Effect of business process reengineering factors on organizational performance

Business, Strategic Management

The increasing competitive pressure as a result of technological development, globalization, changing customer demand led to survival challenges of many banks in the developing countries and demanded for improvement in quality customer service and speed to enhance profitability performance and cost reduction. This study is aim at exploring possible relationships among the factors of business process reengineering, and test a model that show the effect of BPR factors on firm performance with the moderating effect of IT capability on the causal relationship between the BPR factors and organizational performance of banks in Nigeria. Field study survey would be conducted under natural research setting. The sample of the study consists of commercial banks, microfinance banks and primary mortgage financial institutions. Closed-ended multiple choice questionnaires would be administered to the banks and both descriptive and inferential statistics analysis would be used in data analysis.

Key words: Business process reengineering, Factors of business process reengineering, Information technology capability, Organizational performance, Banks, Nigeria,

INTRODUCTION

Business process reengineering (BPR) is a popular management tool for dealing with rapid technological and business changes (Ranganathan & Dhaliwal, 2001). It was first introduced by Hammer (1990), as a radical redesign of processes in order to gain significant improvements in cost, quality, and services (Ozcelik, 2010). BPR creates changes in people (behavior and culture), processes and technology (Al-Mashari & Zairi, 2000).

It does not seek to alter or fix existing processes; but, it forces companies to ask, whether or not a process is necessary, and then seeks to find a better way to do it (Siha & Saad, 2008). BPR integrates all departments into a complete process which have been designed to fulfill a specific business goal (Cheng et al, 2006). Successful implementation of BPR enables organizations to achieve dramatic gains in business performance (Shin & Jemella, 2002).

BPR helps banks to deal with new economic challenges and change the traditional processes to improve their customers' satisfaction. Business Process Reengineering (BPR) is a management discipline of analyzing and then redesigning current business processes and their components in terms of efficiency, effectiveness and added value to the objectives of the business. The conduct of business process reengineering steps is planned to gather and process business requirements in support of a modernization effort for defined area. The BPR starts with planning activities that include the creation of BPR team, the development of a BPR scope document and an examination of existing proposal that relate to a given area, examines the existing and future business process and improve accordingly. Similar to any other management approaches, the successful implementation of BPR depend on how well it can be fitted to the bank/companies cultural norms, and information technology (IT) suggested by (Davenport & Short, (1990); Hammer and Champy (1993); Murray and Lynn (1997); Al-Mashari and Zairi, (1999); Bhatt (2000); Khong and Richardson, (2003); Attaran (2004); Ahmad, Francis and Zairi, (2007).

Reengineering in a bank should be undertaken as a project, the project management expertise of IT department become a key ingredient in the success of reengineering. The IT capability includes both the technical and managerial expertise required to provide reliable physical services and extensive electronic connectivity within and outside firm. Information technology (IT) increase the market share of the bank through offering of a product or service that is not offered by another bank (e. g. those customers that prefer private/personalized banking or use debit cards have become the focus of retail and investments in banking (Beyers and Lederer 2001; Peffers and Dos Santos 1996; Post et al., 1995). For example, new innovative banking practice through merger and consolidation enabled Nigerian banks to bridge the service gap in the system (Sidikat and Ayanda 2008). Therefore, the application of IT capability would enhance service delivery process, produce new product, new processes, new strategy, make the productivity of work faster, eliminate all communication barriers in the organization and empower workers to link up with customers and suppliers to achieve competitive advantage (Davenport, 1990; Hammer, 1990; Teng, James, Grover & Fiedler, 1994).

