

## An E-Payment System in Nigeria: Success Militating Factors

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### Abstract

*The study carried out an investigation on electronic payment system in Nigeria focusing on the implementation and the constraints antagonizing it with the aim to come up with solutions to the constraints so identified. The ostensible low level of contentment with e-payment system in Nigeria motivated this study. Banks, contractors and government agencies formed the sampling population with total of 200 respondents and the analysis is carried out predominantly on the primary data retrieved from the respondents. Militating constraints towards success of the system were identified in the study and also suggested recommendations for effective implementation of the system.*

### Keywords

*E-payment, fund, legacy system.*

### 1. Introduction

[5], stated that trade involves the exchange of goods and services with an equivalent abstract value such as money. System adopted for payments have been in place, since the invention of money as an abstract way of signifying value. In the course of time, new and increasingly abstract representations of value were introduced. A corresponding progression of value transfer systems, starting from barter, through bank notes, payment orders, cheques and later credit cards, has finally culminated in electronic payment systems. As the transition to electronic payment systems take place, the stock of currency held outside the banking system which constitutes a potential source of unproductive economic resources.

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This is because they are not available for credit expansion is integrated into it thereby expanding the deposit base of the monetary system. With various perceived benefit of e-payment such as convenience, speed, efficiency and reduced cost, Nigeria economic climate is enthusiastic to embrace e-payment system. [2], stated that many enthusiastic industry chieftain had expressed hopes of fast transformation of the sector and growth of the economy, as the future prospects are linked with a solid e-payment system. However, the expected geometric growth of the new technology is being bogged by combination of factors.

This paper is informed by implementation of e-payment systems in Nigeria. The objectives of the study were to;

- Determine how effective is e-payment implementation is in Nigeria.
- Investigate and determine the constraints associated with the implementation of e-payment system.
- Evaluate the degree of usage of e-payment in Nigeria.
- Determine solutions to the identified constraints in e-payment system implementation.

### 2. Related work

The implementation of e-payment system is dependent on the consumer's behaviour. [1], emphasized that "commerce always involve a payee and a payee who exchange money for goods or services, and at least one financial institution which links "bit" to "money". In most existing payment systems, the latter role is categorized into two major parts: an issuer (used by the payer) and an acquirer (used by the payee). According to [3], the arrival of the internet has taken electronic payments and transaction to an exponential growth level. Digital money has significant benefits for financial institutions, banks and e-merchants. [4], illustrated that a secure electronic cash system can guarantee anonymity of legitimate users but, also provide traceability about illegally issued cash or laundered money.

[7], pointed out that e-payment application represent a security challenge as they highly depend on critical ICT system that create vulnerabilities in financial institutions, businesses and potentially harm customers. It is imperative, for organizations to understand, and address security concerns in order to leverage the potential of ICTs in delivering e-payment application” [7]. For e-payment system to be successfully implemented there must be the needed infrastructure on ground. [6], emphasized the need for adequate infrastructure and also pointed out the enormous infrastructure challenges faced by most organization during implementation. For electronic payment to be successful there must be a reliable and cost effective infrastructure that can be accessed by majority of the population.

### 3. Methodology

This empirical study was conducted by using a survey. A structured open-ended questionnaire was administered to banks, contractors and MDAs through random sampling. Sampling was done in such a way that only those staff that uses the technology directly was distributed with the questionnaire. The study structured the survey that was administered to gather information on the implementation of the Federal Government e-payment system and its constraints with a view to providing solutions to the constraints so identified. The sample size was 200 using convenient sampling with 100 respondents from the MDAs and 50 each from both banks & contractors from the southwestern region of Nigeria. This study used Statistical Package for Social Sciences SPSS version 15 to analyses the collected data.

### 4. Analysis of Findings

The participants view, comparing between e-payment system and the legacy system of cash and cheque is illustrated in table 4.1. Eighty-nine percent of the participant decided that e-payment system was effective/better while, five percent objected the view.

**Table 4.1 Comparison between e-payment and legacy system of cash and cheques**

|       |                | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|----------------|-----------|---------|---------------|--------------------|
| Valid | Strongly Agree | 98        | 49.0    | 49.0          | 49.0               |

|  |           |     |      |      |       |
|--|-----------|-----|------|------|-------|
|  | Agree     | 80  | 40.0 | 40.0 | 89.0  |
|  | Undecided | 12  | 6.0  | 6.0  | 95.0  |
|  | Disagree  | 10  | 5.0  | 5.0  | 100.0 |
|  | Total     | 200 | 100  | 100  |       |

Table 4.2 illustrate the participants’ view on how contractors retort on the genre of payment possessing accounts in banks, which is not the same with that of government agencies. Seventy-two percent ascertained that bank draft is the style of payment, while twenty percent profess that e-payment platform is adapted to effect payment to contractors.

