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INFLUENCE OF CORE BANKING SYSTEM ON PERFORMANCE OF NATIONAL INDUSTRIAL CREDIT BANK IN KENYA

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ABSTRACT

Core Banking Systems are basically the heart of all systems running in a bank and it forms the Core of the bank's IT platform. The general objective of the study was to establish the influence of new Core Banking System on performance of the National Industrial Credit bank in Kenya. The research study was conducted using descriptive research design, targeting all the 1,100 employees of NIC bank in Kenya. The study sampled 10 percent of the target population giving the study a sample size of 110 respondents. Questionnaires were used as the primary research data collection instrument. Data was collected from Managers and Support Staff. The data collected was analyzed using SPSS (V.21). The data gave an R square of 0.790 indicating that predictor variables (customer centered banking, innovation, efficiency and growth orientation) explained 79.0% of the performance of NIC Bank while 21.0% is contributed by factors other than those under investigation in this research. The study result established the presence of a strong significant relationship between the predictor variables (customer centred banking, innovation, efficiency and growth orientation) and dependent variable (performance of NIC Bank). The recommendations were as follows; the bank should review its Customer Relationship Management (CRM) practices in their operational activities to ensure that it is more customer responsive hence boosting the bank's performance, the bank should conduct customer satisfaction surveys which will provide valuable information on the level of customer satisfaction and how the bank's products meet customer needs through customer centered banking practices, bank employees should be trained to enhance an appropriate and efficient response to the customer needs in a caring manner and lastly the bank should continuously upgrade and automate its systems to allow the bank to offer superior agency banking, mobile banking and efficient yet cost effective money transfer services compared to its competitors.

Key Words: *Performance, Customer Centred Banking, Innovation, Efficiency, Growth orientation*

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INTRODUCTION

Core Banking Systems are basically the heart of all systems running in a bank and it forms the Core of the bank's IT platform (Infosys, 2009). Gartner (2003) defines a Core Banking System as a back-end system that processes daily banking transactions, and posts updates to accounts and other financial records. The core banking system provides customer information management, central accounting and the transaction-processing functions, which by far are the most fundamental processes in a bank (Satchidananda, 2006). These systems not only drive the banks' daily operations but also serve as the core IT platform for new capabilities and growth (Temenos, 2012). A flexible Core Banking System allows the bank to rapidly launch new products and services hence giving it a significant advantage over its competitors (Massoud, 2011).

In the recent past, majority of banking institutions have adopted the Centralized Online Real-time Exchange in their banking operations. The CORE system has made it possible for applications from the banks centralized data centers to be accessible to all the bank branches. That being the case, when the money is deposited in any branch, it is reflected real-time and therefore can be withdrawn from any branch of the bank all over the world. The application, equally possess the capability of addressing the corporate customers' needs through the provision of an all-inclusive banking solution. In the past few decades, this was not possible since each branch had its own local server, the data from the branch server being transmitted in batches to the data center servers at the end of the day (EOD). These therefore meant, any reflection of deposited monies would require at least a day. Deposit accounts, loaning, payments and mortgages form part of the normal core banking functions. These services are made available to the bank customers through several channels such as automated teller machines (ATMs), internet banking) and customer branch walk-in.

CORE banking solutions refer to banking applications which provide a phased strategic method that is geared at enabling banks to enhance their operations while cutting down on costs and preparing for bank growth. The implementation of a modular component based enterprising solution allows the amalgamation with the banks available technologies. Banks are able to minimize the risks associated with manual data entry, outdated information and avoiding probable disruptions to businesses which result from the overhauling of systems through general service oriented architecture (SOA).

Kooijmans *et .al* (2012) itemized the components of Core Banking Systems as the management of deposits and withdrawals, managing transactions, customer-on boarding, calculation and management of interests, processing of payments (cash, cheques, mandates, RTGs and EFTs), customer relationship management (CRM), the design of novel banking products, loans disbursement and management of accounts.

