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Analysis of prospects and challenges of the e-payment system in Nigeria

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Abstract. E-payment is an electronic transfer of cash via online transaction for business-to-consumer (B2C), business-to-business (B2B), person-to-person (P2P), and most recently administration-to-consumer (A2C) purposes. Nigeria payment system has been predominately cash-based. However, the cost of cash to Nigeria's financial system is high and increasing. It is in this respect that the Central Bank of Nigeria (CBN) introduced the cashless policy with the objective of promoting the use of e-payment channels instead of cash. The e-payment system apart from convenience and safety also has a significant number of benefits which include faster access to capital, reduced risk of cash-related crimes, access to credit, reduced cash handling costs, increased tax collections, reduced revenue leakage, greater financial inclusion, more service options, encouraged financial deepening and promoted savings, reduced risk in payments and settlements, increased economic development. However, the e-payment system is faced with many challenges such as frequent power interruption, lack of adequate infrastructure, platform security, lack of a suitable legal and regulatory framework for e-payments, lack of a uniform platform by banks and ministries, departments and agencies (MDAs), lack of seriousness by bank and resistance to changes in technology among customers. The analysis of prospect and challenges of the e-payment system in Nigeria is the mainstream of this paper. Requisite recommendations were provided for policy makers in the light of the theoretical findings.

Keywords: e-payment, prospects, challenges, system, Nigeria

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Introduction

Nigeria is one of the developing economies of the world that is wrestling to catch up with the global advancement in the e-payment system. Though e-payment may not be an entirely new concept in Nigeria's business market, a cursory look in the e-payment category in Nigeria will reveal an emphasis, on card-based solutions with little penetration into the web and mobile processes [1]. At present, the use of ATMs is the most visible sign of the presence of e-payment methods in Nigeria. However, ATMs are mostly used to collect cash

rather than for payment purposes. The use of ATMs has been widely promoted by banks in the country because it affords the banks the opportunity to avoid the usual queues that characterize the banking halls across the country.

In Nigeria, as in many developing countries, cash is the main mode of payment and a large percentage of the people are unbanked. This makes the country to be heavily cash-based economy [2]. However, one of the prerequisites for the development of the national economy is to encourage a payment system that is secure, convenient, and affordable. In consonance with the trend of development experienced in the global payment industry, the Federal Government of Nigeria in the year 2009 announced an e-payment regime for all transactions involving the Federal Ministries, Department and Agencies (MDAs). Under the new regime, the issuance and acceptability of cheques as a means of settlement were jettisoned, while the payment of all staff salaries and emoluments, as well as government suppliers, vendors and contractors, was to be remitted electronically into the beneficiaries' accounts. This, according to the Federal Government, will enhance transparency and accountability as well as checkmate the activities of corrupt practices within the government structures.

In a nutshell, e-payment is a subset of e-governance which is the application of electronic means of affecting payments by government to contractors and civil servants. It is a form of direct payments and banking without appearance at MDAs or banks through the means of electronic interactive communication channels and other technology infrastructure [3]. The quest of the Federal Government of Nigeria to implement policies that will develop a change from the traditional payment into the new electronic payment method, which will place the nation at par with trends of best international practices and standards using modern technologies, have been faced with daunting challenges [1]. The financial system strategies of the Federal Government were found to hold appreciable prospects for the development of the nation's economy. However, the implementation of the e-payment system lacks basic infrastructures needed to facilitate this systemic transition. Lack of adequate infrastructure, lack of political will, platform security, high rate of illiteracy, lack of uniform platform by banks and MDAs, lack of legal frame work, frequent power interruption, lack of seriousness by banks and resistance to changes in technology among customs were important factors that influenced the negative tendency of the e-payment system in Nigeria. The encumbrance then fell on commercial banks as major stakeholders within the payment system, to rise up to the occasion and support the Federal Government on its new policy. Therefore, this paper examined the prospects and the challenges limiting the implementation of the e-payment system and the ways of outmatching the deterrents.

