

The Role of Information Technology in Business Process Re-Engineering to Improve Customer Satisfaction: A Case of the Banking Sector in Bulawayo

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Abstract

Organizations gunning for survival must adopt or adjust their strategies in order to respond to these changes. Business Process Re-engineering (BPR) has become inevitable due to its being considered as one of the measures taken to address and adapt to the changes in the business world. Information and Communication Technology has been identified as one of the enablers of BPR and this study sought analyse the role of IT in BPR implementation to improve customer satisfaction in the banking sector. This study was guided by a pragmatic research paradigm which underpins a mixed method approach. A cross sectional survey approach was adopted, and a mixed method of data collection was employed to collect data from 76 respondents. IBM's Statistical Package for Social Sciences software version 22 was used to analyze data which was later presented in tables, pie charts and bar graphs. The results revealed that IT played a major role in BPR implementation and that customer satisfaction depended on the successful implementation of BPR. The study concluded that it would be impossible to implement BPR without IT. The study recommended that banking institutions should continue reengineering their processes so as to remain relevant in the ever changing and technological advanced business world and also recommended that continuous training of employees on new banking operating systems and should install requisite up to date software.

Keywords: Business Process Re-Engineering, Customer Satisfaction, Information and Communication Technology, Banking Sector

INTRODUCTION

The stiff competition and complexity of clients in the banking industry has mandated banking institutions to revisit and redesign processes, procedures and services that are efficient and at the same time cost effective. This can be achieved through employment of technology which will ensure that the banking institute remain visible, profitable and competitive in market. The solution to this, as argued by Amanquah & Adjei, (2013) is based on redesigning, reconfiguring, automating and standardising processes. Acharya, (2015), further state that through Business Process Reengineering, commercial banks can respond to the challenges like globalised business, spread clientele, reposition to meet and exceed customer needs of fast funds movement across the globe. The main aim of this study was to analyse the role of Information Technology in Business Process Reengineering to improve customer satisfaction in the Banking Sector of Bulawayo.

BPR is not a new concept in the business world and it has been proved in various studies (Bako & Banmeke, 2019; Khashman, 2015; Khan, 2014; Tka & Ghannouchia, 2012) that it results in reduced costs by analysing and redesigning work flow and processes within and outside the organization. Omidia & Khoshtinata, (2016) posit that Hammer and Champy (1993) were the first ones to introduce the concept of re-engineering of operations and they phrased it as "the basic re-thinking and radical design" of the new processes in order to achieve amazing improvements in contemporary critical measures, such as price, quality of service and speed (Omidia & Khoshtinata, 2016). Any bank aiming for sustainability must adapt to the demands of the changing environment. Acharya, (2015) state that there has been a huge emphasis for banks to adopt Business Process Re-engineering as a mechanism to improve organizational performance through High-technology banking and information technology is the key to revolutionize relationship between customers and financial institutions.

Statement of the Problem

Changes in customer preferences and needs has influenced the way businesses operate globally. New technologies influences customer's preferences hence banking institutions wishing to retain or gain new customers must respond to customers' needs. BPR has without doubt, one of the measures adopted to address this change (Khan, 2014). Lacking a sound understanding of BPR implementation, banking institutions would not achieve the benefits that are realised from effective BPR resulting in loss of both customers and market share to competition and upcoming disruptive banks. The relationship between Information Technology and BPR has not been fully explored for example several researchers have argued about different roles of IT (Bako & Banmeke, 2019). This study therefore sought to bridge the gap by comprehensively studying the relationship between IT and BPR and its effect on customer satisfaction.

Research Objective



The study's objectives are as stated below:

MAIN RESEARCH OBJECTIVE

To establish the role of IT in Business Process Reengineering in the banking sector in Bulawayo.

SPECIFIC OBJECTIVES

1. To establish the extent to which the banking sector has adopted BPR in Bulawayo.
2. To identify the relationship between BPR and IT in the banking sector
3. To examine how BPR can be effectively implemented for customer satisfaction enhancement in the banking sector.
4. To recommend IT platforms that can be adopted to enhance customer satisfaction in the banking sector.

Research Question

MAIN RESEARCH QUESTION:

What is the role of IT in Business Process Reengineering in the banking sector in Bulawayo?

SPECIFIC RESEARCH QUESTIONS

1. What is the extent to which the banking sector has adopted BPR in Bulawayo?
2. What is the relationship between BPR and IT in the banking sector?
3. How can BPR be effectively implemented for customer satisfaction enhancement in the banking sector?
4. What IT platforms can be recommended for adoption that will enhance customer satisfaction?

