EVALUATION OF E-COMMERCE SYSTEMS IN NIGERIA: IMPLEMENTATION AND CHALLENGES

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EXECUTIVE SUMMARY

**Aims**
- To evaluate the prospects of electronic commerce systems in Nigeria
- To assess the effectiveness (impact) of the implementation of e-commerce in Nigeria
- To identify the constrains in the implementation of the system
- To examine whether the e-commerce systems regulations in Nigeria met with international best practice

**Scope**
- The research study sample size is 1,200 drawn from 400 MDAS, Contractors’ Firms, and Commercial Banks within Abuja.
- Clarity wise, each of these organizations populated consists of 30 middle and senior staff
- Primary and secondary data were used

**Findings**
- Respondents’ opinion on the comparison between e-commerce system and the old system of cash and cheques, 89% of the respondents agreed that e-commerce system was better while 5% disagreed with the view.
- There is significant impact of e-commerce as compared to old methods of payment
- Comparison, portability and convenience variables are accepted due to their significant at 5% level
Assessment – Respondent Views

• Comparison – 89% agreed, 5% disagreed, 6% undecided
• Mode – 72% Draft issued, 20% e-Payment, and 8% Don’t know
• Cost Effectiveness – 34% Agree, 20% Undecided, 36% Disagree, 10% Strongly Disagree
• Security – 27.9 Agree, 43% Undecided, 27.8% Disagree
The study is motivated by the apparent low level of satisfaction with the level of payment system in Nigeria.
Introduction

E-commerce refers to the use of communications technology particularly the Internet to buy, sell and market goods and services to customers. The Internet has brought about a fundamental shift in national economies that are isolated from each other by barriers to cross-border trade and investment; isolated by distance, time zones and language; and isolated by national difference in government regulations, culture and business systems (Mohammad, 2004).

E-commerce offers a level playing ground for large businesses, as well as small and medium-scale enterprises (SMEs) to operate in the global market-place; and for regional businesses and communities to participate in social, economic and cultural networks seamlessly across international boundaries (Mary-Anne, 1998).

It equally fosters direct access to distant markets and promotes globalization of commercial activities; and blurs many of the current distinctions between domestic and foreign companies to an extent that it becomes practically impossible to determine the origin of products (Georges, 1997).
Research Questions

What are the advantages of e-Commerce over the conventional method of cash and cheques payments?
What are the prospects of electronic commerce systems in Nigeria?
How effective is the implementation of e-Commerce system in Nigeria?
What are the constraints bedevilling the implementation of the system in Nigeria?
There is no law that explicitly and exclusively deals with e-commerce systems in Nigeria. Rather, the Central Bank of Nigeria (CBN) Act, as amended in 1999 gives the Bank the implicit powers to oversee and regulate the payments system. Section 41 of the CBN Act provides that "it shall be the duty of the CBN to facilitate the clearing of cheques and credit instruments for banks carrying on business in Nigeria and for this purpose, the bank shall at any appropriate time and in conjunction with other banks establish clearing houses in premises provided by the Bank in such places as the Bank may consider necessary".

Section 17 provides that "the Bank shall have the sole right of issuing currency notes and coins throughout Nigeria. Also the Nigerian Stock Exchange plays a dominant role in the Nigerian Payments and Settlement landscape as the trading in equities is conducted via the floor of the exchange based on encompassing laws and regulations. (CBN, 2011)."
The term electronic payment system is all-inclusive, depicting different dimensions of electronic delivery multichannel. Its usage for different purposes presents increases imprecision of defining e-payment in the literature. E-payment could be viewed from its functions as m-payment, e-banking, e-money, online banking, internet banking, e-finance, e-broking, etc. Nevertheless, researches showed some attempts to define e-payment (Humphrey, Willesson, Bergendahl & Lindblom, 2006; ECB, 2001; Raja, 2008; Oginni, 2013).

