BUSINESS PROCESS REENGINEERING AND ORGANIZATIONAL PERFORMANCE: A CASE OF ETHIOPIAN PUBLIC BANKING SECTOR

BY

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DECLARATION

I declare that BUSINESS PROCESS REENGINEERING AND ORGANIZATIONAL PERFORMANCE: A CASE OF ETHIOPIAN PUBLIC BANKING SECTOR is my own work and that all the sources that I have been indicated and acknowledged by means of complete references.

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SIGNATURE DATE

(Abdurezak Mohammed kuhil)

Abstract

Since the late eighties, BPR has established itself as one of the attractive radical change management option for coping and adapting to the new competitive market environment and become popular both in the public and private organisations throughout the world . Cognizant of this fact, all Ethiopian public (government owned) institutions including the public financial institutions have embarked on large-scale change projects since 2004 in which Business process re-engineering(BPR) is a central element .

This research examined whether implementation of Business Process Reengineering (BPR) projects have improved operational performance of the selected case public commercial banks in Ethiopia by collecting and analyzing both quantitative and qualitative comprehensive data set, using mixed research approach through questionnaires, interviews, observations and review of secondary sources of information. The operational performance measures utilized in this study are cost reduction, speed of service delivery, service quality, customer satisfaction as well as innovation. A total of 837 (84% response rate) questionnaires were returned from respondents of the selected branches and head offices. In addition, in-depth interviews were conducted with eight senior managers of the respective banks, who were also members of their respective banks reform team and were involved in the design and implementation of BPR. The third method that was used to collect qualitative data was personal observation of the selected bank branches in order to measure the speed of service delivery and convenience of the waiting places. The researcher measured the service delivery time of selected busy bank branches for five consecutive days, for half an hour spent in each branch.

This study found that the introduction of BPR in the case banks was met with mixed reactions from employees and some managers. The main achievements of BPR were: service delivery time reduced dramatically as a result of the new process redesign and introduction of information and communication technology services(introduction of e-banking); introducing a single customer contact point through employee empowerment to make all the necessary decisions at that point of contact which resulted in improving the satisfaction of employees and customers. The challenge was that resistance from employees and some managers (labelled the initiative as "Blood pressure raiser" due to their assumptions it will result in employee lay off or the change brings increased workloads for some remaining employees without compatible rewards following the new process redesign. The study also revealed that telecom infrastructure and power interruption considered as main problem areas in providing banking services efficiently and effectively through branch net workings.

The researcher recommends that for a better BPR design and implementation as well as sustainability of improvement gains in the banking sector, a forum should be established to discuss and share good practices and technology in the banking sector ; establish strong change management offices to continuously assist and monitor results; and continuously involve and communicate key stakeholders in the design and implementation of change initiatives.

Key words: Business Process Reengineering (BPR), Ethiopian Public commercial Banks, operational performance

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LIST OF KEY CONCEPTS, TERMS AND ACRONYMS

ATM Automatic Teller Machine

BPR Business Process Reengineering

Business Process Reengineering(BPR): a systematic, disciplined improvement approach that critically examines, rethinks, and redesigns mission-delivery processes in order to achieve dramatic improvements in performance in areas important to customers and stakeholders (GAO, 1997).

CBB – Construction and Business Bank

CBE- Commercial Bank of Ethiopia

CSRP Civil Service Reform Program

Customers' Accounts and transactions Process (CAT) is a core banking process that starts from accepting customer requests (i.e. for opening deposit and/or loan accounts, for effecting fund transfer, for guarantee and payment services) or from accepting fund transfer message from abroad. CAT Process primary outcome is customer satisfaction through efficient and effective banking services.

Cycle Time: the time that elapses from the beginning to the end of a process (GAO, 1997).

DBE- Development Bank of Ethiopia

MFI- Microfinance institution

MoCB Ministry of Capacity Building

NBE- National bank of Ethiopia

PSBS Public sector banks

TQM Total Quality Management

CHAPTER ONE

INTRODUCTION AND BACKGROUND INFORMATION

1.1 Introduction

Organisations and approaches to work have evolved and developed along with the development of human race. The evolution has gone through different phases since the early forms of hunting, gathering and craft production up to today's tough global world.

In response to the emerging globalization and growing competitiveness of world markets, organizations throughout the world are continually looking for different management philosophies and techniques purposely to make their business operations competitive. The management discipline is facing massive challenges. Entirely new business models are enabled while many traditional business models become obsolete. A wide range of systems and approaches such as Management by objective (MBO), outcome-based evaluation (particularly to non-profit organizations), benchmarking, TQM (total quality management), Business Process Re-engineering (BPR) etcetera have been deployed as drivers to improve organisational competitiveness and increase organizational performance (Lee and Oakes, 1996). However, the fact that most of the systems and approaches of increasing performance have done little more than locking in incremental gains, companies have turned towards a more radical and new approach - Business

Process Reengineering (BPR) - which they expect to yield breakthrough levels of improvement (Krcmar and Schwarzer, 1998).

Since the late eighties, BPR has established itself as one of the attractive change management options for coping and adapting to the new competitive market environment. Research studies have shown that BPR is still very much alive and well both in the public and private organisations throughout the world (MacIntosh, 2003). Crucially, BPR seeks to achieve, by a systematic approach, various organizational objectives, which deliver a real enhancement to the operations of the business (Harrington, 1992), and for this reason, BPR is regarded as a viable change mechanism (Coulson-Thomas, 1996; Nelson and Coxhead, 1997; McAdam, 2000; Collins, 2001), especially in areas such as reduction in operational cost, major improvements in customer and client or staff quality of service and innovation in business (Stoddard and Jarvenpaa, 1995).

