attributed to economic, social and political mal-administration, which are the by-products of gross embezzlement and corruption that has affected development in all facets of the society. To improve the economic well-being of Nigeria citizens, the Central Bank of Nigeria (CBN), introduced the Cashless economy policy to address a lot of issues affecting the financial system; from trying to check money Laundry and illicit activity, inflation and cost of maintaining an economy predominately cash base. A cashless economy is an economy where all means of payments are carried out without the use of physical cash. Payments will range from a list of options such as cheques, wire transfers, debit and credit cards, online transactions, and mobile banking. In this paper, we explore the role of information and Communication Technology (ICT) towards cashless transactions and opportunity provided by these cashless transactions in poverty alleviation especially as it will help a great deal to mitigate, checkmate and potentially eliminate corruption.*

**KEY WORDS:** Cashless, CBN, ICT, Poverty, Utopia.

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## **1.0 Introduction**

The rapid advancements in the field of Information and Communication Technology (ICT) and the resultant explosive growth of the information services sector have radically changed the world's economic and social landscape. These changes have given rise to new policies in various sectors of nation's economy, based on information and knowledge. This has further resulted in new avenues of development, employment; productivity, efficiency, and enhanced economic growth. ICT as powerful tool, with an enormous potential for social impact, human development and potential to improve the lives of the people; has a major role to play in monetary policy of government of any nation. Recently, the Central Bank of Nigeria, lead by its Governor Sanusi Lamido Sanusi, put forward a cashless monetary policy requiring that all cash withdrawals and deposits be set at a daily limit of a maximum of N150, 000 while pegging that of corporate entities at N1, 000,000, with penalty fees of N100 per extra N1, 000 and N200 per N1, 000 imposed on individual and corporate defaulters respectively. This cashless monetary policy is all about cashless economy, which is an economy where all means of payments are carried out

without the use of physical cash. Payments will range from a list of options such as cheques, wire transfers, debit and credit cards, online transactions, and mobile banking.

The above policy implementation requires the services of ICT technology. The question therefore, is what are the effects of information communication technology in a cashless economy? A simple explanation of ICT is to think of it as how Computers affect storage, transmission, reception and interpretation of information from one location to the other, and basically a cashless economy is an environment in which money is spent without being physically carried from one person or the other. The first issue is the issue of an electronic purse. This is electronic information transmitted to a device which reveals the information about how much a person has stored in the bank, and how much he can spend. Essentially, the information is accessed through a storage medium (smartcard) which contains a unique electronic blueprint that is associated with the individual, and can therefore be delegated to identify him whenever it is presented.

As transactions are carried out, the amounts spent are also electronically transmitted back to the bank, so that the balances are adjusted. This takes the forms of spending and depositing funds in the bank. The availability of ICT means that less of human interventions are required to identify, access and transmit the value of a person's bank balance, as well as to update it. ICT means that other technologies can converge to make cashless transactions possible. Online shopping, for example is possible in which neither the buyer or seller need to see each other to even transact business.

The benefit of the cashless economy is that it will help a great deal to mitigate, checkmate and potentially eliminate corruption. As a matter of opinion a major factor behind this policy is the problem of money laundering in Nigeria and the need for the proper authorities to monitor financial transactions. If this prediction is accurate then the benefits will be tremendous by saving and retaining money in the country, this money is then used for additional developments. It also will reduce the pressure on the Naira, but this can be done in a less dramatic way by creating a standard and effective cross-border electronic transmittal's verification system.

This reporting system is a network between all financial institutions in Nigeria and the CBN. Whenever there is a withdrawal or deposit exceeding a particular stipulated amount, it is reported to the CBN, that way they can analyze these data and follow the money taking proper actions without disrupting the system. When the level of corruption is reduced, more money will be available for social and economic development as well as empowerment, which in effect will have tremendous impact on the economic well-being of the people.