LITERATURE REVIEW

Business Process Reengineering

Attaran, (2003) posits that the term “reengineering” was first seen in the field of information technology (IT) in 1991 and has since advanced into a broader change process. From this notion, the researcher concluded that any process of reengineering involved information technology. In business, customers are affected either directly or indirectly by a business process. Business process can be reengineered in line with customers' preferences (Khan, 2014).

Theoretical Literature Review

BPR has considered as a potent tool for promoting operating excellence and better strategy execution. Companies searching for ways to improve their operations have sometimes discovered that the execution of strategy is critical hampered by a disconnected organisational arrangement hence BPR involves radically redesigning and streamlining how an activity is performed, with the intent of achieving quantum improvements in performance. Three theories will be reviewed relating to BPR, and all these, Administrative theory, Contingency Theory, and the Resource Based Theory. All the three theories are categorized under Organizational theories.

CONTINGENCY THEORY

It is an important theory of management developed to evolve practical solutions to situations. Contingency theory by Fred Fielder (1964) emphasises the structural factors of management. It makes management responsible to make appropriate decision to the need of the situation (Avery, 2005). Structure of organisation is prone to outside constraints.

RESOURCE BASED VIEW THEORY

The resource-based view theory emphasizes the strategic importance of an organization's resources and capabilities. The resources are defined in terms of physical and human resources including knowledge and experience of management team. Organizations can improve the bottom line and earn profits by capitalizing on the unique attributes of their resources. However, a firm's resources must be strategically managed for an organization to maintain its competitive advantage. Porter, (1990) noted that resources are valuable because they permit the firm to conduct business activities that lead to competitive advantages in markets. The concept of Business Process Reengineering can be seen as a firm utilizing its resources and capabilities in order to reduce costs and increase its market share.

Business Process Reengineering and Organizational Performance

Organization seek the knowledge which can provide them competitive edge and win over customers whilst customer always seek that what organization can offer to them (Debela, 2009; Nzewi, et al, 2015). According to Amanquah & Adjei, (2013) Business Process Reengineering and organizational performance are positively correlated because when the businesses operations are redesigned and effectively performed then the performance will also enhance.

There are four elements to be considered when it comes to BPR and these are strategies, processes, technology and humans capital where strategies and processes are building the ground for the enabling utilization of technologies and the redesign of the human activity system. These four dimensions are discussed briefly.

STRATEGIES



The strategy dimension must include strategies related to the other areas of concern, such as organization strategy, technology strategy, and human resources strategy. All strategies must be determined in light of the banking institution environment on which the banks operate.

PROCESSES

Within an organization, processes may be defined at various levels. The problem is identifying the core processes which are satisfying consumer needs and adding value to them. Even though organizational constraints must be considered, it is important to note that processes are dictated by customer requirements, not by internal organizational requirements.

TECHNOLOGY

Information technology is widely regarded as a key enabler for spanning processes across functional and organizational boundaries and promoting process-driven organizations. However, the aim is to use IT as an enabler for the new organization, rather than as an improver for current operations, as it is often thought (Oladimeji, et al, 2018). Examples include using new technologies such as groupware, as well as new ways for using them and an acceptance of technological changes and the fact that information technology will be shaping the future.

PEOPLE

The most important element in reengineering is the organization's human activity system. Although top management support for reengineering initiatives is relatively easy to secure, the true change agents, middle management, are much more difficult to win because they must recognize and implement change opportunities while still being the group facing the most threats, as BPR often is used for cutting hierarchies and reducing the work force.

Conceptual Framework

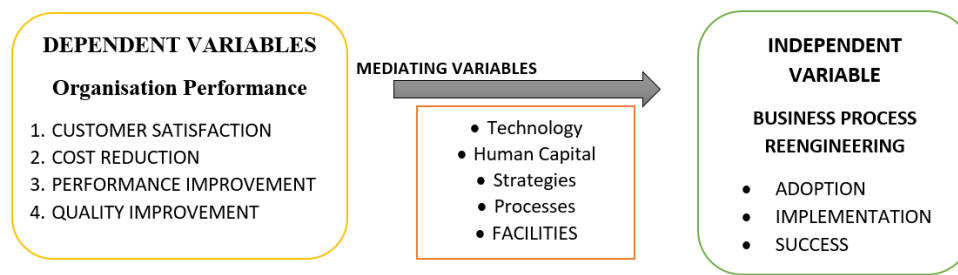


Fig 1. Developed for This Study

RESEARCH METHODOLOGY

This study will adopt a pragmatic research paradigm as this philosophy underpins the use of a mixed research methodology which will be used in this study. A cross sectional survey approach will be preferred for this research simply for the fact that this type of survey offers the researcher a quick summary of what respondents think at that given time. The researchers opted for a mixed method of data collection which involves collecting, analysing and integrating quantitative and qualitative research. Saunders, et al, (2003) posits that this approach to research is useful for providing a better understanding of research problem by integration of the two methods (Saunders, et al., 2003).