Cognizant of this fact, all Ethiopian public (government owned) institutions including the public financial institutions have embarked on large-scale change projects since 2004 in which Business process re-engineering (BPR) is a central element (Debella, 2004). In the year 2004, BPR was chosen by the government of Ethiopia as a reform tool to be used in the public sector following the national survey finding, which revealed the problems of hierarchical bureaucracy with many non-value adding works/staffs/positions and nepotism. Furthermore, services delivered by the public

institutions were characterized by: Long time taking; costly (high transaction cost); incompetence (not up to the needs of customers); not responsive (many complaints, questions, comments etcetera from customers but no response); and not dynamic (the world is changing but our public institutions are stagnant) (Berihu, 2009). Hence, the then Ministry of Capacity Building (MoCB) chose Business Process Reengineering (BPR) and implemented it as a prime means to solve these and related problems of the public sector and bring about a dramatic improvement in their performance.

Since the implementation of BPR in the public sector, there are claims and counter-claims on the effectiveness of its implementation in improving the performance of public organizations as expected. Motivated by such claims, this research was intended to assess the effectiveness of the BPR implementation and its outcome in the public commercial banking organizations using questionnaires, interviews, observations and review of secondary sources. Given these preliminary survey results of both organisational performance improvements and problems one can understand that the process of implementing BPR must be well sought after and that the related key factors must be taken into consideration before an organization charges forward into a BPR project. Today, more than ever before, competitive pressures both from external and internal environment have forced banks, insurance companies, and other financial services organizations globally to permanently improve their business processes. Institutions in Ethiopia are among public owned

organizations that have chosen radical change strategies of transformation and have been implementing business process reengineering, BPR, for the past couple of years. However, little or no empirical data on the successes and failures of the re-engineering projects is available for this sector. To that effect, this study targeted the state owned commercial banks to assess the effect of the BPR design and implementation projects and the operational performance gains from such a reform in Ethiopia.

1.2. Background information

1.2.1. A brief history of banking in Ethiopia (The structure of Ethiopian Banks)

The history of the use of modern money in Ethiopia can be traced back more than 2000 years (Gedey, 1990). It flourished in what is called the Axumite era which ran from 1000 BC to around AD 975. Leaving that long history aside, modern banking in Ethiopia started in 1905 with the establishment of Abyssinian Bank which was based on a fifty year agreement with the Anglo-Egyptian National Bank (Gedey, 1990).

There are five principal events, which may conveniently be taken as dividing Ethiopian Banking history into periods (Mauri, 2003):

1. The first event was establishment in 1905 of the Bank of Abyssinia, marking the advent of banking into the country.

2. The second event was Italian occupation in 1936, when, following liquidation of the Bank of Ethiopia, a broad colonial banking network, extended to encompass all Italian possessions in the Horn of Africa (Eritrea, Ethiopia and Somalia) and closely linked with the metropolitan financial system, was set up in the country.
3. The third event was, in 1943, establishment of the State Bank of Ethiopia, marking the rebirth of the Ethiopian independent banking. This occurred during World War II after liberation of the country.
4. The fourth event was the revolution of 1974, which wiped out the monarchy, nationalised companies and shaped a “socialist banking” two-tier model “suited “to Ethiopia, the whole credit system being based on the central bank and three state-owned financial institutions, each of them enjoying monopoly in its respective market.
5. The fifth event was the collapse of socialist regime followed by a financial sector reform and liberalization according to Monetary and Banking Proclamation of 1994.

Following the regime change in 1991 and the economic and financial liberalization policy in 1994, these financial institutions were reorganized to work towards a market-oriented policy framework. Moreover, new privately owned financial institutions were also allowed to work alongside the publicly owned ones. Since 1992, Ethiopia has been engaged in liberalizing its financial sector. The hallmark of

the strategy is gradualism. Thus, financial sector reconstruction was at the top of the government's agenda. In undertaking this task, the Ethiopian government adopted a strategy of (*a*) gradualism: gradual opening up of private banks and insurance companies alongside public ones, gradual liberalization of the foreign exchange market, and so on, and (*b*) strengthening domestic competitive capacity before full liberalization (that is, restricting the sector to domestic investors, strengthening the regulatory and supervision capacity of the NBE, giving the banks autonomy, and opening up the interbank money market (Geda, 2006)). In the post-reforms years, the public sector banks (PSBS) got fierce competition from the private banks, especially from de novo private domestic banks that were better equipped with banking technology and practices. Consequently, the market share of public banks in terms of investments, advances, deposits, and total assets has declined constantly. It is evident that the PSBs are still dominating players in the Ethiopian banking sector, albeit their market share has declined in the deregulatory regime. The growth of PSBs is still high on the agenda of the policy makers because of their gargantuan role as an effective catalytic agent of socio-economic change in the country. During the last 20 years, the policy makers adopted a cautious approach for introducing reform measures in the Ethiopian banking sector by not making it open to foreigners. The principal objective of the reforms process was to improve the performance of PSBs in their operations and to inculcate a competitive spirit in them. Against this backdrop, the researcher confined the analysis to PSBs which constitute the most significant segment of the Ethiopian banking sector.

Currently, according to the National bank of Ethiopia annual report (June, 2010), there are fourteen commercial banks and one Development bank in Ethiopia. There are also some private banks under formation. Among the existing operational banks in the country, three of them are public owned banks (of which two of them are among the top 200 African Banks) and the rest are locally owned private commercial banks, foreigners are not allowed to invest in financial sector in Ethiopia. In general, the trend within the couple of decades of the financial reform is a strong signal of the fact that there is a shift to move away from a dominant public banking sector towards a financial structure where the role of the private banking sector is increasing from time to time. This could have been one of the main reasons for reengineering the public banking sector to make them competitive.