The concept of e-payment

E-payment provides means of transacting business and settling financial commitment electronically without necessarily touching cash in a cashless society. The payment system is the infrastructure consisting of institutions, instru-

ments, rules, procedures, standards and technical means established to affect the transfer of monetary value between parties discharging mutual obligations. It is also an operational network governed by laws, rules and standards that links bank accounts and provides the functionality of monetary exchange using bank deposits [4]. What makes it a “system” is that it employs cash substitutes with the use of electronic money and other ICT-related equipment in its operations. The traditional payment systems are negotiable instruments such as draft- cheques and documentary credits such as letter of credits. With the advent of electronic communications, a large number of alternative electronic payment systems have emerged. These include debit cards, credit cards, electronic funds transfers, direct credits, direct debits, internet banking and e-commerce payment [5]. E-payment systems are used in lieu of tendering cash in domestic and global transactions and consist of a major service provide by banks and other financial institutions.

According to Nwankwo and Eze [6], the e-payment system is an automated process of exchanging monetary values, among parties in business transaction and transmitting this value over the information and communication technology network. The Nigerian cashless system of payment has been evolving in line with the global payments evolution. The cashless system of payments and its instruments are significant contributors to the broader effectiveness and stability of the financial system. However, innovations in technology and business models have implications for the efficiency and safety of the cashless system of payments. The cashless system of payment is defined as “a society where transactions is functioning, operated, or performed without using coins or banknotes for money transactions but instead using credit cards or electronic transfer of fund” [6, p. 141]. The internet is perhaps one of the most useful tools to businesses and individuals in contemporary world economies. Its use has touched virtually every aspect of human endeavor, especially banking. Technological breakthroughs and product designs have led to the emergence of e-banking services which, in recent time, have become globally popular except in developing countries including Nigeria [7]. E- Banking, according to Daniel [8], is the provision of banking services to customers through the internet. Services offered by banks using the internet include: mobile banking (M-banking), video banking, fund transfers, e-payments, and ATM cards. Of these entire e-banking services banks offer, ATM is by far the most popular in Nigeria. However, technological advancement keeps broadening the frontier of possibilities in all human endeavors and thus more e-banking services are being developed and introduced. As of today, all deposit money banks in Nigeria offer e-banking services.

The e-payment system involves the transfer of monetary value from one person to the other, meaning that the payment system consists of a mechanism which includes institution, people, rules, and technologies that make the exchange of payment possible. In Nigeria’s context, e- payment, according to Agba [9] is a method of effecting payments from one end to another and through the medium of the computer without manual intervention beyond inputting the payment data. It is also the ability to pay the suppliers, vendors, and staff salaries electronically at the touch of a computer button.

Types of the E-Payment System. The idea of e-payment to buy goods or services started in the late 1970s and early 1980s; the first actual e-payment system was released in 1997 [10]. The availability of the internet and technology in the form that allows accessing the information around the world, drive e-payments and e-commerce simultaneously into a powerful and effective system. Generally, there are two types of e-payments, the first requires a physical payment device with internet access such as Electronic Point of Sale (EPOS) and the second does not require a physical payment device such as e-cash and virtual credit cards which require the internet only. Rachna and Singh [11] have categorized the e-payment system into eight categories: e-cash, credit cards, debit cards, smart cards, secure electronic transaction, cyber cash, net bill and first virtual holdings. In Nigeria's context, there are two types of the e-payment system, namely:

i End-to-end processing: Here, all the processes from approval to the receipt of value by the beneficiary are done electronically.

ii Manual e-payment or use of mandate: It is the mixture of manual and electronic process where the available infrastructures cannot support the end-to-end processing. However, there are many forms of e-payments such as cards, internet mobile payments, financial services kiosks, biometric payments, electronic payment networks [12].

Prospects of the E-payment System in Nigeria. An effective and modern payment system is positively correlated with economic development and is a key enabler for economic growth, though this has not been supported by empirical evidence in the case of Nigeria due to many problems impeding the smooth operation of the payment system. For centuries, cash has served the primary role in day-to-day commerce, helping ordinary people trade their labour and products for the goods and services they need without inept negotiations over bartering or exchanges. Yet slowly but surely, alternatives to cash have taken root and grown [13]. The introduction and increased use of e-payment systems hold the promise of broad benefits to both consumers and businesses in the form of greater convenience and more secure or reliable means of payment and settlement for a potentially vast range of goods and services offered worldwide over the internet. One such benefit is that e-payments enable bank customers to handle their daily financial transactions without having to visit their local bank branch. E-payment products could save merchants' time and expenses in handling cash [14]. The e-payment system poses a lot of prospects for the nation. These prospects are highlighted below:

- 1) It facilitates the tracking of payments to beneficiaries' accounts.
- 2) It reduces cases of corruption.
- 3) It assists corruption fighting agencies like the EFCC and the ICPC in cases of investigation.
- 4) It is the beginning of a cashless society.
- 5) Overall, it increases the efficiency of operation.
- 6) It reduces transactions of very low value.
- 7) It increases the convenience of payments.