Statement of the Problem

Globally, financial services institutions have made efforts in upgrading their systems to the new core banking systems as they discard the old banking system with an aim of enhancing their competitiveness, operational efficiency, and regulatory compliance (Rono, 2013). Most of today's Banking Systems were originally built in the 1970s and 1980s and after countless modifications and add-ons have become so complex and convoluted that it may be difficult to fully understand them as well as complying with new regulations such as Basel II regulations (Adamson *et al*, 2003). A number of international studies on impact of innovative core banking system on performance of financial institutions exist. Somers and Nelson (2001) did a study on banks in Hawaii in USA. Minz (2006) focused on European Banks and the strategic factors affecting the core banking system implementation. Ahmed *et al.,* (2006) focused on strategic factors affecting the core banking system implementation in Asian banks.

However, all these studies were carried out in industrialized economies and with Kenya being an economically developing nation, contextual differences exist. This may present different conditions and factors that may make the influence of a core banking system implementation experience in Kenya or developing countries a bit different from what was achieved from the studies.

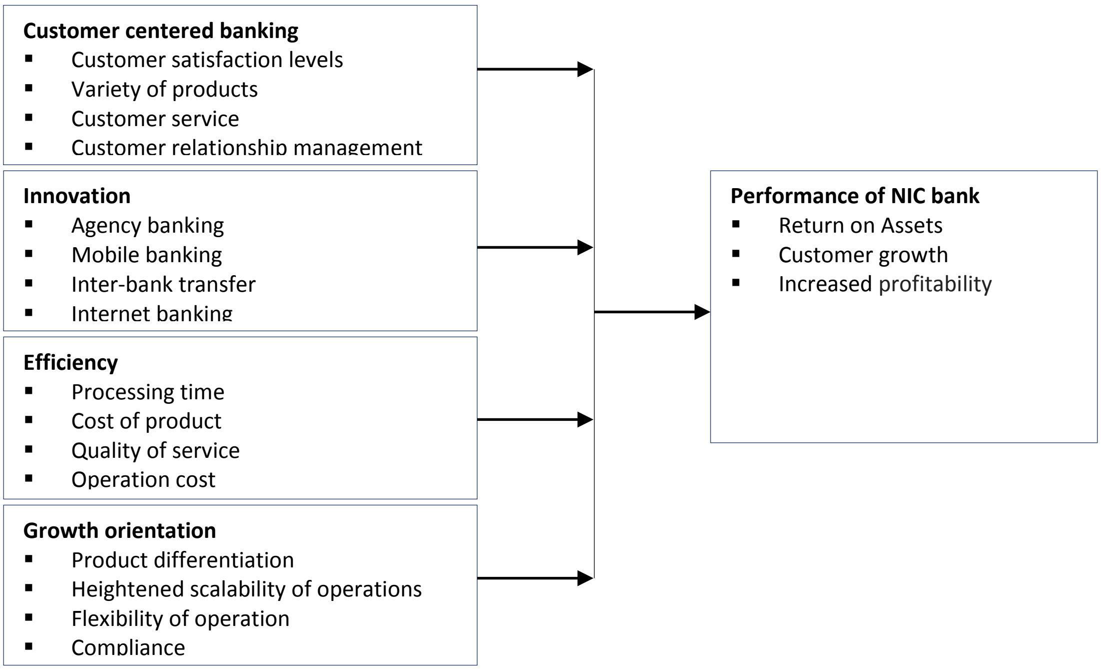
Despite the fact that technology acceptance is growing worldwide, commercial banks in developing countries like Kenya are yet to realize the benefits that come with technological innovations. The reluctance of technology adoption by commercial banks suggests that managers and stakeholders perceive the costs of technology innovations to outweigh the benefits. Therefore, the study assessed the influence of a new Core Banking System on the performance of NIC Bank PLC. The research was informed by the fact that literature is missing in this area to inform the industry on the influence of a new Core Banking System on commercial banks. NIC bank successfully deployed its core banking system in September, 2012 (Irungu, 2012). This success of NIC bank is what led to the choice of NIC bank as a case so that the other banks can learn the influence of a core banking system on performance of commercial banks in Kenya.