Study population

Target population for this study consisted of 70 senior personnel from 10 banking institution. Senior personnel were considered as target population due to the fact that they were the ones who would have played a lead role in identifying processes that needed reengineering. Krejcie & Morgan, (1970)'s model of sample size determination was used to calculate the sample size. According to this model, a target population size of 96 must have a sample size of 76 respondents. This sample was purposely chosen for their expertise and involvement in the research topic (Krejcie & Morgan, 1970). The researchers emailed the questionnaires to all respondents. The researchers also scheduled voice over/telephone interviews with the Branch Managers of the institutions.

Results presentation

GENDER

Figure 2 mentions 20 respondents representing 35% were female and 35 (65%) were male. This finding indicated that the banking field is mostly dominated by males.

DEPARTMENT

Figure 3 shows that all departments found in the banking sector were fairly represented. Amanquah and Adjei, (2013) states that Business Process Re-engineering calls for radicalization of the core business processes to achieve dramatic improvements in business performance, therefore having respondents from all departments of the banking sectors validates the responses given. Processes in all banking sector departments were re-engineered and drawing respondents from all the departments strengthens the responses.



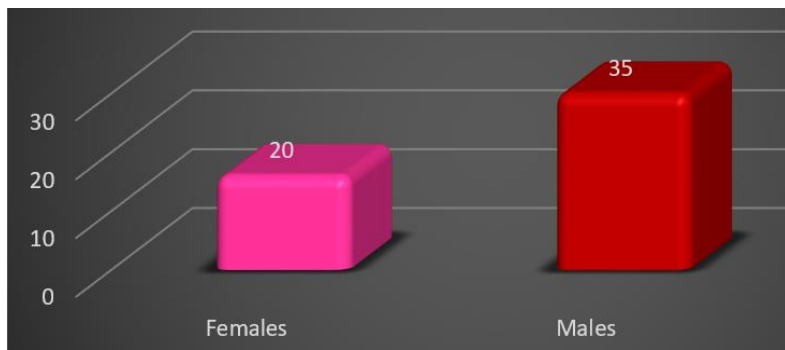


Fig 2. Gender Distribution
Source: Formulated for This Study

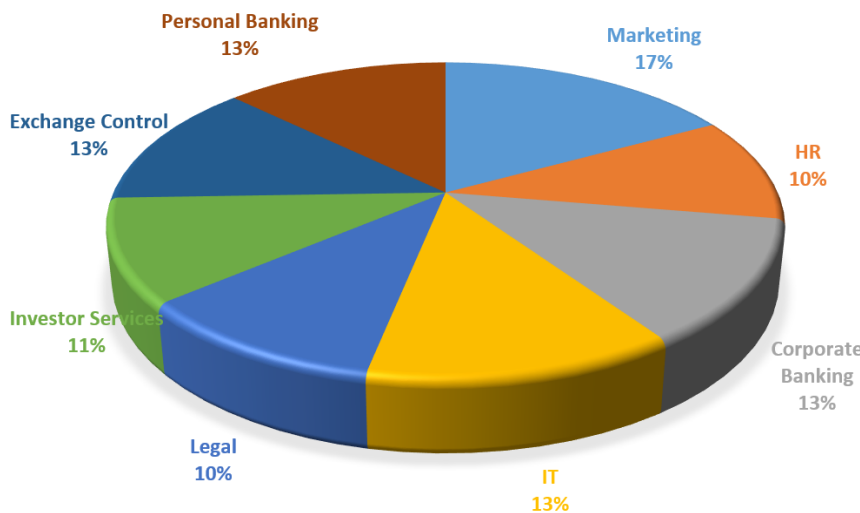


Fig 3. Departments
Source: Developed for this study

The Extent to Which Banking Institutions Have Adopted BRP

Respondents were asked to indicate the extent to which the banking sector has adopted BPR. Six questions were posed to them and a descriptive statistics analysis on the responses given was carried out and findings are shown in table 1 below:

Table 1. Adoption of BPR by Banking Institutes (Descriptive Statistics)

	N	Mean	Std. Deviation	Variance
1. The banking institute has reengineered some processes which were manually executed to electronic processes.	58	5.00	.000	.000
2. The banking institute is still changing some of the process from manual to automated processes.	58	4.41	.531	.282
3. The banking institute's operations are still manual and there has been no business process engineering taking place.	58	1.00	.000	.000
4. All processes at the bank have been reengineered to meet the current needs of customers.	58	4.19	.395	.156
5. Processes that have been reengineered have improved the banking institute's efficiency.	58	5.00	.000	.000
6. Processes that have been reengineered have improved the banking institute's efficiency.	58	4.40	.493	.243
Valid N (listwise)	58			

Source: Formulated for this study

Table 1 represents the responses given by the respondents. On the first question posed to them which asked the respondents to indicate whether or not they agreed that the banking institutions had reengineered some processes which were manually executed to electronic processes, a mean of 5.00 are recorded indicating that all the respondents marked the “strongly agree” box. A mean of 5.00 recorded on the statement “Processes that have been reengineered have improved the banking institute’s efficiency” suggested that all respondents strongly agreed to this statement. Osano and Okwena (2015) support this finding when the stated that by reengineering processes effectively, businesses can become more innovative and gain a competitive advantage over their rivals, thus satisfying customers. Literature reviewed noted that customer satisfaction in the banking industry was realised through processes that are deemed efficient by customers and they prefer to bank with institutions that offer such efficiencies. Banking institutions that are yet to reengineer their processes should consider results of this study as it will assist in identifying the benefits of adopting BPR.

Interviewed respondents’ responses did not divert from responses from the questionnaires. All seven respondents’ sentiments were that the banking institutions have adopted BPR so as to respond to the ever-changing customer needs. A more clear response which summed up all the responses with regards to the banking processes being reengineered, was from one manager who was quoted saying, “If we have not re-engineered our processes, I do not think we would be having this interview as this bank would have closed doors long back due to loss to customers to those banking institution which had” One senior personnel quoted response was, “our institution has re-engineered almost all processes, only a few which do not have much impact on the customer have not yet been reengineered. When asked further on which ones were still manual, the



manager stated that those that needed to deposit hard cash had to visit the banking halls to be manually assisted in that. However, 3 out of 7 interviewed respondents shared the same sentiments in that there were only a few processes that are required manual execution, but most of these processes are internal processes which do not deal with customers directly. An interesting response was one where the senior manager stated that the banking institution that she was working for, was close to eliminating all manually handled processes and with heavy reliance on information communication and technology, everything will be fully automated. The result from this manager implied that BPR heavily depended on ICT for it to be successfully implemented and all processes that satisfy customers rely on information technology. Bako & Banmeke, (2019) were also of the same opinion when they concluded that BPR depends on information technology for it to be successful.

Role of IT in BRP implementation and improving customer satisfaction

REGRESSION ANALYSIS

A regression analysis to test the nature of relationships between the dependent variable and independent variables was carried out.

Table 2. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.726 ^a	.528	.501	.13877

a. Predictors: (Constant), customer satisfaction, cost reduction, performance improvement,

Table 2 shows coefficient of correlation (R) and the coefficient of determination (r²). The researcher noted that R² is 52.8% which means that there is an average relationship between Business Process Reengineering and customer satisfaction.

Table 3. ANOVA^a

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	1.162	3	.387	20.110	.000 ^b
Residual	1.040	54	.019		
Total	2.202	57			

a. Dependent Variable: customer satisfaction, cost reduction, performance improvement

b. Predictors: (Independent), Business Process Reengineering

Table 3 shows that the outcome of analysis of variance (ANOVA) indicates that the F value is positive statistic (20.110) with a significant change of 0.000%. This implied that BPR is statistically significant in improving customer satisfaction. From the Anova results, significant level is at 0.00 which is less than 0.05 and it shows that BPR through employment of IT enhances customer satisfaction in the banking sector.

Two variables were used to test if BPR is effective in enhancing customer satisfaction in the banking sector. Independent variable used to test this was the Business Process Reengineering implementation, with, human capital, strategies, facilities and processes as mediating factors. Organizational performance measured through customer satisfaction, cost reduction, quality improvement, and customer growth were the dependent variable. The summary of coefficient is presented in Table 4.