8) Payment can be made swiftly and remotely using various devices.

9) Accountants will appreciate IT more, and this will improve the quality of financial reports generated by MDAs.

10) Economic growth and development as transparency and accountability improve.

11) It provides for real time reporting and elimination of writing cheques [15; 16].

The risk connected with cheques being stolen, forging of signature and disparity between amount in words and figures has been totally eradicated.

Benefits of the E-Payment System in Nigeria:

1) Storage and validation of biometric data.

2) Reduction of the over-reliance on cash for transactions.

3) End-to-end supplier payment management system.

4) Efficient processing and payment of salaries.

5) Reduction of risks in payments and settlements.

6) View of consolidated bank balances on a single screen.

7) No additional investment in IT infrastructure.

8) Action as a gateway into the banking sector and as a powerful engine for growth.

9) Promotion of financial inclusion by making it easier and more affordable for the unbanked and under-banked to access financial services.

10) One payment solution for personnel record management and payroll.

11) Creation of a greater transparency and accountability, leading to greater efficiency and better economic performance.

Challenges of the E-payment System in Nigeria. Despite the government's resolution to place the country in the map of global electronic markets, there are a number of factors that are militating against the effective transfer of the country's payment system in line with the government's new policy. The challenges militating against e-payment as identified by Sumanjeet [17] generally revolve around:

I. Integrity: to ascertain that transmitted financial information is unchanged in transit.

II. Non-repudiation: to ascertain that all parties have non-deniable proof of receipt.

III. Confidentiality: to ascertain that transactions are protected from possible eavesdroppers.

IV. Reliability: to ascertain that there is reduced possibility of failure.

V. Authorization: to ascertain that individuals are recognized and granted the desired rights and privileges.

VI. Security: refers to a set of processes and methodologies that are applied to guarantee the integrity, privacy, availability, confidentiality, authorization, access control and authentication of the information exchanged during e-payments. As rightly pointed out by Atabansi [18], the major challenge of e-payment in the country is security. Security in terms of platform, hackers and virus attacks. Also, the automation of transaction without direct contact from

payer and payee makes e-payment vulnerable and provide an environment for security leaks. To ensure that output from the system is reliable and accurate, the e-payment system should provide all the necessary mechanism to deal with expected security breaches.

VII. Infrastructure: lack of infrastructure is the most intimidating challenge that confronts the e-payment system. Most e-payment systems depend on the IT infrastructure such as laptops, desktops, scanners, good internet connectivity, global software, etc. The provision of basic IT infrastructure is a major problem in developing countries.

VIII. Lack of Uniform Platform by Banks and MDAs: there is no compelling law mandating the banks to use a common software platform. Every bank is left to use whatever platform they felt will perform the electronic services on behalf of the clients. There is the problem of switches in effecting transfer from one bank to another. Interconnectivity has been a problem.

IX. Society's Culture: culture is a collection of characteristics, human capabilities, habits, belief, art, attitude, knowledge, morals, custom, law and any capabilities of an individual or group. The differences in the culture of payment have direct reflections on the scope of establishing the e-payment system [10].

X. Lack of Legal and Regulatory Framework: Nigerian current laws do not accommodate electronic contracts and signatures. For the pursuit and prudential supervision of e-payment, a set of laws and regulations have to be considered in order to provide financial integrity, stability, soundness and competitiveness. The most noticeable rules for e-payments are anti-money laundering, supervision of commercial banks and e-money institutions, central bank laws for payment systems, security and protection laws and cooperation and competition laws [10].

XI. Lack of Seriousness by Banks: some banks in Nigeria are very conservative; they use very few innovative products and marketing techniques. Imala [19] attributed the slow pace of doing online business in Nigeria's system to the failure of the banking sector. According to him, the inadequate enabling infrastructure in the nation's banking sector is largely responsible for the poor pace of growth that has been witnessed in the economy since the introduction of the new payment system. Therefore, the readiness of the commercial banks in the country to support the government on its new drive and policy become a source of major concern to social and financial analysis. The causes of the concern stem from the doubt over the capability of the banks to muster the financial muscle, strategic planning, technical know-how and other logistic strength required for a meaningful hosting and implementation of an e-payment platform.