ECB (2001) viewed e-payment as an electronic preservation of economic substance on an intelligent device generally employed to make payments of undertakings apart from the person who issues it without involving bank accounts in the transaction, though acting as a prepaid bearer instrument, elsewhere e-payment is viewed as the use of credit cards, automated teller machines, debit cards, stored value cards, mobile wallets and others of similar nature to make payments (Oginni, 2013).

Various differing conceptualisations of the “e-payment” have been proffered by various scholars and commentators – with the conceptualisations proffered varying according to differing contexts and the transactions types conceptualised as being within its remit. Geva, (2010) for example, starts off his conceptualisation of e-payment by distilling the two core types of payment, (that is credit or debit transfers), and then goes on to explain that each of these payment types may be either paper-based or electronic based; and classifies payment instructions which are recorded on a magnetic tape or in any other electronic message medium, as an electronic payment, which he describes as electronic funds transfer.
State of e-Commerce in Nigeria

Transition to cashless economy in Nigeria in the recent time, has generated several researchers into its implementation, prospects, challenges and policy implications in Nigeria.

We examined user acceptability and problems of electronic retail payment systems in Nigeria and found that cash usage is still very high in Nigeria despite efforts of CBN towards the adoption of electronic payment system.
Challenges of e-Commerce Systems in Nigeria

The study identified challenges such as:

Inadequate power supply, cybercrime, shortage of critical technological infrastructures, lack of socio-cultural support and absence of regulatory framework that are required to operate seamless and effective electronic payment system.

In the same way, we examine challenges, benefits and policy implications of cashless banking in Nigeria and found that the shift towards a cashless Nigeria seems to be beneficial though it comes with high level of concerns over security and management of cost savings resulting from its implementation.

Similarly, Nwankwo (2013) studied the problems and prospect of electronic payment in cashless economy of Nigeria and found that electronic payment system has great implication on cashless economy of Nigerian but it will lead to significant decrease in deposit mobilization and credit extension by Nigerian deposit money banks.
An e-payment transaction is considered to be domestic where any one of the originator's bank or the beneficiary's bank, or both, is/are located in the country of the currency in which the transfer is being made (Li, 2006).

An international e-commerce occurs where either the originator's bank (the bank of the person giving the e-commerce instruction) or the payee's bank (the bank of the person to whom payment is directed to be made), or both banks, are located in a country different from the country of the currency in which payment is to be made (Ellinger et al, 2006). For the purposes of international funds transfer a cross-border or overseas branch of a bank is considered as being a separate bank (Ellinger et al, 2006).
Channels of e-Commerce in Nigeria

- Financial Service Kiosks (FSK)
- Internet Banking
- Payment Cards (Debit or Credit)
- Point of Sales (POS) Terminals
- Automated Teller Machines (ATM)
- Automated Clearing House (ACH)
- Real Time Gross Settlement System (RTGS)
- Direct Debit/Deposit
- Biometric Payments Systems (BPS)
- Electronic Payment Networks (EPN)
In line with global trends in managing inherent payment and settlement risks in large value payments, the CBN commenced the operations of the Real Time Gross Settlement System (RTGS) in December 2006. The CBN RTGS (Central Bank of Nigeria Inter-bank Fund Transfer - CIFT) System interfaces with the core banking application (T24 System) and had all the Deposit Money Bank and Discount Houses as direct participants. The System allows the participants to perform a number of transactions from their offices electronically.
The study employs both primary and secondary data to achieve its objectives. The secondary data is derived from library documents, publications on Internet, and relevant materials to the research. The primary data was obtained through questionnaires as designed using CSPro and interviews. The study incorporates both sources of data to enhance a balance between the research observation and available literature on the matter under consideration. The population of this study was from about 400 organizations such as; Ministries, Departments and Agencies (MDAs), contractors and the banks in Abuja, Nigeria from which research study samples were drawn.