## **2.0 The Nature of a Cashless Society**

Most people think of a cashless society as something that is way off in the distant future. Unfortunately, that is simply not the case. The truth is that a cashless society is much closer than most people would ever dare to imagine. To a large degree, the transition to a cashless society is being done voluntarily. Today, only 7 percent of all transactions in the United States are done with cash, and most of those transactions involve very small amounts of money. Our financial system is dramatically changing, and cash is rapidly becoming a thing of the past. We live in a digital world, and national governments and big banks are both encouraging the move away from paper

currency and coins. But what would a cashless society mean for our future? Are there any dangers to such a system? Those are very important questions, but most of the time both sides of the issue are not presented in a balanced way in the mainstream media. Instead, most mainstream news articles tend to trash cash and talk about how wonderful digital currency is. For example, a recent CBS News article (Lee Cowan, March 2012) declared that soon we may not need "that raggedy dollar bill" any longer and that the "greenback may soon be a goner". It's what the wallet was invented for, to carry cash. After all, there was a time when we needed cash everywhere we went, from filling stations to pay phones. Even the tooth fairy dealt only in cash. But money isn't just physical anymore. It's not only the pennies in your piggy bank, or that raggedy dollar bill. Money is also digital - its zeros and ones stored in a computer, prompting some economists to predict the old-fashioned greenback may soon be a goner. "There will be a time - I don't know when, I can't give you a date - when physical money is just going to cease to exist," said economist Robert Reich.

So will we see a completely cashless society in the near future? Of course not. It would be wildly unpopular for the governments of

the world to force such a system upon us all at once. Instead, the big banks and the governments of the industrialized world are doing all they can to get us to voluntarily transition to such a system. Once 98 or 99 percent of all transactions do not involve cash, eliminating the remaining 1 or 2 percent will only seem natural. The big banks want a cashless society because it is much more profitable for them. The big banks earn billions of dollars in fees from debit cards and they make absolutely enormous profits from credit cards. But when people use cash the big banks do not earn anything. So obviously the big banks and the big credit card companies are big cheerleaders for a cashless society.

Most governments around the world are eager to transition to a cashless society as well for the following reasons.

- Cash is expensive to print, inspect, move, store and guard.
- Counterfeiting is always going to be a problem as long as paper currency exists.
- Cash is favored by criminals because it does not leave a paper trail. Eliminating cash would make it much more difficult for drug

dealers, prostitutes and other criminals to do business.

- Most of all, a cashless society would give governments more control. Governments would be able to track virtually all transactions and would also be able to monitor tax compliance much more closely.

When you understand the factors listed above, it becomes easier to understand why the use of cash is increasingly becoming demonized. Governments around the world are increasingly viewing the use of cash in a negative light. In fact, according to the U.S. government paying with cash in some circumstances is now considered to be "suspicious activity" that needs to be reported to the authorities. This disdain of cash has also grown very strong in the financial community. The following is from a recent Slate article (Seth Stevenson, 2012).

David Birch, a director at Consult Hyperion, a firm specializing in electronic payments, says a shift to digital currency would cut out these hidden costs. In Birch's ideal world, paying with cash would be viewed like drunk driving—something we do with decreasing frequency as more and more people understand the negative social consequences. "We're trying to use

industrial age money to support commerce in a post-industrial age. It just doesn't work," he says. "Sooner or later, the tectonic plates shift and then, very quickly, you'll find yourself in this new environment where if you ask somebody to pay you in cash, you'll just assume that they're a prostitute or a Somali pirate."

## **2.1 Global Efforts towards Cashless Economy**

Simply using cash is enough to get you branded as a potential criminal these days. Many people are going to be scared away from using cash simply because of the stigma that is becoming attached to it. This is a trend that is not just happening in the United States. In fact, many other countries are further down the road toward a cashless society than we are. In Canada, they are looking for ways to even eliminate coins so that people can use alternate forms of payment for all of their transactions. The Royal Canadian Mint is also looking to the future with the Mint Chip, a new product that could become a digital replacement for coins.

In Sweden, only about 3 percent of all transactions still involve cash. The following comes from a recent Washington Post article. (Alex Jones, 2012). In most Swedish

cities, public buses don't accept cash; tickets are prepaid or purchased with a cell phone text message. A small but growing number of businesses only take cards, and some bank offices — which make money on electronic transactions — have stopped handling cash altogether. “There are towns where it isn't at all possible anymore to enter a bank and use cash,” complains Curt Persson, chairman of Sweden's National Pensioners' Organization.