1.2.2 The Ethiopian Financial Sector profile

Ethiopia's financial sector is relatively small. Banks, insurance companies and microfinance institutions are the major financial institutions in Ethiopia. The government of Ethiopia dominates lending, controls interest rates, and owns the largest bank. Consequently, the financial sector is still dominated by large public financial institutions, notably, the nationally owned Commercial Bank of Ethiopia (CBE) and the Development Bank of Ethiopia (DBE). The Commercial Bank of Ethiopia accounts for two-thirds of outstanding credit. The central bank, the National Bank of Ethiopia, has a monopoly on all foreign exchange transactions and supervises all foreign exchange payments and remittances (National bank of

Ethiopia report, 2007/08). Since 1994, the Ethiopian government has been allowing the local private sector to participate in banking, but foreign ownership and branch operations remain strictly barred. In 2008, there were three government-owned banks, nine private banks (controlling 30% of total bank assets in 2006), and nine insurance firms. The microfinance sector (MFIs) is relatively well developed. Currently about 30 MFIs operate in the country; they have become a major source of financial services to many businesses. Capital markets are in their infant stages of development. The government issues a limited amount of 28 days, 3-month and 6-month Treasury bills. No stock market is present but, in 2008, the Ethiopia Commodity Exchange (ECX) was opened. The ECX trades coffee, sesame, haricot beans, wheat and maize, etc. The non-banking sector remains largely undeveloped, except for 12 insurance companies with about 190 branches across the country (Kiyota, 2007).

This study focuses on the two public (fully government owned) commercial banks of Ethiopia, namely, Commercial Bank of Ethiopia (CBE) and Construction and Business Bank (CBB). The institutional profiles of the case public banking institutions are briefly described below.

1.2.3 Commercial Bank of Ethiopia (CBE)

Commercial Bank of Ethiopian (CBE) is the leading state owned financial institution, continuously generating significant funds that contribute to the Nation's development

endeavour. It has been in the business of commercial banking for more than sixty years serving the public with its multiple banking products and services through it's widely spread branches all over the country. Commercial Bank of Ethiopia (CBE) is the largest Bank in the Ethiopian financial services sector and one of the top 200 banks in Africa employing over 8000 members of staff. The CBE's branch network has recently reached more than 210 branches commanding a strategic advantage in the market outlets over its competitors. However, since the advent of Economic reform (1990's) i.e. financial liberalization, the market share has declined steadily to the current level owing to new entrants into the sector. The sector witnesses more and more commercial banks competing for the same market for which CBE used to enjoy as a monopoly for years. Yet CBE still commands the largest share of the market in credit extension and deposit mobilization.

In the future, the competition in the Ethiopian banking sector is expected to enlarge and become much more intensive as more private banks, if not from foreign, continue to enter the market with renewed vigour that involve strong capital and introduction of ICT based banking products and services. Both the competition from the emerging private banks and major changes of the customer requirements and the deeply rooted institutional inefficiencies forced the Commercial Bank of Ethiopia to reduce its costs, to offer new products and services and to focus on its core business. In response to these pressures, the bank undertook a company-wide BPR activity which began in 2007. It implemented a Business Process Reengineering

(BPR) programme to bring about fundamental and dramatic performance improvements and transform the entire organisation and systems to realize the vision of the Bank, "*to be a "World Class Commercial Bank*" (CBE draft report, 2008).

1.2.4. Construction and Business Bank (CBB)

The Construction and Business Bank S.C. is one of the smallest state owned commercial banks in the country. In order to make organizational transformation, the bank has been carrying out BPR at the same time period with the other state owned financial institutions. The reasons for implementing BPR in this bank are similar to other state owned banks as the driving reasons are: change in business environment, competition, and customer expectations (CBB, Feb, 2009). The bank has completed its BPR study and currently, BPR has been implemented fully.

The need for BPR in the public banks emanates from their common multifaceted institutional problems. Amongst the various primary drivers mentioned are:

- The rapid change in customers' need urges the banks to bring a fundamental shift towards process thinking and thereby organize themselves to provide effective and efficient services to customers;
- The current stiff competition from the private banks and to protect their market share if not to exceed the expected target;

- The banks have to satisfy the growing needs and expectations of customers in all aspects. Now a day the customer demands are wide and dynamic. To uphold this changing demand of customers, the banks have to envision to be transformed before it gets too late to consider.

1.3. Problem Statement

In Ethiopia, business competition in the Banking industry has increased substantially over the last two decades, especially after the financial sector liberalization in 1990s. On the one hand, profit margins are becoming smaller and smaller due to the increasing number of private local banks entering the industry; on the other hand customers are demanding better and faster services (CBE, 2008). The country is also negotiating to become a member of the world trade organization (WTO) in the near future. The WTO membership agreement will require the country to open its doors for foreign owned banks to enter the Ethiopian financial market. The entry of these foreign owned banks with strong capital and experience will make business competition in the sector even worse for the local banks.

Public banks are, therefore, trying to address, through the pressure and support of government, their existing and future challenges through organisational transformation in which business process reengineering (BPR) is a central reform strategy. The success and failure factors of the BPR implementation and the effectiveness of BPR in the public banking sector, however, are not known. This

empirical study, therefore, was intended to fill this gap by assessing the effects of the BPR project on the operational performance of the public Commercial banks.

The main research question was:-

Is BPR bringing the intended operational performance improvement in the Ethiopian public Commercial banking institutions?

Sub-questions:

- What are the BPR gains in reducing the cost, and cycle-time of the banking core operations?
- What are the BPR gains in improving banking service quality and customer satisfaction?
- What are the critical success factors (attributes) of BPR in the Ethiopian public banks?
- To what extent has BPR helped the public banks to become innovative in diversifying their banking products and services as well as reaching their customers easily by using information technology?