The researcher used the percentage method for the presentation, interpretation and analysis of data in tabular form. The analyses were carried out with the aid of the E-View and Statistical Package for Social Sciences (SPSS version 25). Ordinary Least methods were used to test the hypothesis at 5% level of significance respectively. The ordinary least square was guided by the following linear model:

\[
\text{ASS} = \alpha + \beta_1 \text{COM} + \beta_2 \text{MD} + \beta_3 \text{CT} + \beta_4 \text{PT} + \beta_5 \text{CV} + \beta_6 \text{ST} + \beta_7 \text{CS} + \varepsilon
\]
### Data and Methodology cont…

<table>
<thead>
<tr>
<th>Metric</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment (ASS)</td>
<td>Overall assessment of e-commerce system</td>
</tr>
<tr>
<td>Comparison (COM)</td>
<td>Comparison between e-commerce and the old methods of cash and cheques</td>
</tr>
<tr>
<td>Mode (MD)</td>
<td>Mode of e-commerce to contractors</td>
</tr>
<tr>
<td>Cost (CT)</td>
<td>Cost effectiveness of e-commerce</td>
</tr>
<tr>
<td>Portability (PT)</td>
<td>Linkages between e-commerce system, other systems and applications</td>
</tr>
<tr>
<td>Convenience (CV)</td>
<td>E-commerce system usage</td>
</tr>
<tr>
<td>Constraint (CS)</td>
<td>E-commerce constraints in order of criticality security of e-payment system</td>
</tr>
</tbody>
</table>
Result and Discussion

This section of the paper presents the results and discussion obtained from questionnaires administered to respondents.

Table 1: Comparison between e-commerce and the old methods of cash and cheques

<table>
<thead>
<tr>
<th>Description</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>588</td>
<td>49</td>
<td>49</td>
<td>49</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>480</td>
<td>40</td>
<td>40</td>
<td>89</td>
</tr>
<tr>
<td>Agree</td>
<td>72</td>
<td>6</td>
<td>6</td>
<td>95</td>
</tr>
<tr>
<td>Undecided</td>
<td>60</td>
<td>5</td>
<td>5</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>1200</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

Source: Field Survey, 2019

Table 1 above presents the respondents’ opinions on the comparison between e-commerce system and the old system of cash and cheques. 89% of the respondents agreed that e-commerce system was better while 2% disagreed with the view.

Table 2: Mode of e-commerce to contractors

<table>
<thead>
<tr>
<th>Description</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draft issued</td>
<td>216</td>
<td>18</td>
<td>20</td>
<td>72</td>
</tr>
<tr>
<td>E-payment platform</td>
<td>60</td>
<td>5</td>
<td>20</td>
<td>92</td>
</tr>
<tr>
<td>Don't know</td>
<td>24</td>
<td>2</td>
<td>2</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>300</td>
<td>25</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

Source: Field Survey, 2019

Table 2 above presents the respondents’ responses on the mode of e-commerce to contractors having accounts in banks different from that of government agencies. 72% claimed that the mode of payment is by way of bank draft while 20% claimed that e-payment platform is being used to effect e-commerce to contractors.

Table 3: Cost effectiveness of e-commerce

<table>
<thead>
<tr>
<th>Description</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>12</td>
<td>10</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>90</td>
<td>70</td>
<td>70</td>
<td>34</td>
</tr>
<tr>
<td>Undecided</td>
<td>60</td>
<td>50</td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td>Disagree</td>
<td>108</td>
<td>90</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>180</td>
<td>15</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>450</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

Source: Field Survey, 2019

Table 3 above presents respondents’ responses to the cost effectiveness of e-payment system. While 34% attached to the cost-effectiveness of the system, 40% claimed that the system is not cost-effective to both government agencies and contractors.