In Italy, all very large cash transactions have been banned. Previously, the limit for using cash in a transaction had been reduced to the equivalent of just a few thousand dollars. But back in December, Prime Minister Mario Monti proposed a new limit of approximately \$1,300 for cash transactions. And that is how many governments will transition to a cashless society. They will set a ceiling and then they will keep lowering it and lowering it.

But is a cashless society really secure? Of course not. Bank accounts can be hacked into. Credit cards and debit cards can be stolen. Identity theft all over the world is absolutely soaring. So companies all over the planet are working feverishly to make all of these cashless systems much more secure.

In the future, it is inevitable that national governments and big financial institutions will want to have all of us transition over to using biometric identity systems in order to combat crime in the financial system. Many of these biometric identity systems are becoming quite advanced. For example, just check out what IBM has been developing. The following is from a recent IBM press release. (Alex Jones 2012). “You will no longer need to create, track or remember multiple passwords for various log-ins. Imagine you will be able to walk up to an ATM machine to securely withdraw money by simply speaking your name or looking into a tiny sensor that can recognize the unique patterns in the retina of your eye. Or by doing the same, you can check your account balance on your mobile phone or tablet. Each person has a unique biological identity and behind all that is data. Biometric data – facial definitions, retinal scans and voice files – will be composited through software to build your DNA unique online password. Referred to as multi-factor biometrics, smarter systems will be able to use this information in real-time to make sure whenever someone is attempting to access your information, it matches your unique biometric profile and the attempt is authorized.”

In the future, if you do not surrender your biometric identity information, you may be locked out of the entire financial system. Another method that can be used to make financial identification more secure is to use implantable RFID microchips. Yes, there is a lot of resistance to this idea, but the fact is that the use of RFID chips in animals and in humans is rapidly spreading. Some U.S. cities have already made it mandatory to implant microchips into all cats and all dogs so that they can be tracked. All over the United States, employees are being required to carry badges that contain RFID chips, and in some instances employers are actually requiring employees to have RFID chips injected into their bodies. Increasingly, RFID chips are being implanted in the upper arm of patients that have Alzheimer's disease. The idea is that this helps health care providers track Alzheimer's patients that get lost. In some countries, microchips are now actually being embedded into school uniforms to make sure that students don't skip school. Some companies are even developing RFID technologies that do not require an injection. One company called Somark has developed chipless RFID ink that is applied directly to the skin of an animal or a human. These "RFID tattoos"

are applied in about 10 seconds using micro-needles and a reusable applicator, and they can be read by an RFID reader from up to four feet away.

## **2.2 ICTs, Digital Divides and Cashless Nigeria Economy.**

The term 'digital divide' was first used in the 1990s and it originally referred to the differences in access to technology, between those who had access to technology and those who did not. Then the existence of a gap separating individuals who were able to access computers, the Internet and new forms of Information Technology, from those who had no opportunity to do so, was recognized. As such, the first research on the matter focused on the factors determining the differentiated physical access to ICTs, such as computers and the availability of a network. When there is a digital divide, part of the population is excluded from accessing information and networks that could be used to expand their capabilities and economic freedoms, therefore providing access to information for those at the end of the gap. This is thought to be a good process, to alleviate poverty.

In the context of analyzing information as a source of exclusion and inequality,(van

Dijk,2006) synthesized that, in the literature regarding the existence of a 'divide' between people or organizations, with differentiated access to information, difficulties in accessing information can be a basis of inequality. Also information can be a primary good or input, a positional good or a source of skills. Information is a crucial resource for good decision-making and can determine the extent to which a person can have access to different types of services, goods and markets. It is a source of opportunities and therefore the difficulty in accessing information or the lack of possibilities to access it is a source of inequality in different spheres of human development. Information is now considered a primary good that is essential for the survival and self-respect of individuals. Information is a positional good when some opportunities in society "create better opportunities than others, in gathering, processing and using valuable information". This occurs in particular in the context of a network society, in which lack of a position in a digital network constitutes a form of social exclusion. In this context, those who have access to information may be considered information elites, with more power, capital and resources, amplifying

even further the inequalities already initiated by differences in physical access to ICTs.