1.4. Aim and Objectives of the Study

1.4.1 Aim of the Study

The aim of this study was to assess the operational performance effects of BPR implementation in the Ethiopian public commercial banking sector.

1.4.*2* *Specific Objectives*

The specific objectives that drove the research process were:

- To evaluate the performance gains from BPR implementation in improving operational efficiency (in terms of service quality improvement, and cycle time and cost reduction) of the banks.
- To identify the critical success factors for implementing BPR in the public banks of Ethiopia.
- To identify the challenges of implementing BPR in the public commercial banks of Ethiopia.
- To find out the extent to which BPR has achieved the expected performance gains and helped public banks to become innovative, diversify their products and services and become easily accessible to customers.
- To give recommendations as to how best BPR should be designed and implemented in the banking sector.

Hypotheses

The researcher developed the following hypotheses to be tested basing on the literature review:

Hypothesis 1

- H0: Customer satisfaction is not affected by BPR implementation.
- HA: Customer satisfaction is affected by BPR implementation.

Hypothesis 2

- H0: Service quality dimensions (i.e., reliability, tangibles, assurance, empathy, and responsiveness) are not affected by BPR implementation.
- HA: Service quality dimensions (i.e., reliability, tangibles, assurance, empathy, and responsiveness) are affected by BPR implementation.

Hypothesis 3

- H0: BPR does not reduce operating costs in the bank operation.
- HA: BPR reduces operating costs in the banks operation.

Hypothesis 4

- H0: BPR does not improve the speed of service delivery to customers.
- HA: BPR improves the speed of service delivery in the banks operation.

1.5. Rationale of the Study

Business process re-engineering (BPR) is the 1990s business panacea to emerge from the American academic-consultancy complex. Its rationale rests on claims of increased productivity and profits, and improved competitive advantage (Grey. and Mitive, 1995). It is also claimed that done well, reengineering delivers extraordinary gains in speed, productivity, and profitability. Arguably, some BPR projects fail to meet expectations. Moreover, a series of studies in the early 1990s found that nearly

70% of BPR initiatives had actually failed (Kleiner, 2000) or delivered less than they had promised.

The rationale for this research initiative is, therefore, to make the first contribution of its kind in studying the effects of BPR in the Ethiopian Public Commercial banking sector. As it has been explained earlier, the Ethiopian public sector in general and the public financial sector in particular implemented BPR as the main change approach to transform their institutions. In addition anecdotal information tells us that there are success stories and challenges as a result of the implementation of the BPR projects in the Ethiopian public sector. The researcher, who is a senior lecturer of management, teaching different development and change management courses, was motivated to study this particular project initiative in order to find out whether the same reform model can solve all the problems (One size fits all) of the Ethiopian public owned organizations or there is a need to come up with a model specific for the banking sector.

The researcher recognises that BPR projects involve large investments in physical as well as human capital. The cost of failure to implement the BPR project properly might have a very serious consequence on the society and government, mainly through unemployment, which is already at an unprecedented level in Ethiopia. The researcher is also convinced that the topic is both timely and highly important to be dealt with scientifically in order to minimize the risk of failure and help the banking

sector as well as other similar organisations to benefit from the successes of BPR projects.

1.6. Significance of the Study

This research might benefit both the industry and the academia. The industry might use the findings of this study to solve its problems and better implement its BPR projects by minimising risks. The results of the research project will also fill the gap in literature by identifying the critical success and failure factors of BPR implementation that can be replicated in other sectors, including the private sector. The researcher also believes that the study is of importance to the policy makers to make appropriate interventions in the implementation of BPR in line with the expected outcome of the transformation strategy. The academia will also benefit from this study in understanding the effectiveness of the model (change approach) in the banking industry. By examining the BPR projects implemented in the public commercial banks, this study provides guidelines for a BPR project implementation in financial institutions with a similar organizational context.

It is also anticipated that the findings of the study will provide a significant output by adding to the business process reengineering (BPR) literature as follows:

- The private financial sector in Ethiopia might benefit when implementing similar projects better- learning from the challenges and benefits of the public banking sector;

- The financial sector in other African and developing countries might share good practices from the implementation of BPR in Ethiopia;
- The results of the study might be used for training and consultancy purposes in BPR.

1.7. Delimitation and scope of the Study

Delimitation of a research study explains how the scope of the study is focused on one particular area. The financial services sector in Ethiopia includes banks, insurance and microfinance institutions. However, this research was narrowed down to the public commercial banks only because of the following main reasons:

- BPR project is a government sponsored initiative in Ethiopia; unlike other contexts where the innovation is mainly of a private sector, and implemented in the government owned (public) sector as a means of transforming the sector radically. The private sector is not a pioneer in introducing such a radical change initiative either because it is small or new in the banking sector.
- The microfinance institutions are not included in the study for the same reason.
- Even though there is one public insurance company in the country, it is not included in the study because it is at an early stage of the BPR study; it has not yet reached an implementation phase at the time of the topic approval, and it would also be difficult to make comparative study with banks due to the

nature of its services. The study also dropped the inclusion of the specialized development bank owned by the government (Development Bank of Ethiopia) due to the uniqueness of the nature of its activities.

- The study focuses only on BPR initiatives and outcomes and do not consider any other programs by the public banks.

