Automated Clearing System as an Effective Payment Platform

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Abstract

This study examined the effectiveness of Automated Clearing System on the Nigerian Payment System. It highlights the adoption of an electronic based banking environment as a landmark in the re-engineering of banking sector and a clear gradual departure from the manual operational based transactions. The study covers cheque clearing processes (through the application of NBCS Cheque Truncation Model) which has facilitated efficient transfer of funds and enhanced the cashless policy of the Central Bank of Nigeria. Data were elicited using a stratified random sampling technique from current account holders and staff of three major banks in Nigeria. Interviews were also conducted on various funds transfer staff of the selected banks. Chi-square analysis was used to probe the association between the bank staff and account holders' responses. The study revealed that there is a significant agreement from the reports of the clearing staff and the customers of the banks. The study further lend support that there is a significant reduction in the length of time to complete a clearing cycle from T+3 to T+1 while the time of cheque return was reduced fromT+1 to T. The study however recommended that a routine reconciliation of clearing transactions be carried out while contingency arrangements be made for continued operations in terms of 'downtimes'. Continuous re-training and capacity enhancement of bank staff was also recommended for the automated clearing system to achieve its desired objectives.

Keywords: Automation, Cheque Truncation Model, Clearing, Interbank, NEFT, Nigeria Bankers Clearing System.

Introduction

The Nigerian banking environment started experiencing some form of cheque clearing in 1961 which was based on multilateral instruments and was directly managed by the country's apex financial institution; the Central Bank of Nigeria (CBN). The relatively few clearing banks maintained accounts with any close branch of the Central Bank and participated directly in clearing houses. The mode of clearing was manually based and could take several hours before banks could know their net settlement position after the commencement of the clearing activities by the clearing houses. It could also take in some instances more than twenty days before the value for clearing activities are received. The advent of more commercial banks triggered the establishment of Magnetic Ink Character Recognition (MICR) Technology to enhance efficiency in the clearing and payment system and all banks were mandated to confirm to the CBN's directive on Magnetic Ink Character Recognition features as a requirement for clearing.

And one could see bank clearing officers zooming off early morning (leaving a large chunk of the funds transfer job undone till they come back), with their beautiful briefcase and chauffeur driven to get to a clearing house before 9am where they exchange clearing instruments with other commercial banks under the auspices of a clearing superintendent appointed by the Central Bank of Nigeria in their particular clearing zone.

However, the introduction of MICR technology did not totally eradicate the inadequacies of the clearing system as the previous verification of cheques at the clearing house was still done via manual clearing as well as physical exchange of clearing instruments (Alade, 2005). Sequel to this inadequacies, the Central Bank of Nigeria (CBN) established the Nigeria Inter-Bank Settlement System (NIBSS) in 1999. NIBSS provided real time services and easy movement of financial instruments to banks and this was widely accepted and embraced by the banks. Amedu (2005) and Ovia (2004) however carried out an investigation into NIBSS and found out that the delivery period is still far from been enhanced. In 2002, the Central Bank of Nigeria introduced the Nigeria Automatic Clearing System (NACS) in order to improve and enhance the clearing and settlement of cheques (Nnannah, 2005).

Based on this, this study therefore tries to elucidate the developments in the Nigerian payment system due to the introduction of automation. The study will also try to correlate the views of the operators and those of the bank customers regarding the acceptability or otherwise of the automated clearing system as an effective payment platform.

Review of Related Literature

Clearing operations is considered to be at the heart of any banking payment system and its efficiency is usually a major determinant of the level of confidence the public has in the banking system (FITC, 2007). As highlighted in the introduction, the sojourn to a more efficient way of clearing cheques in the Nigerian banking system dates back to the 1960s evolving from manual to the present and more efficient automated system. The evolution of automated clearing system by all standard has assumed a global perspective the world over.

In the United Kingdom for instance, the Banks Automated Clearing System (BACS) has succeeded in drastically reducing the time and cost of administering bank payments including clearing of cheques within two business days to any specified account (Trade Online Project, 2007). Similarly, in Europe, the European Parliamentary Financial Services Forum (2004) posited that in June, 2002, the banking sector established the European Payment Council (EPC) as a platform to create architecture, instruments and process required for the Single Euro Payment Area (SEPA).

Monetary Authority of Singapore (2008) observed and stated that the Singapore Clearing House Association (SCHA) was established in December, 1980 as an association to establish, administer and manage the clearing services and facilities for cheques as well as all other debit and credit items of its members using Banking Computer Services (BCS) Pte Ltd.

Automation in clearing system is however not new or alien to the African continent as some African countries have also adopted the automated system. For instance, Namibia seems to be far ahead of other African countries, the country through NamClear has achieved a full and same day cheque processing solution. This

solution has placed NamClear and Namibia banking industry atop in African banking scene. The cost of holding uncleared funds overnight in the Namibian banking industry have also substantially reduced which has further lowered the risks of failed settlements within Namibian banking industry. Stakeholders are now gaining access to funds much more efficiently and faster than the previous manual based cheque clearing system (Microsoft, 2006).