Table 4: Security of e-commerce system

<table>
<thead>
<tr>
<th>Description</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>12</td>
<td>10</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>90</td>
<td>70</td>
<td>70</td>
<td>34</td>
</tr>
<tr>
<td>Agree</td>
<td>252</td>
<td>21</td>
<td>21</td>
<td>29.9</td>
</tr>
<tr>
<td>Undecided</td>
<td>390</td>
<td>33.5</td>
<td>33.5</td>
<td>63.4</td>
</tr>
<tr>
<td>Disagree</td>
<td>252</td>
<td>21</td>
<td>21</td>
<td>43</td>
</tr>
<tr>
<td>Total</td>
<td>906</td>
<td>79.5</td>
<td>79.5</td>
<td></td>
</tr>
</tbody>
</table>

Source: Field Survey, 2019

Table 4 above presents the security of the e-commerce platform while 29.1% of the respondents claimed that the system is secured to prevent identity theft.
Test Hypothesis – Description from Regression Table

<table>
<thead>
<tr>
<th>Attribute</th>
<th>p-value</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparison</td>
<td>0.003 &lt; 0.05</td>
<td>Accept the null hypothesis</td>
</tr>
<tr>
<td>Constraints</td>
<td>0.3781 &gt; 0.05</td>
<td>Reject the null hypothesis</td>
</tr>
<tr>
<td>Convenience</td>
<td>0.0097 &lt; 0.05</td>
<td>Accept the null hypothesis</td>
</tr>
<tr>
<td>Cost</td>
<td>0.3161 &gt; 0.05</td>
<td>Reject the null hypothesis</td>
</tr>
<tr>
<td>Mode</td>
<td>0.7200 &lt; 0.05</td>
<td>Reject the null hypothesis</td>
</tr>
<tr>
<td>Portability</td>
<td>0.0115 &lt; 0.05</td>
<td>Accept the null hypothesis</td>
</tr>
</tbody>
</table>

Source: Analysis of Data Using EViews
It can be seen in the regression table that Comparison, Constraints, Convenience, Cost, Mode, Portability, Security Assessment Variables are significant at level 0.05 which has a value of 0.0003, 0.3781, 0.0097, 0.3161, 0.7200, 0.0115, 0.0080, and 0.007 and from the analysis will reject the null hypothesis except Comparison, Portability and Convenience.

Looking at the regression equation deeper the researcher observed that R-square < d (where R is the regression coefficient or the coefficient of determination and d is the Durbin Watson Statistic). This suggests that the equation on the whole is not spurious. Individual check of the variable is however necessary to obtain a sufficient proof of this argument.
Conclusion

The channels for e-commerce are varied and will continue to increase with new advances in ICT. The channels include financial service kiosks, biometric payments systems, internet banking, payment cards (debit or credit), online web portals, point of sales (POS) terminals, automated teller machines (ATM), mobile automated clearing house (ACH), direct debit/deposit and real time gross settlement (RTGS) system, electronic payment networks, etc. The list is endless with the potential of increasing from time to time in reaction to advances in ICT.
Recommendation

Comprehensive legislative intervention in the regulation of e-commerce and the allocation of e-payment specific risks and issues should be promulgated, covering domestic as well as international e-payments, credit transfers as well as debit transfers, and consumer and non-consumer e-commerce.

Public Education and Acceptability – e-commerce is still new, series of sensitization meetings should be arranged at all levels. The banks and other stakeholders must be educated and informed of the need to consolidate efforts to make e-payment successful.

Monitoring of Compliance – the Office of Accountant General of the Federation (OAGF) should take the responsibility of assessing the level of compliance in all MDAs.

Seamless integration between Government e-payment system and accounting system should be sustained.

Improve payment Infrastructure – government should systematically expand the necessary infrastructure by promoting the development of necessary technologies, recruiting professional human resources, and expanding the high speed information network. This will foster a strong foundation for e-governance.

Regulatory authorities should ensure that all service providers who have been licensed should start operations because the number of Point of Sale (PoS) terminals in the country is very few. Penalties should be imposed on those providers who have failed to go into the market.

Improved both logical and physical security on the payment systems for it to be widely accepted, and used. Consumers must trust and have full confidence in the system.
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2013

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payment system in the developing countries

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Research Division, Zurich Research Laboratory p1-16


Thank you for your attention

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