XII. Lack of Political Will: the lack of understanding of the deliverables of e-payment systems to the economy by successive governments is responsible for the scrawny growth of e-payment in Nigeria. In addition, the MD of Interswitch Nigeria remarked that if government continues to fail to realize the importance of leveraging e-payment platforms to drive general administration and governance, it would be cumbersome for the gains of the technology that would be required to ensure penetration into the polity to be accessed. He further stated that

in spite of the available channels to drive e-payment, several governments in the country do not possess the roadmap to leverage on the needs and demands of the populace.

XIII. Frequent Power Interruption: lack of a reliable power system supply and power outage are a key challenge for smoothly running e-payments and e-banking [13].

XIV. High Rates of Illiteracy: the majority of the people in the country are businessmen trying to squeeze out livelihood through struggling and hustling, to survive on their own despite the ugly nature of the economy. More so, a lot of Nigerians do not have access to bank accounts due to their illiterate nature and poor orientation [20]. Therefore, the low literacy rate is a serious hindrance for adoption of e-payments as it impedes the accessibility of banking services. For people to fully enjoy the benefits of e-payments, they should not only know how to read and write but also possess basic ICT literacy. Worst still, the majority of Nigerians are not oriented to save money in the bank.

XV. Resistance to Changes in technology among customers and staff due to:

- i lack of awareness on the benefits of new technologies
- ii fear of risk
- iii lack of trained personnel in key organizations
- iv tendency to be content with the existing structures.
- v People's possible resistance to the new payment mechanism.

Evaluation of the E-Payment System in Nigeria. Looking at the aims for introducing the electronic payment system in Nigeria, it is crystal clear that only few of the objectives have been achieved. This includes among others the elimination of many risks associated with carrying large sums of money such as armed robber, fraud, and others. At least government organizations no longer pay cash to “contractors” and civil servants. It eliminates the use of cash to facilitate speedy payments for all transactions. But to a very large extent, the following objectives have not been met. It helps tracking the implementation of government policies through the elimination of delays in government payment system. There are instances of delay in payment to contractors who are not ready to cooperate. There has been a complaint from some contractors handling projects in the rural areas over difficulties associated with the e-payment model. E-payments minimize interaction of government officials and contractors to eliminate opportunity for corruptive tendencies. It will be difficult to eliminate this as interaction at whichever level it will continue formally or informally if Nigerians are to be honest with them. In whichever case, there is a need to ask the questions: Who are the contractors? Is the due process of government working or not? Who are the officials subverting this and other laudable programmes of government? Can corruption really be stamped out of the system? It helps in achievement of economy and efficiency in government financial transactions. For as long as corruption remains within the polity, there can be no efficiency in the system. The EFCC and the judiciary will have to find a common ground to tackle this “cankervorm” that has defiled all solution. China's example could be the best solution. However, this may also not work because of religious and trib-

al sentiment among some Nigerians. E-payments enhance real time reporting and improve the quality of financial reporting system in the public sector. It has been observed that since the implementation of the policy, there have been late returns or no response in respect of unapplied funds. The existing system cannot guarantee real-time reporting of finances; as a result, there can be no good financial reporting [3, p. 3106].

Policy recommendations

The following were recommended for policy makers:

i The government of Nigeria should provide the much needed leadership and support for electronic payments.

ii Applicable rules and regulations including those for electronic approval processes, consumer protection and e-transactions should be developed and standardized as needed.

iii The migration of our payments system towards a cashless society would require some reform and a lot of effort and sensitization especially for low income customers, who are current deeply rooted in using cash and see it as a convenient and easy way of receiving and making payments. The sensitization exercise would require the combined effort of various stakeholders including government, financial institutions and non- bank providers of payment services.

iv The cashless system of payments idea was well received by the majority of Nigerians, but with some concerns challenges which can hamper its success, and these must be properly addressed by providers

v Government, financial institutions and non-bank providers should systematically expand the necessary infrastructure by promoting the development of necessary technologies, recruiting experts and expanding high speed information network to enhance e-payment system in the country.