The inequality in terms of skills, resulting from differences in access to information, comes mainly from the conclusion reached by Nathius and de Groot in 2003 who found empirical evidence of the existence of skills premium, in having ICT skills that explains increasing income inequality between countries with differences in the appropriation of ICTs. Although ICTs have the potential to reduce the digital divide within and between countries and regions, ICTs and their benefits are not yet reaching poor countries at the same scale as they have reached developed countries, particularly poor rural areas within various countries. The digital divide mainly differentiates the rich from the poor.

### **2.3 Nigeria's Economy and E-Payments System**

Nigeria compared to the rest of the world, as it relates to payments, is still in the era of the wild west. To fully understand the situation one has to study the history and analyze factors such as; the Nigerian culture, the role of its government, the state of infrastructure, the level of general education, the availability of real data, the amount of

investments made and needed, security as it relates to laws (enforcements and judiciary) confidence in the system (internal and external) and insurance and privacy issues to mention a few.

The journey of a thousand miles begins with the first step. I commend the CBN for its courageous attempts to effect change, and also worry that the system may not be ready for such a drastic approach. The problem is that in an already weak economy such as Nigeria implementing this policy now will only result in the opposite effect of what the CBN wants to achieve. The CBN would be in the best position to understand what the economy really needs to prosper, and its policy on withdrawals and deposits give reason for pause. What's the real reason driving this policy? You could say the Nigerian factor, which really means anything ranging from scams and corruption to the fix it now approaches. Nowhere in the world, do they have fixed withdrawals and deposits. For the record, a cashless society should be now and the future for Nigeria and there is no one solution to every economical challenge.

There is one thing that's certain, in the next five to six years, if this policy is

aggressively carried out; the growth of the Nigerian economy is going to contract significantly before it eventually picks up. There are a couple of concerns, the greatest of them being that it is most likely going to lead to the next real recession in Nigeria. For example 70 to 75 percent of the people of Nigeria do not have bank accounts. Therefore saying that the CBN does not have 70 to 75 percent of the nation's financial statistics is a safe call. Money circulation works its way down and around from the top 10 percent of bank accounts which accounts for 75 percent of the total value of cash. The Majority of this 10 percent service directly or indirectly affects 70 to 75 percent of the Nigerians who are without bank accounts. Cutting this lifeline quickly, will force a significant number of Nigerian employers to require their employees to start operating bank accounts to save them cost of doing business in Nigeria; so that concrete laborer or that student, driver, security-man, teacher, trader and so on will not get his or her money in cash, but be required to have a bank account. This will put pressure greatly on the infrastructure of the banking industry as they in turn are not ready to handle the amount of new accounts. Even if the mobile phone payment systems picks up steam, the

majority of banking would still be done on physical banking locations in the near future, such as opening and signing accounts, and future transactions, the ratio of bank locations to potential clients is estimated to be 1 : 20000 people. The difficulty of opening a bank account and the cost of operating one will slowdown cash flow into mainstream. The hoarding in the black market will explode by simply selling for 10 to 20 percent lesser than what it will cost to get the same amount of money from the banks. This will cause wide speculations, and as a result affect everything from prices, production, availability, supply and demand and even the stock market. Judging from Nigeria's past history of implementation of policies, this policies may not be effectively administered or will gradually fade and become a thing of the past after a while, you could say an addition by subtraction.