**Table 4.2 Mode of e-payment to contractors**

|         |                    | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|--------------------|-----------|---------|---------------|--------------------|
| Valid   | Draft Issue        | 36        | 18.0    | 72.0          | 72.0               |
|         | E-Payment Platform | 10        | 5.0     | 20.0          | 92.0               |
|         | Don’t Know         | 4         | 2.0     | 8.0           | 100.0              |
|         | Total              | 50        | 25.0    | 100.0         |                    |
| Missing | System             | 150       | 75.0    |               |                    |
| Total   |                    | 200       | 100.0   |               |                    |

Table 4.3 illustrates participants’ response to the cost effectiveness of electronic payment system. While, forty-six ascertain that the system is not cost effective, thirty-four percent attested to the cost effectiveness to both contractors and the government agencies.

**Table 4.3 Cost-effectiveness of E-payment**

|         |                | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|----------------|-----------|---------|---------------|--------------------|
| Valid   | Strongly Agree | 2         | 1.0     | 4.0           | 4.0                |
|         | Agree          | 15        | 7.5     | 30.0          | 34.0               |
|         | Undecided      | 10        | 5.0     | 20.0          | 54.0               |
|         | Disagree       | 18        | 9.0     | 36.0          | 90.0               |
|         | Strongly Agree | 5         | 2.5     | 10.0          | 100.0              |
|         | Total          | 50        | 25.0    | 100.0         |                    |
| Missing | System         | 150       | 75.0    |               |                    |
| Total   |                | 200       | 100.0   |               |                    |

Table 4.4 illustrates participant response to the linkage of e-payment system with other system and application. Eleven percent population of the participants believes that there is linkage, while seventy-five percent disagree with this view.

**Table 4.4 Linkages of e-payment system with other system and application**

|       |                | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|----------------|-----------|---------|---------------|--------------------|
| Valid | Agree          | 22        | 11.0    | 11.0          | 11.0               |
|       | Undecided      | 6         | 3.0     | 3.0           | 14.0               |
|       | Disagree       | 145       | 72.5    | 72.5          | 86.5               |
|       | Strongly Agree | 27        | 13.5    | 13.5          | 100.0              |
|       | Total          | 200       | 100.0   | 100.0         |                    |

Table 4.5 illustrates the usage of e-payment in terms of effort, time and special equipment. Thirty percent of the participants suggested that less effort is needed for the system, the period of transaction processing and special equipment. While, approximately sixty-one percent (that is the total of 58.7% and 2.7%) of the participants disagreed with the view.

**Table 4.5 E-payment system usages**

|                      | Frequency | percent | Valid Percent | Cumulative Percent |
|----------------------|-----------|---------|---------------|--------------------|
| Valid strongly Agree | 15        | 7.5     | 10.0          | 10.0               |
| Agree                | 30        | 15.0    | 20.0          | 30.0               |
| Undecided            | 13        | 6.5     | 8.7           | 38.7               |
| Disagree             | 88        | 44.0    | 58.7          | 97.3               |
| Strongly Disagree    | 4         | 2.0     | 2.7           | 100.0              |
| Total                | 150       | 75.0    | 100.0         |                    |
| Missing System       | 50        | 25.0    |               |                    |
| Total                | 200       | 100     |               |                    |

The security aspect of e-payment system is shown in table 4.6. Twenty-seven percent suggested that the system is not secured hence, can't prevent and detect fraud, approximately twenty-nine percent disagreed.

**Table 4.6 Security of E-payment system**

|                |                | Frequency | Percent | Valid Percent | Cumulative Percent |
|----------------|----------------|-----------|---------|---------------|--------------------|
| Valid          | Strongly Agree | 15        | 7.5     | 10.0          | 10.0               |
|                | Agree          | 30        | 15.0    | 20.0          | 30.0               |
|                | Undecided      | 13        | 6.5     | 8.7           | 38.7               |
|                | Disagree       | 88        | 44.0    | 58.7          | 97.3               |
|                | Strongly Agree | 4         | 2.0     | 2.7           | 100.0              |
|                | Total          | 150       | 75.0    | 100           |                    |
| Missing System | 50             | 25.0      |         |               |                    |
| Total          |                | 200       | 100.0   |               |                    |

**Table 4.7 E-payment constraints in order of criticality**

|       |                                                                                    | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|------------------------------------------------------------------------------------|-----------|---------|---------------|--------------------|
| Valid | Lack of integration between e-payment platform and accounting system of government | 68        | 34.0    | 34.0          | 34.0               |
|       | Weak internal control of government agencies                                       | 1         | 0.5     | 0.5           | 34.5               |
|       | Privacy and security issues                                                        | 28        | 14.0    | 14.0          | 48.5               |
|       | Ignorance/poor public awareness                                                    | 7         | 3.5     | 3.5           | 52.0               |
|       | Delay in applications of funds to beneficiaries by the bank                        | 36        | 18.0    | 18.0          | 70.0               |
|       | Wrong account details of beneficiaries                                             | 26        | 13.0    | 13.0          | 83.0               |
|       | Late/incorrect reporting from bank                                                 | 5         | 2.5     | 5.5           | 85.5               |
|       | Un-existing legal and reporting requirement                                        | 20        | 10.0    | 10.0          | 95.5               |
|       | Absence of uniform e-payment platform and solutions                                | 2         | 1.0     | 1.0           | 96.5               |
|       | Inadequate telecommunication infrastructure                                        | 3         | 1.5     | 1.5           | 98.5               |
|       | Lack of standard format of remittance information                                  | 3         | 1.5     | 1.5           | 99.5               |
|       | High charges by bank on contractors accounts                                       | 1         | 0.5     | 0.5           | 100                |
|       | Total                                                                              | 200       | 100     | 100           |                    |