1.8. Limitation of the Study

A limitation of a research study identifies potential weaknesses in the research. The researcher experienced the following constraints during the research process:

- The selected banks were at different stages of implementation of the BPR project (varied in the duration of the implementation of the BPR project) and comparison of results was difficult and effectiveness of BPR projects may not have be uniform across all activities of each bank;
- The sizes of the two case banks, by all measures, were not the same and using proportional sampling on the two case banks resulted in a very small sub-sample size for one of the banks. This might have affected the results of the Chi-square tests and regression analysis.
- Access to important policy and working documents and approval by authorities was also difficult;
- Some respondents were reluctant or hesitant to tell the truth as the BPR project was a politically motivated approach for reform of the public sector.

The researcher, however, did his level best to minimise the effects of these constraints on the study results through establishing good and trusted networking and relationships with the organisations and respondents by communicating the purpose of the study and showing the potential benefits of working cooperatively with the researcher in using the output of the research study. The researcher also entered into an agreement (by signing a code of ethics) with the management of the case banks for maintaining anonymity and confidentiality of the information and how ethically the study would be conducted and disseminated.

1.9. Outline of the Thesis

The following is the outline of the thesis. The thesis is organized under the following six Chapters.

Chapter One Introduction and Background Information

Chapter Two Theory and Literature review

Chapter Three Research Design and methodology

Chapter Four Quantitative Data Analysis and Results

Chapter Five Qualitative Data analysis and Results

Chapter Six Summary, Conclusions and Recommendations

1.10 Summary

In this chapter, the researcher has briefly given an introduction and the background of the study, the research question to be answered, the aim and objectives of the

study, hypotheses to be tested, significance of the study, delimitation of the scope, limitations and how the final research output is organised. In the following chapter, theory and review of the literature which helped to understand the theories and key concepts for critical reflection, evaluation and improvement of the BPR implementation will be discussed.

CHAPTER TWO

THEORY AND LITERATURE REVIEW

2.1 Introduction

In this chapter, the theoretical framework and findings from the critical review of related literature to the research topic are cited and discussed. This section presents the conceptual framework of this study, which entails the Business process Reengineering (BPR) and factors related to operational effectiveness and efficiency evaluation, especially with the intermediary role of critical success factors. The corresponding hypotheses are introduced and constructs are described. 'Conceptual and theoretical Study' is here by used to coin areas of the research that involve the conceptual development of a theoretical model.

In this research, different models were selected in order to be able to comparatively assess business process reengineering implementation success and/or failure as a "checklist" of ideal features and to gain a better understanding of the project design and implementation. All in all, given the variety of theories and models sheltering under the umbrella of BPR, and the absence of an agreed model, there is a need to clarify conceptually what constitutes BPR, by carefully examining the constituent parts of the construct. There are three components to the BPR construct; first, a process-based approach to organization design; second, the precept of radical change; third, an integrated involvement of human and technical aspects in the

change. This research, therefore, attempted, albeit only partly, to bridge the gap by identifying and scrutinizing the underpinning theoretical components of the BPR constructs in general and in financial sector in particular. If BPR is to remain a paradigm and not disappear as quickly as it appeared it is necessary to strengthen it conceptually and theoretically by applying it to different political and social contexts. The Ethiopian BPR project experience could help to assess the impact of political support, as it is the government's main change tool and agenda in the country. Hence, the impact of political support in reengineering will be an original contribution to the BPR literature in the context of government infrastructural projects.

As this research seeks to study the effects of Business process reengineering in the public commercial banking firms' operational performance, the review of literature includes concepts and approaches, each of which denotes an aspect central to this research. An assessment of the literature, both from theoretical and empirical studies and findings related to the research question (s) are addressed.

2.2 Theoretical Framework

2.2.1 The evolution of BPR

In today's ever-changing world, the only thing that doesn't change is 'change' itself. In a world increasingly driven by the three Cs (Customer, Competition and Change) companies are on the lookout for new solutions for their business problems (Hammer and Champy, 1993). Faced with intensified competition, ever changing

customer requirements and increased new environmental regulations, business organizations need to make drastic changes for future success and economic survival by looking for new management approaches and techniques.

Since the 1990's and the late eighties, particularly the service industries have experienced unprecedented substantial changes. Consequently, organizations are forced to develop new customer-oriented processes and to redesign existing ones (Heckel and Moormann, 2007). Many studies have been done and showed that the business world has become aware of the potential of re-engineering in planning and designing processes and organizations based on the principles of business process re-engineering (Kuwaiti and Kay, 2000).

It has been commonly agreed that Business process re-engineering (BPR) first became known in the late 1980s and developed into one of the important management concepts discussed by organizations and by the mid-1990s attracted strategic management or senior managers (Rigby, 2001). The concept of BPR has attracted academic and industrial attention in the 1990s mainly as a result of two papers by Michael Hammer (on reengineering, see Hammer, 1990) and Thomas Davenport (on business process redesign, see Davenport and Short, 1990). In 1993 they further published two key books (Hammer and Champy, 1993 and Davenport, 1993) which brought widespread attention to the emerging field of BPR.

It is possible to identify several approaches to BPR, which approximate “generations” and which serve to illustrate the changing views over time. The first approach viewed BPR as “radical restructuring”, as shown in the following definitions: *the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance, such as cost, quality, service and speed (Hammer and Champy, 1993, p. 32)*. In this view, re-engineering first determines what a company must do, then how to do it. It ignores what is and concentrates on what should be done; the actual business strategy or vision of a company may also be subject to scrutiny, and possibly to change. However, the emphasis is on radical process redesign, which challenges the bureaucratic assumptions behind the processes and events new ways of working that are completely different from those of previous eras. Such radical re-engineering should be undertaken when a “quantum leap” in business process improvement is required, and a breakthrough in performance cannot be achieved by simply redesigning existing processes. A “clean sheet” approach to BPR is being advocated here, in which existing business processes and structures are set aside or purposely disregarded.