In Nigeria, automated clearing system brought about world-class bankers clearing system: the Electronic Cheque Presentation (ECP) technology facilitated by Cheque Image Exchange with the CBN approval for full Cheque Truncation (CT) and Image Exchange (IE) released on 14th of March, 2012 for eventual take-off on the 6th of July, 2012. And by implication, all clearing banks were amongst others required to:

- Make standardized print of their cheques without omission of any key features.
- The N10,000,000 limit on cheques was to be reviewed downwards.
- All alterations on cheques, even if authorized were not allowed.
- Due to the initial cost of truncation, shared services amongst commercial banks was encouraged by the CBN.
- Instrument type became electronic image whose storage and archiving was to be done by NIBSS for a period of 10 years, and each bank was expected to hold the paper cheque for 5 years minimum.
- Each bank determines the point of truncation, and the length of clearing cycle reduced from T+3 to T+1, while the time of cheque return was reduced from T+1 to T (CBN, 2014; Chima, 2014).

Clearing automation brought about a faster settlement process of cheques resulting into a significant reduction in the cost of cheque clearing as well as the number of parties involved in handling original instruments etc. This automation is also in line with International Standards with the double benefits of providing proof of transaction to every clearing institution in the form of digital copies of cheques while data retrieval became relatively easy (smartcheque.com, op cit). The Nigeria Electronic Fraud Forum (NEFF) had in 2014 reported a fall in losses arising from electronic payment fraud from 45.98% down to 63.07% (Komolafe, 2014). However, the Central bank of Nigeria through the banking and payments system department released new clearing system rules with effect from 1st September, 2018. How this automated clearing system has enhanced effective payment platform in Nigeria is what this study intends to achieve?

Nigerian Bankers' Clearing System Rules, 2018 (Revised): General Procedure
Clearing Period
Under the NBCS, cheques shall clear on a T+1 basis such that customers received value in the evening of T+1 by 10pm or as otherwise advised by CBN.

Table1: A Typical Transaction Flow Shall be as Follows:

Transaction Day	Cheque Clearing Cycle
Day 1 (T)	Fresh cheques are deposited at the bank branch
Day 2 (T+1)	✓ Cheques are presented at the clearing system ✓ Paying bank to return unpaid instruments same day ✓ Beneficiary Banks get value

	✓ Before processing of End of Day (EOD), bank customer receives value for cheques not returned

Source: CBN: Nigeria Bankers' Clearing System Rule (2018), Revised.

Table 2: Clearing Duration and Return Period

S/N	Instrument Type	Clearing Period	Return Period
1	Cheques	T+1	5pm (T+1)
2	ACH Credit	24 Hours	24 Hours
3	ACH Debit	24 Hours	24 Hours

Source: CBN: Nigeria Bankers' Clearing System Rule (2018), Revised.

Table 3: NIBSS-NEFT Cheque Transactions (2017 – 2018)

Month	Volume (Thousand)			Value (#, Billion)		
	2017	2018	% Change	2017	2018	% Change
January	1553	1472	6.56	1004	984	1.99
February	1712	1596	6.78	907	845	6.84
March	2513	1892	24.71	1176	924	21.43
April	1525	1914	(25.51)	919	982	(6.86)
May	2159	1951	9.63	1013	915	9.67
June	1682	1653	1.72	984	822	16.46
July	2107	1847	12.34	1049	868	17.25
August	2654	2322	12.51	1199	1085	9.51
September	1426	1510	(5.96)	831	851	(2.41)
October	2040	2022	0.88	953	1087	(14.06)
November	1759	2033	(15.58)	923	1086	(17.66)
December	2582	2583	(0.04)	995	1145	(15.08)

Source: NIBSS Reports, 2018

A trend analysis of NIBSS-NEFT monthly cheque transactions throughout the months in 2018 shows a significant reduction in both volume and value of cheques that were paid through the NEFT platform. This trend was slightly reversed in the last quarter of 2018. However, the overall significant reduction may not be as a result of dislike for NEFT but possibly due to the certain policy of the CBN which resulted into an increase in the emergence of alternative digital payment platforms (ATM, POS, mobile banking etc) and rapid and aggressive emergence of Fintechs in the financial landscape of the banking sector in Nigeria. This shall aid the study's analysis of questionnaires to both staff and customers of selected banks.

Methodology
Data Collection

The study utilized randomly selected data using the stratified random sampling technique. The sample consists of fifteen (15) operations staff and thirty (30) current account customers each from the three selected banks in

Sokoto clearing zone. The banks comprise of United Bank for Africa Plc, First Bank of Nigeria Plc and Union Bank Plc.