### **3.0 Implementation Consideration for Cashless Nigeria Economy.**

A successful implementation of cashless monetary policy of the CBN requires the considerations of the following factors:

- Power must be improved dramatically to accommodate for smooth operations of financial activities.
- The financial infrastructure in Nigeria is not adequate to carry the load of a cashless society, ATM's, Point of Sales system, mobile banking and other mediums have to dramatically expand to touch at least 40% of the whole economy before any meaningful effect can be achieved.
- Proper and accurate identification of account holders must be maintain and shared when necessary by all financial institutions; also CBN must collaborate with all other government and private agency responsible for collection of Identification of individuals in Nigeria for reconciliation of any identification.
- CBN must be ready to invest heavily to make this transition possible; Technology is not cheap and ever changing at a very fast pace. Investments in billions of dollars made in infrastructure, training, marketing, security, maintaining its networks and so on will be on a

yearly basis for the years to come and should be a collaboration of efforts by all invested parties.

- There must be new laws to enforce new methods of transactions and a changing culture. The CBN must partner and work with the National Assembly to ensure proper legislation is been formulated. Enforcements of new legislation would be carried by the CBN and all other executive arms that are empowered such as the EFCC. They must commit to training of personnel and the judiciary must be prudent and up to the task.
- Another major concern would be the risk involved, because if the process is rush and the economy losses confidence in the system due to high level of fraudulent activities, it will be devastating to the Nigeria economy.

### **3.1 ICTs, Development and Poverty Alleviation**

The concepts and measures of poverty in relation to ICTs in Nigeria are enormous and require continuous evaluation and review. Furthermore, the nature of digital divides

and their impact on poverty also needs constant review.

Then what is the role of ICTs in Policy development and poverty alleviation?

From the above, it has been shown that ICT will serve as a backbone for cashless society. Cashless economy as an ICT product will provide opportunities for poverty alleviation through the following means:

- **Job Creation:** it will help to create jobs in the areas of technical and expertise support, training, installation, purchase, widen the scope of credit card companies. All these areas of specialization mentioned will create jobs for many Nigerian youths and reduce the burden on labor market.
- **Reduces Money Laundering:** The policies of CBN on cashless society will help to reduce money laundering thereby makes more money available in the Nigerian Economy for infrastructural development and provision of social amenities for both urban and rural development. This in turns helps in poverty reduction as

people benefit directly or indirectly from these amenities.

- **Information Sharing:** It improves timely availability of appropriate information and provides the opportunities to create networks between people sharing particular interests or information needs. ICTs have the potential to contribute to the improvement of socioeconomic conditions in developing countries like Nigeria most especially with the new cashless society policy introduced by the Central Bank of Nigeria. Having proven to be effective in helping to reduce rural poverty, priority has to be given to the development of ICTs in rural areas. Demand for ICTs is not perceived to be as urgent as demand for primary infrastructure and social services when actually information from ICTs provide access to Electronic commerce, education, markets and health services.

The impacts of ICTs for rural households include saving time and other resources, access to better information leading to establishment of online businesses with

online payment transactions, better decision making, and improvements in efficiency, productivity and diversity, information on new technologies and expanded market reach. The potential of ICTs to facilitate and improve the already existing exchange of information that take place in rural communities is very important. This and the use of ICTs strategically to serve community development needs can facilitate the indigenous development of rural communities through pluralistic and participatory approaches.

To establish the role of ICTs in supporting and building the capacity of indigenous knowledge systems, the mechanism for information sharing must initially be assessed within the local context. This is because ICTs have the potential to initiate new rural networks of information exchange although their use in the first instance will need to be determined locally according to local choices.

#### **4. Recommendation**

The Federal Government of Nigeria and Central Bank of Nigeria should partner with the appropriate organizations and

departments to facilitate the deployment of necessary devices such as Point of Sale Terminals (POS), Electronic Commerce Applications, Communication Support Systems, Security Application Systems and installation of satellite as well as internet facilities that will make satellite transmission and internet access available and accessible to both the rural and urban areas in Nigeria so that goal of CBN on cashless society can be achieved.

## 5. Conclusion

ICT has from age to age become a deep well which spring up with opportunities for societies that are ready to drink of it. A few methods of tapping into the potentials that ICT has in driving Nigeria cashless policies and the potentials it has to alleviate poverty have been outlined in this paper, although ICTs are only limited by the users. Gradual bridging of the digital divide would see our country moving from a state of underdevelopment to a state of developed country.

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