The other different view of BPR, also known as second generation of BPR, emphasised a less radical view “conservative “in which case, similar to Total Quality Management (TQM) and process improvements, BPR targeted improvement is significant. As we know, in these approaches (both process improvement and TQM)

the aim is to streamline the process in the organization's value chain in order to add value incrementally. In BPR, the goal is to replace the whole process with one that is "much more effective for both the customer and the organization itself". This is intended to shorten lead times and reduce bureaucracy. This will result in lower costs, better service levels and consequently the opportunity to improve competitiveness and increase market share. These effects could be achieved through TQM or process improvement as well as BPR, but with BPR the targeted improvement will be significant. This approach to BPR is essentially similar also to certain aspects of the "systems approach" as the interdependence of tasks, roles, people, departments and functions is highlighted and cross-functional thinking is encouraged. The change is integrated with IT infrastructures concentrate on powerful, standardized, and sharable web related business needs software and hardware with a reliable high level network topology architecture, Digital artificial intelligence technology and online security technology than it was the case in the first generation.

Research studies have shown that BPR is still very much alive both in the private as well as in public organizations throughout the world (Macintosh, 2003).The contemporary definition of BPR, therefore, encompasses a continuum of approaches to process Transformation that may include both radical and incremental improvements, depending on the nature of the problem.

More recently, the concept of Business Process Management (BPM) has gained major attention in the corporate world and can be considered as a successor to the BPR wave of the 1990s, as it is evenly driven by a striving for process efficiency supported by information technology. Equivalently to the critique brought forward against BPR, BPM is now accused of focusing on technology and disregarding the people aspects of change.

2.2.2 What is Business Process Re-engineering (BPR)?

The term 'Business process re-engineering as a "theme" has been around since the late 1980s receiving tremendous attention in both the academic and popular management literature and is now a popular change approach throughout the world. Numerous definitions of BPR are found in the literature and it is argued by some researchers (Hammer, 1990; Hammer and Champy, 1993; Van Meel et al., 1994; MacIntosh and Francis, 1997; Peltu et al., 1996) that there is no commonly agreed definition of BPR. One of the difficulties in dealing with the BPR literature, however, lies in the fact that BPR is not always called BPR, and equally some things that are called BPR are not ``really'' BPR.

As Childe et al. (1996) Observed that BPR has become accepted as a catch-all to cover areas described by terms which revealed their difference in emphasis . . . these included ``Business Process Redesign(by Davenport and Short,1990)'', which looks at the design of processes which are effectively supported by information

technology; ``Business Process Improvement (by Harrington,1991)" ,which is an incremental approach based upon the techniques of Total Quality Management; ``Core Process Redesign(by Kaplan and Murdoch,1991)", McKinsey consultants' intervention programme; Hammer's ``Business Process Reengineering(Hammer and Champy,1993)" which through its contentious and radical approach has become the most popular and used term and Business Process Management(by Duffy,1994), placing an emphasis on management structures based around processes and process managers.

It is, therefore, argued by researchers that there is no commonly agreed single definition of Business Process reengineering (BPR). There are different competing definitions in their own right as to what business process reengineering mean. The following are some of the widely used definitions, from some of the pioneer writers and practitioners of Business process reengineering (BPR).

The book *Reengineering the Corporation: A Manifesto for Business Revolution* by Hammer and Champy (1993) is, however, widely referenced by most BPR researchers and is regarded as one of the starting points of BPR. The following is their definition of BPR:

> *Reengineering is the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance, such as cost, quality, service and speed (1993:p. 32).*

Another BPR father, Davenport (1993), describes 'business process redesign' as... *the analysis and design of workflows and processes within and between organizations. Business activities should be viewed as more than a collection of individual or even functional tasks; they should be broken down into processes that can be designed for maximum effectiveness, in both manufacturing and service environment.*

These definitions suggest that we should concentrate on *processes* rather than functions (or structures) as the focus of the (re-)design and management of business activity. Regardless of differences in definition of the BPR concept, Grover et al (1995) identified the following as common features of all BPR programmes:

- Involves the radical redesign of business processes
- Typically employs Information Technology as an enabler of new business processes
- Attempts to achieve organizational level strategic outcomes
- Tends to be inter-functional in its efforts.

2.2.3 What is Business Process?

The concept of business process is central in understanding the concept of BPR as it is the paradigmatic change in the way in which organizations are designed and subsequently managed. It represents a decisive movement away from the traditional functional concept, with its high emphasis on vertical differentiation and hierarchical control to a view which stresses horizontal integration across intra- and inter-organizational functions. The definitions of the term "process" by different researchers are also slightly different. For example, Hammer and Champy (1993: *p. 35*) define a process as…*a collection of activities that takes one or more kinds of input and creates an output that is of value to the customer.* For Davenport (1993: *p. 5*) it is…*a process is a specific ordering of work activities across time and space, with a beginning, an end, and clearly identified inputs and outputs: a structure for action.* Warboys et al. (1999, p. 32) define a process as a *structured change, i.e. there is a pattern of events which an observer may recognize across different actual examples (or occurrences) of the process, or which may be made manifest, or implemented, in many different occurrences.*

In BPR, the process to be reengineered is the so-called *business process*. Davenport (1993) describes a business process as "simply a structured, measured set of activities designed to produce a specified output for a particular customer or market". From these definitions, we can conclude that business processes start and end with customers, and the value of business processes is dependent upon

customers. Processes have: customers (internal or external), and cross-organizational boundaries, that is, they occur across or between organizational subunits (Adebayo, 2009). One technique for identifying business processes in an organization is the value chain method proposed by Porter and Millar (1985). It should be noted that BPR is concerned with customer-orientation. Thus the outputs of business processes should not only achieve the company's objectives, but also need to satisfy customers' requirements.