Research Objectives

The study was based on the four specific objectives;

- To determine the influence of customer centered banking on performance of National Industrial Credit bank in Kenya
- To assess the influence of innovation on performance of National Industrial Credit bank in Kenya
- To investigate the influence of efficiency on performance of National Industrial Credit bank in Kenya
- To determine the influence of growth orientation on performance of National Industrial Credit bank in Kenya

Conceptual Framework



Independent Variables **Dependent Variables**

Figure 1: Conceptual Framework

Source: Author (2019)

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LITERATURE REVIEW

Theoretical Framework

Innovation Diffusion Theory

Rodgers (1983) authored the innovation diffusion theory that forms the theoretical foundations of this study. According to Rodgers (1983) innovation takes place when an organization develops, adopts and implements novel ideas, systems, technological innovations and products. The process of adopting innovations starts with their formulation, improvement and their implementation (Rodgers, 1983).

The theory postulates that for any technological innovation to be successfully implemented it must possess the following characteristics; Relative advantage (their superiority in comparison to the ones existing) compatibility (the consistent nature in regard to social routines and behaviours among the users), complexity (the ease with which it can be learned and applied), trial-ability (the possibility of making trials before adoption) and observability (the degree to which its outputs can be observed). However, the mentioned elements do not exhibit mutual exclusivity and thus it is impossible to make predictions on the degree of innovation diffusion rate (Rodgers, 2003).

The theory sought to provide an explanation on the way of adopting new ideas and innovations. On relative advantage, Rodgers' theory proposed that innovations which possess a clear advantage are easily adoptable and implementable. Greenhalgh *et al* (2004) adds that innovations without relative advantages are less likely to be adopted. On compatibility, Greenhalgh *et al* (2004) argues that those innovations with greater compatibility are more likely to be adopted.

Precisely, the theory seeks from the onset to provide a description on the innovation-decision making process in organization without it first considering the manner in which the organizational characteristics such as size, type or sector relate to innovation adoption. Furthermore, the theory addresses the innovation-decision process for persons and departments within an organization but fails to touch on the interactions of variables when innovations get diffused from one organization to another.

Resource Based Theory

Founded by Penrose (1959) and originally captured in her book entitled "The Theory of the Growth of the Firm", the theory has gained popularity as demonstrated by wide application by array of scholars in the strategy thematic area. The theory availed the intellectual underpinning for the modern, resource-based view of an organization (Rugman *et al*., 2002). Others such as Theriou *et al*. (2009) examined the conflation between two dominant views of the concern, namely: Resource-Based View (RBV) as well as the Knowledge-Based View (KBV), by analysisng the comparative effect of concern-specific assets as well as knowledge endowments on the competitive advantage of the organization.

This theory therefore beliefs that firms that can properly mix its resources and capabilities stand a better chance to gain competitive advantage over other firms. However, Hijzen, Gorg and Hine (2005) warn the negative impact of international outsourcing on the demand for unskilled labor. A similar article by Jaafar, Rashid and Aziz (2005 that focused on the same theory articulated factors antecedent to the SMCEs' performance in the Malaysian context; it was observed that the ability of the theory to explain the usefulness of a firm's resources in developing superior performance, is actually its key strength.

METHODOLOGY

The research study was conducted by use of descriptive research design. The research design was applied to obtain the relevant data which was used to determine the influence of new Core Banking System on performance of NIC. Mugenda and Mugenda, (2008) defined descriptive research design as a methodology which allows researchers to provide summaries and organize their data in an effective and expressive manner. In this study, the design assisted in providing a description of the situation without manipulating the variables hence fulfilling the study purpose (Kothari, 2004). The target population refers to the group of persons or objects from where samples are drawn for the purposes of taking measurements. (Orodho 2005). The target population of this study was employees of National Industrial Credit bank. Currently, the NIC bank has 1,100 employees that formed the target population of the study.