The banking sector plays the role of a driver in Nigerian economy that contributed over 6. 4% against a target of 10% of total GDP (CBN, 2008). The management of information is a key activity in banking, and the influence of process reengineering and innovations through IT is likely to be bigger in banking than in other industries (David-west, 2005). Banks importantly require IT to coordinate enormous volumes of information (David-west,

2005). Information technology (IT) is perceived as a necessity to pursue the rationalization and cost management due to intensified competition and crisis in the financial sector (De Bandt & Davis, 2000). Information technology has helped Nigerian banks to streamline the back office operations by improving both efficiency and cost reduction. Advances in technology also influence the way banks services are delivered with aimed of making it more convenient for customers. For example, many banks in Africa now have their branches connected on-line real time (24/7). This clearly reduces the danger of carrying cash. Some banks have ATM to make cash available to their customers 24/7. Some Nigerian banks practice e-banking, telephone, and mobile banking. Money transfers services through MoneyGramme and Western Union Money transfer have enable Nigerian in Diaspora to send money to their family (CBN, 2008). Information technology capability (IT operations and IT knowledge) moreover, makes Nigerian banks to participate more effectively in international banking arena. For instance, some technologically up to date banks enable them to access international banking networks in order to efficiently affect fund transfer, open, amend, and negotiate letter of credit, retrieve up to date status of customer transactions among the banks that joined the Society for Worldwide Inter-bank Financial Telecommunication (SWIFT).

RESEARCH PROBLEM STATEMENT

The decline in operational performance efficiency of Nigerian banks in terms of return on assets, equity and operating cost requires urgent attention of the banks to re-strategies¿½ for process performance improvement

(CBN/BSD, 2008). Sanusi (2010) argued that poor operational performance indices of Nigerian financial institutions were due to inadequate and inflexible operational processes. This was part of the revelations of the special audit for all the Nigerian banks conducted jointly by Central bank of Nigeria (CBN) and Nigeria deposit insurance corporation (NDIC) in July 2009 for Commercial banks and in February 2010 for Microfinance banks. Vetiva Capital Management (2010), reported a quarterly performance of stocks on the Nigerian Stock Exchange Market for the quarters ended September 2010 that indicated the negative performance of (-2. 49%) of banking industry stocks as compared to other industrial sectors of the economy. The weak operational processes of banking services are responsible for decimal performance of the sector in Nigeria (Ibenta, 2010)

The consequences of merger and consolidation of operational process and an intensified foreign competition in financial service industry through liberalization and globalization faced by the organizations led to radical changes in operations, and services that result in conflicting performance (Wei & Nair, 2006). The customer retention became a key factor in determining the success of bank. The bank that has the largest customer base and highest customer retention rate will be a market leader in the industry. Hence, the quality of customer service becomes a driving force in ascertaining business survival in the banking industry (Tang & Zairi, 1998). Various authors such as Tas & Sunder, (2004); Bhatt & Trout, (2005); Tennat & Wu, (2005) Terziovski, Fitzpatrick & O’Neill, (2003); Salimifard, Abbaszadeh & Ghorbanpur (2010) argued that business process

reengineering (BPR) in banking services have continued to increased organizational performance and identified the BPR factors that played a major role to successful outcomes for reengineering projects to includes: change management, management commitment, project management, customer focus, adequate financial resources, egalitarian culture, use of I. T, less bureaucratic structure, and quality management system. CSF is one of the most important areas that practitioner would have a greater opportunity to plan and manage successfully if identified in the research on BPR implementation (Cheng & Chiu, 2008). Therefore, given the popularity of BPR and high degree of failure rate linked with BPR project, the desire to identify the key success factors of BPR has gain importance as contemporary management approach for business success. In Nigerian banking industry, managers realized the effectiveness of BPR for gaining competitive advantage even though it is new, they do not fully understand what BPR is about and the CSFs that drive the successful implementation of the BPR project. Therefore, to fill this gap, an investigation into BPR factors would be worthwhile. When examining the relationship between the reengineering factors such as intangible resources and organizational performance, it has been posited that there may exist some key moderating variables that are important issues to research (Wade & Hulland, 2004). A moderator variable is a qualitative/quantitative variable that affect the direction and/or strengthen of the relationship between an independent or predictor variable and dependent or criterion variable (Baron & Kenny 1986). The moderating variable of great interest is organization IT capability and its influence on the

intangible resources (BPR factors) performance relationships (Liu, Liu, & Hu, 2008).