Table 4. Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.477	.489		3.019	.004
Human Capital	.035	.055	.149	-.643	.523
Processes	.083	.039	.310	2.136	.003
Technology	.625	.111	.583	5.616	.000
Capital					
Facilities	.006	.055	.033	.114	.909
Human Capital	.000	.045	.001	.010	.992

a. Dependent Variable: Organisational Performance

Using the multiple linear regression, the model indicated that BPR was statistically significant at 10% level at a 90% confidence level in improving customer satisfaction. Justification for the use of 90% confidence level was the fact that some of the responses from participants might be clouded in fear of being exposed in lack of modern practices in their institutions which might have an impact of customers. Positive standardized coefficients of 0.583 on Technology indicated that IT and BPR implementation share a positive relationship and IT influences BPR implementation by 58.3%. This shows IT is a lead enabler of BPR. Literature reviewed revealed that IT plays a lead role in the implementation of BPR with some researchers arguing that without Information Technology, it would be impossible to reengineer processes. (Acharya, 2015; Osano & Okwena, 2015; Riyanto, et al., 2011; Makudza, et al., 2011). Using the coefficients in the above Table 4, the regression model can be expressed by an equation as follows:

$$Y = 1.47 + 0.83X_1 - 0.35X_2 + 0.625X_3 + 0.006X_4$$

From the equation, Information Technology is the most significant driver in implementation of BPR to improve customer satisfaction.

DISCUSSION OF FINDINGS

The main objective of the study was to analyse the role of Information Technology on BPR implementation to improve customer satisfaction. The study findings established that BPR heavily relied on IT for its success. Thus banking institutions or any organisation wishing to implement BRP must have an IT infrastructure that will support this exercise.

1st Objective: To establish the extent to which the banking sector has adopted BPR in Bulawayo

Based on the findings from the both questionnaire and interview respondents, the study concluded that banking institutions which were under study had fully adopted the concept of BPR. The study also concluded that all the banking institutions studied had reengineering their processes in line with the ever-changing technological environment.



2nd Objective: To identify the relationship between BPR and IT in the banking sector

The study concluded that successful implementation of BPR to improve customer satisfaction relied mostly on Information Technology. Based on the findings the research concluded that BPR relies mostly on IT for it to be successful, therefore this objective was met.

3rd Objective: To examine how BPR can be effectively implemented for customer satisfaction enhancement in the banking sector

The study sought to examine how BPR can be effectively implemented for customer satisfaction enhancement in the banking sector. The research concluded that without implementation of BPR, banking institutions would lose customers to those who have reengineered their processes in a bid to respond to customers' needs. From the regression analysis, BPR was a significant variable in enhancing customer satisfaction.

4th Objective: To recommend IT platforms that can be adopted to enhance customer satisfaction in the banking sector

The study recommended three IT platforms which are used in the banking sector and have been proved to be a key variable in improving customer satisfaction. Results from respondents revealed that if these platforms were adopted by banking institutions in Bulawayo, customer satisfaction would be achieved. This objective was achieved through the research.

CONCLUSION

Banking institutions are mandated to comply with set regulations that regulate the banking industry and these are reviewed in line with the changing environment. BPR therefore becomes one of the key measures that can be adopted by banking industry so as to remain relevant in the market and improve customer satisfaction, thus attracting international clientele thereby promoting international business.

RECOMMENDATIONS

The researcher therefore made the following recommendations to the banking sector:

1. Business Process reengineering is not a once off strategy therefore banking institutions should continue with BPR exercise so as to remain relevant in the banking industry. Process change culture can be done through redirecting the vision of the company to a more versatile one.
2. Top management must take the lead and promote the marketing philosophy of adapting business processes so as to satisfy customers' needs and wants and should include employees who, in the study, were found to be committed to BPR.
3. Continuous training of employees on new banking operating systems and software should be undertaken by banking institutions. Banking institutions should empower its staff knowledge and skills required to effectively implement BPR and that can be done through training which at the end would augment the level of employee involvement which is one of the enablers of BPR implementation according to results of the study.
4. The banking institutions which are still relying on manual processes must adopt BPR initiatives so as to improve their organizational performance.
5. Correct processes should be identified for reengineering or redesigning together with the right Business Process Reengineering Consultant. It is a recommendation from this study that the organisation should have adequate resources to undertake a BPR initiative, for example technicians both working with hardware and software should be audited for skills capability so as to present an up-to-date information technology that supports BPR implementation.

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