2.2.4 BPR Constructs and models

There appears to be a popular consensus that BPR-led change involves three basic features: first, it is a planned and deliberate endeavour to achieve dramatic improvements in performance; second, it involves a radical departure from existing mode(s) of practice and organization; and third, it is usually enabled through the application of information technology. Several models and frameworks have been proposed in the literature for undertaking business reengineering (BPR) projects. It is noticed that some of these have very limited focus, while others are more generic, yet, mainly theoretical in nature. Moreover, most of these frameworks do not address, nor make use of the lessons learned from the critical success and failure factors of the financial sector practice. Moreover, the suitability of the reengineering method to the organizational context is of great significance. While process reengineering could benefits manufacturing and service firms, there should

be a distinction in its implementation to suit the unique situation of the firm (Shin and Jemella, 2002).

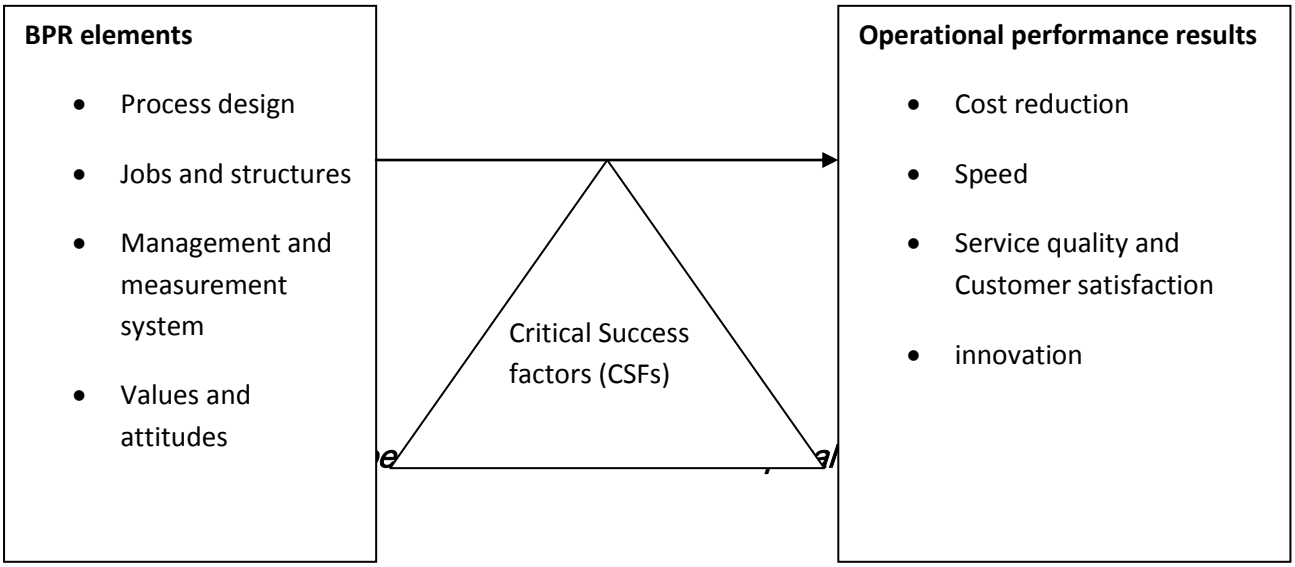

Figure.1 BPR Operational performance model: a conceptual framework for BPR effect on performance (adopted from the works of Hammer and Champy (1993) and Abdulvand, et al. (2008))

The framework on the effect of BPR on operational performance comprises several elements that are shown in Figure 1. The model shows that – according to the results of the literature review – the following constructs appear to be particularly useful to conceptualize the role of BPR in operational performance:

1. to design new business process by radically changing the previous organizational set up
2. to prepare organizational structure compatible to the new business process design and place employees and managers based on merit

3. to establish a new way of managing the organization and implement compatible performance measurement system
4. identify and strengthen critical success factors for BPR implementation
5. Measure periodically and continuously the outcomes of the change initiatives

2.2.5 The Organizational Shift from Tasks to Processes Thinking

The authors conclude that such re-design concepts and tools can be applied successfully to full-scale business problems. Systems thinking, modelling and continuous time simulation can provide the framework for carrying the design process from mapping all the way through to redesign (Ackere,1993).The development of organizational management in the early 1990s sheds light on the context of process thinking as meant in this paper. Business Process Redesign, which was later superseded by the term Business Process Innovation (Davenport, 1993). Although a lot of different names are present, they all represent a movement that suggests organizations need to radically transform their current practice. Only then will they be able to cope with the high demands of the business environment.

Business Process Reengineering (BPR) – which is the label used throughout the remainder of this text – is complementary to another movement. This movement – known as Total Quality Management (TQM) (Harrington 1991) or ‘kaizen’ (Davenport 1993: 312) – shares the process view of organizations with BPR. Instead of considering structure and control as illustrated by the administrative organization of

Simon (1994) – both the TQM and BPR process orientations focus on overall performance from a client's perspective. Within that context, existing functional divisions are likely to hinder the throughput of products and services, since each hand-off between departments creates extra delay. In addition, errors are more likely to occur due to miscommunication.

Reengineering is making a systemic organizational change (a paradigm shift), it is not a fragmented change practices. In reengineering, it is not sufficient to redesign the process alone the ultimate result of reengineering is organizational transformation and the feature of a new form of reengineering organization is best described when all the four elements of BPR have been implemented. Hammer and Campy(1993 pp.85) in their framework the Business System Diamond, mention that the top point on the diamond is the way the work gets done – the company's business process; the second is its jobs and structures; the third, its management and measurement systems; and the fourth, its culture – what its employee's value and believes.