The growing of business dependence on information technology both operationally and strategically require the need to focus on value-creating intangible issues of IT capability, such as process effectiveness, IT experience and innovation. IT management experience and competence is expected to show stronger leadership skills and commitment in organizations (Ross & Feeny 1999; Gottschalk 2002; Chun & Mooney 2009). Building upon the knowledge-based theory, it is argued that the ability to blend business and IT knowledge, operational experience for innovation and competence through a variety of strong intra-organizational relationships lies at the heart of firms' superior ability to understand the potential of information technology to enhance performance (Mata et al. 1995; Armstrong & Sambamurthy 1999; Wu et al. 2008). To add up the contingency model in explaining the seemingly conflicting findings regarding the impact of aggregate IT capability. Tuominen et al. (2003) proposed the assessment of innovativeness through organizational adaptability as a pre-performance resource and an intermediate factor for financial performance.

With the problem at stake, it has therefore become necessary to advance the understanding of the relationship between the factors in business process reengineering performance and IT capability in terms of IT knowledge and IT operations. Previous empirical studies that examined the BPR factors reengineering performance relationships (Cheng & Chiu, 2008) have ignored the specific nature of IT capability and also, has not fully

considered important environmental condition that influence the relationships. Drawing on the resource-based view, contingency perspective proposed that IT capability impact on firm resources was contingent on the fit between the IT capability/resource a firm possesses and the demands of the industry in which it competes. IT capability is expected to influence the BPR factors and reengineering performance relationships. To the researcher¿½s knowledge, this moderating effect has never been investigated by prior studies. Although some firms in Asia, UK and US have examined the application of BPR in financial service industry, evidence revealed that much effort did not reach the original expectation (Hammer & Champy, 1993). Therefore, the proposed study is different from the previous researches based on the additional three (3) BPR factors in terms of adequate financial resources; effective process redesign, and less bureaucratic flattered structure (Ahmad et al, 2007; Madubueze, 2007; Salimifard, et al, 2010) were introduced into the previous model used. Also, IT capability in terms of IT knowledge and IT operations was being viewed as moderator (Tippins & Sohi, 2003; Mistry, 2006; Yongmei, Hongjian & Junhua, 2008). Huang et al, (2009) argued that the empirical evidence of Italian banks suggests that the development of IT capability, such as creating an Intranet to serve as a repository and communication tool, can support the redefinition of the overall strategy of the bank. Furthermore, cultural integration of the branch network and a life-long training process can be conducted to sustain the banks' large scale network (Canato and Corrocher 2004). Despite the fact that the financial service industry is one of the early adopters of new information technologies, the effect of IT capability on firm

performance is inconclusive in the service sector in general, which is contrary to its manufacturing counterpart (Brynjolfsson 1993). The comparison to be made between banks with BPR project Vs. banks without BPR project (Xin James He, 2005) as well as settings to identify the discrepancies as a result different cultures, environment, economic activities and level of infrastructural development (Peppard and Fitzgerald, 1997).

In view of the above mentioned gaps and the suggestion for further studies by scholars, this study is attempt to investigate and understand the effect of the I. T capability (in terms of I. T skill/knowledge and IT operations) on the performance of Nigerian banks and financial institutions, the possible relationships among the constructs of BPR factors and performance, and test a model that show the effect of BPR factors on organizational performance as well as the influence of IT capability that moderate the causal relationship between the BPR factors and performance of Nigerian banks (Commercial, Microfinance and Mortgage finance. Hence, this study is aimed to explore possible relationships among the constructs, and test a model that show the effect of BPR factors on firm performance and the moderating effect of IT capability on the causal relationship between the BPR factors and organizational performance of banks in Nigeria.

LITERATURE REVIEW

Organizational Performance

The challenges for globalization of financial markets require major changes on the part of market participants to move beyond national-level competition

and achieve international and global competitiveness. The entire banking industry is focusing on major process performance enhancements and gains in domestic market share as a catalyst for successful diversification. Banks are concentrating their efforts on market segments offering the potential for growth and enhancing performance, resulting in a re-direction within the overall financial services sector. Innovative banking services and processes were evolved as the market consolidates due to mergers and acquisitions. This dual trend toward specialization and consolidation is forging banks that will be able to compete in international and global markets. Performance enhancement efforts are aimed at a complete realignment of internal processes. In addition to cost containment strategies, focus is now on improving customer service delivery. Organization processes must be effective, efficient, and be more customer-friendly. Attempts are being made to transfer approaches like process reengineering initiatives that have proven effective in other industries, particularly manufacturing, to the financial sector.