Method
A chi-square statistical tool for measuring how expectations compare to actual observed data was used with the aid of structured questionnaire to establish the correlation between the reports of the operations staff of the selected banks and the perception of the randomly selected bank customers. The clearing/funds transfer staff of the selected banks were also subjected to some form of interview.

Data Analysis (From Respondents)
A total of 135 questionnaires were administered for the purpose of this study. However, a total of 38 were returned by selected bank staff while a total of 70 questionnaires were returned by randomly selected bank customers, all duly filled. The four study questions were presented and analyzed and chi-square conducted at 1 degree of freedom(df) and 5% significance level.

Table 4: Responses on Automated Clearing System

Questions	Responses from bank staff					Responses from bank customers					Grand Total
	SA	A	D	SD	Total	SA	A	D	SD	Total	
Cheque Clearing Processing in the past were satisfactory	1	3	27	7	38	5	10	35	20	70	108
% Percent	2.63	7.9	71.05	18.42	100	7.14	14.29	50	28.57	100	
Customers satisfaction has improved with the new clearing automation	12	18	5	3	38	20	28	20	2	70	108
% percent	31.58	47.37	13.16	7.89	100	28.57	40	28.57	2.86	100	
Automation has helped improved cheque acceptance	10	12	10	6	38	18	19	21	12	70	108
% Percent	26.32	31.58	26.32	15.78	100	25.71	27.14	30	17.15	100	

Source: Field Survey, 2019; SA=Strongly Agreed, A=Agreed, D=Disagreed, SD=Strongly Disagreed

Note: The question on what areas of implementation needs improvement was an open one with several and diverse responses. These responses are however summarized in the summary.

Table 5: Result for test of H_1 using question 3 on table 4.

Hypothesis	Responses			fo	ft	fo-ft	(fo-ft)^2	$\sum$(fo-ft)^2/ft
	Customers	Staff	Total	33	31.76	1.24	1.5376	0.0484
Ho1	33(31.76)	16(17.24)	49	16	17.24	-1.24	1.5376	0.0892
Hi1	37(38.24)	22(20.76)	59	37	38.24	-1.24	1.5376	0.0402
Total	70	38	108	22	20.76	1.24	1.5376	0.0741
Result-Reject Hi1 since x^2 cal 0.2519 $\leq$ 3.84 x^2 tab at 1df								0.2519

Source: chi-square result/output, 2019

Table 6: Result for test of H$_2$ using question 3 on table 4.

Hypothesis	Responses			fo	ft	fo-ft	(fo-ft)^2	$\sum$(fo-ft)^2/ft
	Customers	Staff	Total	22	19.44	2.56	6.5536	0.3371
Ho2	22(19.44)	8(10.56)	30	8	10.56	-2.56	6.5536	0.6206
Hi2	48(50.56)	30(27.44)	78	48	50.56	-2.56	6.5536	0.1296
Total	70	38	108	30	27.44	2.56	6.5536	0.2388
Result-Reject Hi2 since x^2 cal 1.3261 $\leq$ 3.84 x^2 tab at 1df								1.3261

Source: chi-square result/output, 2019

Summary and Conclusion

This study was able to examine the effect of automated clearing and settlement system as an effective payment platform. Recall that the monetary authorities (CBN) have been at the forefront of implementing policies to enhance the advancement and effectiveness of payment and settlement system in Nigeria. At the height of such policies was the introduction of the automated clearing system in Nigeria. The introduced automation was expected to reduce the time lag for payment instruments to be cleared and prompt payments effected. The need to therefore, appraise whether the introduction of automated clearing system has actually enhanced payment platform in Nigeria, formed the core issue in this study. Sequel to this, the following hypotheses were formulated for the study. The automated clearing system has helped improve the acceptance of cheques as a preferred medium for payment. Customer satisfaction has improved with clearing automation.

Both primary and secondary data were employed, primary data sourced directly from the bank operations staff and selected bank customers while secondary data were sourced through the CBN and NIBSS publications. The data analysis conducted using chi-square statistical tool revealed that there is a significant agreement from the reports of the bank operations staff and the customers of the selected banks. The study also revealed that there is a significant reduction in the length of time to complete a clearing cycle from T+3 to T+1 while the time of cheque return was reduced from T+1 to T (CBN, 2014; Chima, 2014).

The study concluded that the automation of clearing and payment system particularly through the cheque truncation model is desirable. However, adequate care should be taken to address new threats and risks that may emerge with this automation. Therefore, plans should be initiated to continuously appraise the entire process through effective collaborations with all stakeholders.

Recommendation

On the strength of the above, the paper recommends that a routine reconciliation of clearing transactions be carried out while back-up records must be updated and contingency arrangements put in place for continued operations in terms of downtimes. Also, re-training and capacity enhancement of staff of banks is recommended for the automated clearing system to achieve its desired objectives.

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