Conclusion

The e-payment system has the prospect of helping to achieve economic and efficient government financial transactions, enhance real-time reporting, and improve the quality of financial reporting system in Nigeria. Despite the numerous benefits that e-payments bring to the nation, banks and individuals, they also have their challenges. The challenges as discussed in this paper can be categorized into four main groups. That is, security, infrastructure, legal and regulatory issues as well as sociocultural issues. Also, the readiness of the commercial banks in the country to support the government on its new drive and policy has become a source of major concern to social and financial analysts. The causes of the concern stems from the doubt over the capability of the banks to muster the financial muscle, strategic planning, technical know-how, and other logistic strength required for a meaningful hosting and implementation of an e-payment platform in making Nigeria join the league of nations whose payment system conforms to internationally accepted regulatory, technical and operational standards.

References

1. Aborisade, R. (2014) The future of consumer payments in Nigeria: An evaluation of the e-payment system vision-2020 of the Nigeria government and nation's banking sector. *Journal of Emerging Trends in Computing and Information Sciences*. 5 (3). pp. 220–229.
2. Ajayi, S.I. & Ojo, O.O. (2006) *Money and banking: Analysis and policy in the Nigeria context*. Ibadan: Daily Graphics Nigeria Ltd.
3. Ogedebe, P.M. & Babatunde, P.J. (2012) E-payment: prospects and challenges in Nigeria public sector. *International Journal of Modern Engineering Research*. 2 (5). pp. 3104–3106.
4. Summers, B.J. (2012) *Payment system: Design, governance and oversight*. London: Central Banking Publications.
5. Okifo, J. & Igbunu, R. (2015) Electronic payment system in Nigeria: Its economic benefits and challenges. *Journal of Education and Practice*. 6 (16). pp. 56–62.
6. Nwankwo, O. & Eze, O.R. (2013) Electronic payment in cashless economy of Nigeria: problems and prospect. *Journal of Management Research*. 5 (1). pp. 138–151.
7. James, A.O. (2012) The acceptance of e-banking by customers in Nigeria. *World Review of Business Research*. 2 (2). pp. 6–8.
8. Daniel, E. (1999) Provision of electronic banking in the UK and the republic of Ireland. *International Journal of Bank and Marketing*. 17 (2). pp. 72–82.
9. Agba, D. (2010) *Implications and challenges of e-payment system*. [Online] Available from: <http://www.itnewafrica.com>
10. Abdulla, A., Abubakr, A., Ismaeel, M. & Mahmud, H. (2015) E-payment: prospects, challenges and solutions in KRG public sector. *International Journal of Engineering and Computer Science*. 4 (9). pp. 14092–14097.
11. Rachna, R. & Singh, P. (2013) Issues and challenges of electronic payment systems. *International Journal of research in Management and Pharmacy*. 2 (9). pp. 25–30.
12. Asaolu, T.O., Ayoola, T.J. & Akinkoye, E.Y. (2011) Electronic payment system in Nigeria: Implications, constraints and solutions. *Journal of Management and Society*. 1 (2). pp. 16–21.
13. Yaqub, J.O., Bello, H.T., Adenuga, I.A. & Ogundeji, M.O. (2013) The cashless policy in Nigeria: Prospects and challenges. *International Journal of Humanities and Social Science*, 3 (3). pp. 200–212.
14. Appiah, A., & Agyemang, F. (2007) *Electronic retail payment system: user acceptability and payment problems in Ghana*. [Online] Available from: <http://www.etailpaymentsystemghana.com>
15. Dankwambo, H. (2013) *Understanding the e-payment system*. Paper presented at the workshop in Abuja.
16. Shuaibu, K. & Muhammad, A. (2016) Electronic payment system challenges in Gombe State: Evidences from the office of the accountant general of Gombe State, Nigeria. *IOSR Journal of Humanities and Social Science*. 21 (4). pp. 1–7.
17. Sumanjeet, S. (2009) Emergence of payment systems in the age of electronic commerce: The state of art. *Global Journal of International Business Research*. 2 (2). pp. 17–36.
18. Atabansi, L. A. (2012) *We can grow our technology*. [Online] Available from: <http://theeconomynig.com/interview16.htm>
19. Imala, O. (2009) *Electronic commerce and telecommunication in Nigeria: Bank regulator perspective*. A paper presented at the International Conference on Electronic Commerce and Telecommunication in Nigeria. 23 September 2009. Lagos State.
20. Ehiriudu, J.A., Ugwata, E.E. & Ani, M.U. (2016) The impact of adopting electronic banking in Nigeria economy: Issues and challenges. *European Journal of Business and Management*. 8 (23). pp. 35–39.

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