Organizational performance comprises the actual output or results of an organization as measured against its inputs. Organizational performance measures allow companies to focus attention on areas that need improvement by assessing how well work is done in terms of cost, quality, and time. Today¿½s business environment is characterized by the increasing importance and strength of various stakeholder groups. It has become quite obvious that all stakeholders need to be taken into account when assessing modern company¿½s performance. This is the main idea of Freeman¿½s

Stakeholder theory (Freeman, 1984, 1994). The stakeholder view maintains that firms have stakeholders rather than just shareholders to account for. The view that the corporation has obligations only to its stockholders is replaced by the notion that there are other groups to whom the firm is also responsible. Groups with a stake in the firm include shareholders, employees, customers, suppliers, lenders, the government, and society (Berman et al., 1999; Harrison & Freeman, 1999; Hillman & Keim, 2001; Riahi-Belkaoui, 2003).

One important notion revealed in many studies is that building better relations with primary stakeholders like employees, customers and suppliers could lead to increased shareholder¿½s wealth. A sustainable organizational advantage may be built with tacit assets that derive from developing relationships with key stakeholders (Hillman & Keim, 2001). When studying the relationship between stakeholder management and a firm¿½s financial performance, Berman et al. (1999) found that fostering positive connections with key stakeholders (customers and employees) can help a firm¿½s profitability.

Therefore due to the significance of various stakeholders, organizational performance should not be solely assessed by financial indicators. There are several approaches to organizational performance measurement that encompass different stakeholder¿½s perspectives (Tangem, 2004). The balanced scorecard (BSC) (Kaplan & Norton, 1992, 1993, 1996) is the most established and most commonly used (Neely, 2005), but by far not the only one. The multi-model performance framework (MMPF) model by Weerakoon

(1996) is also very interesting and has four-dimensions including employee motivation, market performance, productivity performance, and societal impact, and covers the satisfaction of various stakeholders such as customers, investors, employees, suppliers, and society. A more recently developed conceptual framework is the performance prism, which suggests that a performance measurement system should be organized around five distinct but linked perspectives of performance (Tangem, 2004).

Organizational performances in this study refer to the level of bank performance (increase/decrease) in terms of both financial and non financial performance indicators. Organizational effectiveness represents the outcome of organizational activities (Henri, 2004). Organizational effectiveness empirically is the ultimate dependent variable in research on organization (Cameron, 1986). The perception of organizational performance is linked to the continued success and achievement of an organization. There are wide ranging literatures on performance, but there is still no consensus definition of the term performance (Johannessen, Olaisen, & Olsen, 1999). Murphy, Trailer & Hill (1996), study found the use of term performance to include 71 different measures of performance categorized into eight (8) dimensions of both financial and non financial measures. Majority of the previous studies used financial and non financial indicators to measure performance (Johannessen et al., 1999; Murphy et al., 1996). The debate on what performance measurement to use would continue as criteria could not apply to all settings (Cameron, 1986). A review of the literature on the evaluation of performance in organization context by Gomes, Yasin & Lisboa (2004),

reveals different emphasis on the performance measurement depending on the objective of the organization in that particular situation. There are many possible benefits from reengineering that translate into improved organizational performance.

However, because of wide possibility of benefit from company innovativeness on performance a multiple dimensional scale of performance measurement offers more comprehensive operationalization of organizational performance than on uni- dimensional approach. Examples on some financial performance indicators employed in previous studies are: profitability, success rate of new service (product) introduction, after tax return on investment, sales growth, and after tax return on assets. Example of non financial performance indicators includes: customer satisfaction, customer focus, market research, and customer relationship management, quality and process improvement.