From the target population of 1,100 employees of NIC bank, the study sampled 10 percent of the target population giving the study a sample size of 110 respondents. This was in conformity with Mugenda and Mugenda (2008) and Kothari (2004) postulation that at least 10-30 percent of the target population is representative and appropriate for statistical reporting.

The study used the stratified sampling procedure to identify the study respondents since two different levels of employees were involved. Each of these categories formed the study stratum. The study focused on two main categories of employees, those in management and those that are support staff. The researcher focused on all the 22 NIC branches in Nairobi County. From each NIC department, the study sought information from top and middle level management staff.

The research instrument for this study was a self-administered structured questionnaire. The questionnaire was designed after a critical analysis of literature on Core Banking Systems replacement to arrive at the constructs of the data gathering instruments.

The study used primary data collected through the questionnaire where quantitative data was collected from closed ended questions while qualitative data was collected from open ended questions. The descriptive data obtained was analyzed by use of SPSS v21. The descriptive statistics that were done on the data were inclusive of means, measuring the central tendency, standard deviations, frequencies and percentages (Kothari, 2004).

FINDINGS AND PRESENTATION

Performance of NIC Bank

The study sought to examine the performance of NIC Bank in Kenya. The study specifically focused on Return on Assets (ROA), Customer Growth and Increased Profitability as the key indicators. The respondents were asked to provide information on the performance of NIC Bank in relation to key indicators. A five point Likert scale was used to rate the responses where: 1 – Strongly Disagree (SD), 2 – Disagree (D), 3 – Neutral (N), 4 – Agree (A), and 5 – Strongly Agree (SA). The composite mean for the responses in this section in response to the key indicators of performance was 4.06 indicating that the respondents agreed more with the statements. The findings therefore indicated that the performance of NIC Bank was doing well when measured using the bank's ROA, customer growth and increased profitability as presented in Table 1.

Table 1: Performance of NIC Bank

Return on Assets (ROA)	**Mean**	**Std. Dev**
There has been a steady improvement on the banks ROA	4.32	0.85
The bank has a competitive ROA in the industry	4.19	0.77
The value of ROA has boosted shareholders confidence	4.33	0.75
Customer Growth	**Mean**	**Std. Dev**
The bank has been able to expand its customer's base	4.02	0.92
There has been a concise identification of niche market	3.84	1.04
The bank has acquired itself a niche of high value clientele	3.80	1.01

Increased Profitability	Mean	Std. Dev
The bank continues to experience a steady increase in interest income	3.85	1.06
Cost reduction strategies have realised increased overall profits	4.06	0.78
The bank has realised growth in Non-Funded-Income	4.16	0.91
Composite Mean and Std. Deviation	**4.06**	**0.90**

Customer Centred Banking

The study sought to examine the influence of customer centred banking on the performance of NIC Bank in Kenya. The study specifically focused on customer satisfaction, variety of products and customer relationship management (CRM) as the key indicators. The respondents were asked to provide information on customer centred banking of NIC Bank in relation to key indicators. The composite mean for the responses in this section in response to the key indicators of customer centred banking was 4.04 indicating that the respondents agreed more with the statements. The findings therefore indicated an effective customer centred banking when measured in terms of customer satisfaction, variety of products measured and customer relationship management (CRM) had an influence on the performance of NIC Bank as presented in Table 2.