Feedback on whether the primary objective of the system has been achieved is shown in table 4.7. approximately thirty-three percent of the participant denoted that the laid down objectives have been achieved by the system , while approximately sixty-one percent of the participant disagreed, stating that the laid down objectives has not been achieved by the system. Table 4.8 shows the view of the participant on the constraint bedevilling the system with “lack of integration between the platform of e-payment and government accounting system” as the most critical.

**Table 4.8 Overall assessment of e-payment system**

|       |                   | Frequ<br>ency | Percent | Valid<br>Percen<br>t | Cumula<br>tive<br>Percent |
|-------|-------------------|---------------|---------|----------------------|---------------------------|
| Valid | Strongly<br>Agree | 19            | 9.5     | 9.5                  | 9.5                       |
|       | Agree             | 46            | 23.0    | 23.0                 | 32.5                      |
|       | Undecided         | 14            | 7.0     | 7.0                  | 39.5                      |
|       | Disagree          | 102           | 51.0    | 51.0                 | 90.5                      |
|       | Strongly<br>Agree | 19            | 9.5     | 9.5                  | 100.0                     |
|       | Total             | 200           | 100.0   | 100.0                |                           |

The regression analysis of the variables is shown in table 4.9. While, mode, constraints and portability indicate negative relationship in line with the dependent variables “general assessment”.

Dependent variable: ASSESSMENT

Method: Least Squares

Date: 02/23/14 Time: 06:11

Sample (adjusted): 150

Included observation: 50 after adjusting endpoints

**Table 4.9 Linear regression result**

| Variable    | Coefficie<br>nt | Std.<br>Error | t-Statistic | Prob       |
|-------------|-----------------|---------------|-------------|------------|
| COMPARISON  | 0.366726        | 0.0934<br>24  | 3.925387    | 0.000<br>3 |
| CONSTRAINTS | -<br>0.046420   | 0.0521<br>11  | -0.890785   | 0.378<br>1 |
| CONVENIENCE | 0.326025        | 0.1203<br>55  | 2.708860    | 0.009<br>7 |
| COST        | 0.106805        | 0.1052<br>76  | 1.014522    | 0.316<br>1 |
| MODE        | -<br>0.065523   | 0.1815<br>38  | -0.360932   | 0.720<br>0 |
| PORTABILITY | -<br>0.959671   | 0.3630<br>24  | -2.643545   | 0.011<br>5 |
| SECURITY    | 0.837243        | 0.3004<br>98  | 2.786183    | 0.008<br>0 |
| C           | 3.537128        | 1.2482<br>05  | 2.833771    | 0.007<br>0 |

|                    |          |                       |              |
|--------------------|----------|-----------------------|--------------|
| R-squared          | 0.918941 | Mean dependent var    | 3.680<br>000 |
| Adjusted R-squared | 0.905431 | S.D. dependent var    | 1.038<br>838 |
| S.E. of regression | 0.319464 | Akaike info criterion | 0.701<br>303 |
| Sum squared resid  | 4.286406 | Schwarz criterion     | 1.007<br>226 |
| Log likelihood     | -        | F-statistic           | 68.02<br>006 |
| Durbin-Watson stat | 1.058830 | Prob(F-statistic)     | 0.000<br>000 |

This denotes that an upsurge in any of the constraints, portability and mode will result to a decline in assessment. From the analysis, a unit upturns in portability, mode and constraints will yield approximately ten percent, seven percent and five percent decrease respectively in assessment. The remaining variable and cost, reveals positive relationship in line with the assessment.

## 5. Conclusion and recommendations

- Centered on the outcomes of the analysis, subsequent conclusions are made:
- E-payment system comes with more benefit compared to the legacy system of cash and cheques.
- Bank draft is mostly the systems used by government agencies for payment.
- The cost effectiveness of the system is low both to the government agencies and contractors.
- There is no linkage between the bank payment platform and e-payment system adopted by the government.
- The stated objectives have not been achieved by the system.

Following the conclusion above, subsequent recommendations are made to help improve e-payment implementation in Nigeria.

- Implementing a call-back procedure for transaction verification.
- Unified and continuous integration between accounting system and Government e-payment system.
- Regulatory framework and policies should be introduced by government that will help in consolidating e-payment systems through suitable regulations.
- Standardized and consistent setup for information transfer

- Privacy and security of file with information patterning the contractors must be ensured.
- There must be sensitization on the role of e-payment in developing Nigeria's economy.

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