Therefore based on the previous studies, this study would consider multiple measurement of performance (Financial performance and Customer service management performance). The financial and non financial performance indicators would consist of: profit, profit growth performance target, sales growth, overall response to competition, future outlook, and success rate in new product launch, overall business performance, customer service management, market research, customer relationship management, customer satisfaction, operational performance, speed, quality service and process improvement. In this study, the perceived measures of financial and non financial performance of organization would be used because subjective

measure was found to be correlated with objective measure of performance (Dess & Robinson, 1984; Dawe, 1999). Also the previous studies Lyles & Salk (1996); Hansen & Wernerfelt (1989); Bart et al., (2001) confirmed the reliabilities and correlations between objective measures and perceived measures are strong. Similarly, previous studies conducted by Bontis (1998); and Bontis et al., (2000) revealed that subjective measure of performance (financial and non financial) are feasible. Therefore many organizations are convinced that the implementation of BPR could bring significant and measurable benefits (Vergidis et al 2008). In fact, the risky nature of BPR has motivated a detailed investigation of its critical success and failure factors (Abdolvand et al 2008) and many researchers (Ariyachandra & Frolick 2008; Bandara, Gable, & Rosemann 2005) have tried to identify BPR factors.

Business Process Reengineering (BPR) Factors

Business Process Reengineering is being used as a vehicle for re-aligning strategy, operations, and systems to deliver significantly increased financial results and customer satisfaction. It helps to find ways to do more with less, and provide a better product or service in a minimum amount of time, speed, quality, and cost. In one important way, though, reengineering differs from past incremental and analytic methods. BPR factors are the success factors that lead to successful outcomes for reengineering projects, if they are satisfactory, will ensure successful competitive performance for the organization. BPR factors are strongly related to the mission and strategic goals of business or project. Whereas the mission and goals focus on the aims and what is to be achieved, BPR factors focus on the most important

factors and get to the very heart of both what is to be achieved and how you will achieve it.

The BPR factors are those important factors for success. It was originally developed to align planning with the strategic direction of an organization. It is only when most important factors have been identified that practitioners would have a chance of organizational success. Various BPR factors were developed and validated by authors from studies in organizations operating in different industry such as manufacturing, education, and services. The BPR factor is aptly chosen to represent the factors which are important to achievement of desired outcome of organization performance. BPR factors are of importance that these key areas of activity should receive constant and careful attention from management.

BPR factor certainly differ from industry, environment as the company¿½s position within industry changes. It is important to understand what factors would be important for BPR in both for understanding the implementation of business process reengineering and organizational performance improvement. Therefore, based on an extensive literature review and previous studies of BPR factors in banking process reengineering have been selected based on the scope of study and fit to the banking industry and environment of the proposed study Nigerian banks (Al-Mashari & Zairi, 1999; Ahmad et al, 2007; Salimifard, et al. 2010). BPR factors are the independent variable which includes: 1) Change Management; 2) Management Commitment; 3) Less bureaucratic and flattered organizational structure; 4) Project Management; 5) Customer Focus; 6) Effective process redesign; 7)

Adequate financial resources; 8) Information technology (I. T) infrastructure. These eight BPR factors are essential elements to the successful transformation process.

INFORMATION TECHNOLOGY CAPABILITY

The concept of I. T capability was introduced by Ross, Beath & Goodhue (1996), defined I. T capability as the firm¿½s ability to assemble, integrate and deploy I. T based resources. Heijden (2000) pointed out that the measurement of I. T capability covers relationships in I. T department with the rest for the business. Bharadwaj (2000), broaden the explanation of accepted views of organisational I. T capabilities to an organisation¿½s information technology function. Bharadwaj, (2000) defined I. T capability as the ability of firm to mobilise and deploy I. T based resources in combination with other resources and capabilities. Those I. T-based resources are I. T enabled resources (consist of technical and managerial I. T skills); intangible I. T- enabled resources (such as knowledge, assets, customer orientation and synergy- the sharing of resources and capabilities across organisational division. Therefore capabilities reflect the ability of the firms to combine resources to promote superior performance (Amit & Schoemaker, 1993). Tippins & Sohi (2003) define IT capabilities as the extent to which an organization is equipped with I. T infrastructure, IT skills knowledge and experience as well as effective I. T operations utilization. A high level of IT experience enables the smooth implementation of the organization¿½s strategy, develops reliable and cost effective systems for the organization, and anticipates customer needs (Bhatt & Grover, 2005). Clark (1997) noted

that IT experience in combination with other I. T elements directly determines an organization¿½s ability to rapidly develop and deploy more innovative techniques to enhance performance.