Table 2: Customer Centred Banking

Customer Satisfaction	Mean	Std. Dev
The new CBS has enabled the bank focus on customer satisfaction	4.01	0.81
The bank has improved its identification of customer needs through the new CBS	4.05	0.79
Variety of Products	**Mean**	**Std. Dev**
The customer centred approach enables the bank develop tailor made products	4.08	0.86
The bank has created unique products for its niche market	3.89	1.08
Customer Relationship Management	**Mean**	**Std. Dev**
The bank is able to respond to customer's queries and complaints efficiently and in a timely manner	3.91	0.85
CRM enables dissemination of information to customers in a fast, secure and reliable manner	4.32	0.70
Composite Mean and Std. Deviation	**4.04**	**0.85**

Innovation

The study sought to examine the influence of innovation on the performance of NIC Bank in Kenya. The study specifically focused on processing time, cost of products, quality of service and operations cost as the key indicators. The respondents were asked to provide information on innovation at NIC Bank in relation to key indicators. The composite mean for the responses in this section in response to the key indicators of innovation was 4.07 indicating that the respondents agreed more with the statements. The findings therefore indicated that that the bank's innovative practices when measured processing time, cost of products, quality of service and operations cost had an influence on the performance of NIC Bank as presented in Table 3.

Table 3: Innovation

Processing Time	Mean	Std. Dev
The new CBS enables staff to serve customers effectively	3.82	0.97
A platform for measuring turnaround time ensures tasks are completed within agreed service level agreements	4.03	0.77
Cost of Product	**Mean**	**Std. Dev**
Data is available to enable the bank price its products and services competitively.	4.26	0.80

Quality of Service	Mean	Std. Dev
Improved system workflows enable staff to serve customers effectively	4.20	0.75
Operations Cost	**Mean**	**Std. Dev**
Automation of services means reduction in staff costs	4.06	0.84
Composite Mean and Std. Deviation	**4.07**	**0.82**

Efficiency

The study sought to examine the influence of efficiency on the performance of NIC Bank in Kenya. The study specifically focused on agency banking, mobile banking and interbank transfers as the key indicators. The respondents were asked to provide information on efficiency at NIC Bank in relation to the key indicators. The composite mean for the responses in this section in response to the key indicators of efficiency was 4.06 indicating that the respondents agreed more with the statements. The findings therefore indicated that that the bank was efficient in provision of its services when measured in terms of the processing time, cost of products, quality of service and operations cost which an influence on the performance of NIC Bank as had presented in Table 4.

Table 4: Efficiency

Agency Banking	Mean	Std. Dev
The bank is able to offer its products and services to its existing and new clients in areas it has no presence	4.02	0.74
Agency banking enables the bank acquire more customers and earn more revenue from commission	3.80	0.82
Mobile Banking	**Mean**	**Std. Dev**
Customers are able to access banking services remotely through their phones at their own convenience	4.02	0.80
Mobile banking has reduced customer traffic in the banking halls	4.43	0.74
Interbank Transfers	**Mean**	**Std. Dev**
Innovation in the manner of transferring funds has reduced the waiting time	4.22	0.73
The cost of transferring funds to other banks has continued to go down	3.85	0.93
Composite Mean and Std. Deviation	**4.06**	**0.79**

Growth Orientation

The study sought to examine the influence of growth orientation on the performance of NIC Bank in Kenya. The study specifically focused on product differentiation, heightened scalability of operations, flexibility of operations and compliance as the key indicators. The respondents were asked to provide information on growth orientation at NIC Bank in relation to the key indicators. The composite mean for the responses in this section in response to the key indicators of growth orientation was 4.11 indicating that the respondents agreed more with the statements. The findings therefore indicated that that the bank's growth orientation practices when measured in terms of product differentiation, heightened scalability of operations, flexibility of operations and compliance had an influence on the performance of NIC Bank as had presented in Table 5.