The role of IT capabilities in enhancing organizational performance is well established in the literature. Various I. T studies suggests I. T capabilities provide a basis of gaining competitive advantage and enhancing organizational performance (e. g. Santhanam & Hartono, 2003; Bhatt & Grover, 2005) An extensive body of IT capabilities literature agrees that I. T capabilities are resource to facilitate an effective collection and utilization of information (e. g. Bharadwaj, 2000). Floyd et al (1990) contend that I. T capabilities enhance service reliability, reduce transaction errors and increase consistency in performance. Further contentions are that capabilities can contribute to enhancing service quality through better customized or individualized services, and in creating knowledge links for identifying and sharing organizational expertise (Quinn et al., 1994).

Tippins & Sohi (2003) argued that I. T capabilities which is also known as ‘ I. T competency enhance performance through an elimination of inefficiency, reduction of long term cost, improve service reliability and reduced transaction errors. While Bharadwaj (2000); Ross, Beath & Goodhue (1996); Li, Chen & Huang (2006) studies focuses on the importance of IT capability as well as relationship between I. T spending (IT investment) and productivity/performance with moderating effect of IT capability.

In this study, the term IT capability is adapted from the study conducted by Tippins and Sohi (2003). The study used I. T knowledge, I. T infrastructure and I. T operations among the dimensions of measuring IT capability. The BPR factors encompass both tangible and intangible elements of resources. Therefore, this study would use I. T knowledge and I. T operation as the main components of measuring I. T capability. The third component i. e. I. T infrastructure would be part of BPR factors as intangible resource. These dimensions demonstrate co-specialized resources that firms cannot utilize the information technology architecture effectively without sufficient knowledge and operations.

Therefore I. T capability can provide the ability to understand the existing operations. It is also one of the most considered in bring changes into the business process. Michael Hammer recommends companies to redefine their process first and then automate. I. T can play critical roles in the development of BPR efforts as follows:

a. I. T makes it possible to use new ideas and higher standard technology in order to develop a strategic vision and help to make the business process better before it is designed.

b. The communication technology through I. T capabilities helps in breaking down geographical and organizational barriers that makes the acceptance of process change and useful understanding of company¿½s strength, weakness opportunities and threat. IT also helps to track information.

c. For a firm to manage a process can be adapted from other companies practice outside its industry. The company should combine its team members experience to set a standard that other companies can be compared with.

d. I. T staff needs to broaden their knowledge in non technical areas to achieve effective team work in an organisation.

e. In order to have a flexible organisational design the firms existing difficult structures must be changed so as to ensure the operation of BPR cross functional teams against departmental activities.

f. To gain market share and achieve competitive advantage, the agreement between companies and collaboration between suppliers and distributors takes place at the initial stage of BPR before process design.

The Contradictory role of Information Technology as an enabler in Business process reengineering (BPR)

One of the most straightforward assertions about BPR is that information technology is a key enabler of process redesign. It is information technology that permits companies to re-engineer business processes; a company that cannot change the way it thinks about information technology cannot re-engineer (Hammer & Champy, 1993). Most other BPR proponents also adopt an essentially technical model of organizational change in which information technology basically drives the re-engineering effort (Grey & Mitev, 1995; Jones, 1994). These arguments acknowledge the technological determinism

inherent to BPR; technology determines not only work structure, but also organizational structure, culture, management styles, and beliefs (Grey & Mitev, 1995). Thus, out of fashioned organizational designs can be changed through the use of advanced, enabling technologies that support new business processes that respond to changing market needs.

However reasonable and straightforward, this argument seems, it has also become the source of controversy. Rather than being a simple enabler of new organizational processes, information technology inconsistently can also disable an organization¿½s ability to change. When an organization revises its basic business processes using information technology, it introduces a new structure that may become even more di