Table 5: Growth Orientation

Product Differentiation	Mean	Std. Dev
The bank is able to diversify its product offering	4.26	0.72
Heightened Scalability of Operations	**Mean**	**Std. Dev**
The bank is able to offer other non-traditional products and services under one roof	4.24	0.57

Flexibility of Operations	Mean	Std. Dev
The link between marketing and operations strategies led to a higher utilization of capacity	4.19	0.62
Staff are able to perform a broad range of tasks economically and effectively	4.11	0.73
The bank is able to respond to changes & trends and exploit new business opportunities	3.90	0.83
Compliance	**Mean**	**Std. Dev**
Compliance, rules, guidance and procedures are easily cascaded to staff	4.15	0.74
Risk and compliance reports for the regulator are readily available and easy to interpret	3.90	0.79
Composite Mean and Std. Deviation	**4.11**	**0.71**

Multiple Regression

The study employed multiple regression analysis to measure the relationship between the influence of customer centred banking, innovation, efficiency and growth orientation and performance of NIC Bank. From the results, the R square is given as 0.790 indicating that that predictor variables (customer centred banking, innovation, efficiency and growth orientation) explain 79.0% of the performance of NIC Bank while 21.0% is contributed by factors other than those under investigation in this research. The results are shown in Table 6.

Table 6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.889a	0.790	0.780	0.42443

Analysis of Variance (ANOVA) was run to test the significance of the regression model. The results gave a significant value (P=0.000) indicated the presence of a strong significant relationship between the predictor variables (customer centred banking, innovation, efficiency and growth orientation) and dependent variable (performance of NIC Bank). A P- value of 0.000 which is less than 0.05 indicates that the model of performance of NIC Bank is significant at the 5 percent significance level. The findings are presented in Table 7.

Table 7: Anova

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	23.12	4	5.78	20.094	0.000[b]
	Residual	14.952	83	0.18		
	Total	38.02	87			

CONCLUSIONS

The adoption of the Core Banking System by NIC Bank has contributed to its overall performance. The customer centred banking is focused on meeting the needs of the bank customers through ensuring that the customers are satisfied with the bank products and services which the bank provides in a wide array. The study concluded that NIC Bank applied innovative approaches such as agency banking, mobile banking and interbank transfers in effectively and efficiently providing services and products to its customers. Consequently, the bank is able to increase its market share, reaching potential customers in remote areas, allowing the customers to transact at their own comfort without necessary visiting their respective branches which has led to decongestion in the banking halls. The overall effect of the innovative approaches is the enhanced performance of the bank.

The study concluded that the efficient aspects of the bank have improved the overall financial growth of the bank. Through the CBS, the bank has reduced the processing time, allowed the competitive pricing of the bank’s products due to availability of data, enhanced systems workflows which enable the bank staff to serve the customers effectively and the automation of services reducing the labour costs. The enhanced workflow, reduced processing time and reduced overhead costs contributes to the bank's performance.

The study also concluded that the Core banking transformation at NIC bank is necessitated by the desire to respond to business necessities for instance efficiency and growth. Through product differentiation, heightened scalability of operations, flexibility of operations and compliance to rules and regulations the bank has experienced growth leading to enhanced performance.

RECOMMENDATIONS

The study recommended that the bank should review its Customer Relationship Management (CRM) practices in their operational activities to ensure that it is more customer responsive. This would enable the bank to respond to its customer's queries and complaints in an efficient and timely manner, hence enhancing customer satisfaction and ensuring they are retained, further boosting the bank's performance. The study also recommended that the bank should conduct customer satisfaction surveys which would provide valuable information on the level of customer satisfaction and how the bank's products meet customer needs through customer centered banking practices. This would boost the customers' loyalty and satisfaction which in turn would strengthen the bank's economic power in terms of profitableness and growth. On innovation, the study recommended that the bank should continuously upgrade and automate its systems to allow the bank to offer superior agency banking, mobile banking and efficient yet cost effective money transfer services compared to its competitors. Majority of the banking institutions have adopted the CBS so is the NIC Bank. There is therefore, a need for the NIC Bank to work on customizing their core banking system with an aim of creating sustainable key differentiators which would provide additional value and are aligned to the core objectives of the bank. This would enable the bank to be more competitive and enhance its performance. Finally the study recommended that the bank should further work on reducing the processing time of transactions and effectively make use of the data collected to enable the bank price its products and services competitively.

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