Linkages are key in the diamond model. Process determines jobs and structures-which mean the way in which work is performed determine the nature of people's jobs and how the people who perform these jobs are grouped and organized. Jobs and structures also lead to the kind of management system (payment system, performance evaluation, etc) a company must have; and this change in turn is the

primary shaper of employees' values and beliefs (culture). Again, the values and beliefs in an organization must support the performance of its process design. The reengineering process changes the nature of jobs and the way it is organized and performed affects every aspect of the management system. This also requires changes in values and belief of employees. From this model we can understand that all the four elements on the business diamond: people, jobs, managers and values- have to fit together.

Reengineering a company's business process ultimately changes practically everything about the company, because all the four aspects are linked together. Business re-engineering is necessary as a tool to sustain breakthrough in competitive advantage through innovative design and implementation of change in core business processes. This may involve changing the organizational structure, infrastructure, performance measure, reward system, style, values and behaviours. Sussan and Johnson (2003) also described five important components of business process orientation such as process view, process structures; process Jobs, process management and measurement systems and process values and beliefs.

2.2.6 Factors that Stimulate Organizational Change

There is a general consensus on the need of organizational change as well as on the fact, that there are lots of difficulties related to it. Change is not a simple process of implementing a new organizational structure and explaining its advantages

compared to the old one; change can threaten the interests of groups within the organization. It can be desirable to one group and perceived as bad by another. Beyond that, an uncertainty about “what is going to happen” is often found, even if the result to strive for seems to look good (Lewin, 1958).

Kurt Lewin (1958) developed a three stage model to enable organizational change, based on the assumption that organizations are stable systems, which have to be disturbed before change can take place. This implies as well, that there is an explicate need and request for changes, expressed by organizational members. A contract, which means the establishment of a common image of the changes to be performed, has to be achieved and it is important to implement the changes by using procedures, training and evaluation. Margulies and Raia (1978) described the nature and process of planned change as following:

1. Planned change involves a deliberate, purposeful, and explicit decision to engage in a program of problem solving and improvement. The critical words in this dimension are “deliberate” and “purposeful”. Planned change is change which is intended.
2. Planned change reflects a process of change which can apply to a variety of human client systems. The notion of planned change can be used to implement change whether the client is an individual, a group, an organization, or a community.

3. Planned change almost always involves external professional guidance... Planned change generally involves the intervention of someone who has professional skills in the technologies used to inpatient the change…
4. Planned change generally involves a strategy of collaboration and power sharing between the change agent(s) and the client system.
5. Planned change seeks utilization of valid knowledge or data to be used in the implementation of change. Planned change, then, is an extension of the scientific method.

The entire BPR approach is an attempt to cope with organizational change required by the dynamics in an organization environment. The above stated characteristics or planned change are valid for BPR as for any other approach to organizational change. Stating them in this context is an attempt to highlight the presumptions for planned change within organizations and to remind change agents of the fact that change, of any kind, is no self-purpose, but a delicate process which must be performed in respect of the prevailing specific circumstances and organization.

Kurt Lewin (1951)'s three-phase model of change, unfreeze, move or change, and refreeze provides the framework for much of the literature that deals with intentional changes in organizations (Goodstein and Burke, 1995; Sapienza, 1995; Kotter, 1998; Goss et al., 1998). An important aspect of this framework is the centrality of changing the individuals who comprise the organization and the explicit recognition

that change will be resisted, and that overcoming this resistance requires leadership (and hence the involvement of top management) and creates costs, which in the case of individuals include substantial emotional work. Conflict theory, action research, and discrepancy theory are employed to articulate and address the individual and interpersonal aspects of change (Dannemiller and Jacobs 1992).

Lewin (1958) identified three ways that organizational change could be accomplished:

1. Changing the individuals who work in the organization (their skills, values, attitudes and eventually behaviour) – with an eye to instrumental organizational change.
2. Changing various organizational structures and systems – reward systems, reporting relationships, work designs
3. Directly changing the organizational climate or interpersonal style – how often people are with each other, how conflict is managed, how decisions are made.

Although the debate continues, there is increasing recognition that a balanced approach that employs mutually reinforcing interventions, tailored to the particular circumstances and history of the organization, to change both attitudes and context is likely to be the most effective in creating the desired change (Beer and Nutria, 2000; Senge, et al., 1999; Sapienza, 1995; Heifetz, 1994; Senge, 1990).

2.2.7 Approaches and Tools of Change Management

Burns divides change management strategies into planned and emergent blocks. The former, planned approach, includes Action Research, which is Lewin's force field analysis (1958), and Bullock and Batten's (1985) model. The emergent approach acknowledges the role of organization structure, culture, learning and managerial behaviour in order to implement a meaningful change effort. Dawson (1994) groups his evolutionary stance into planned change (text-orthodoxy), contingent moment and contextual perspective.

2.2.7.1 Planned change

Fossum (1989) identified nine theoretical models underpinning the modern repository of change: Force Field Analysis (FFA), Configuration Learning, Gap Analysis (Delta Analysis, Innovative Change, Leadership Intervention, Notice-attitude-choose-action (NACA) Cycle, Systems Theory, Pendulum Theory and Grief Cycle (Fossum, 1989).

Kurt Lewin (in Fossum, 1989) is considered to be the father of the change theory; it remains an influential model and a common approach (Dawson, 1994). He introduced planned change that consists of three-phases: unfreezing, changing and re-freezing. It emphasises that understanding the change process increases the likelihood of success in a change initiative. Lewin identified the equilibrium between restraining and driving forces. For him, a change occurs at a point where driving

forces push back (or minimise the affect of) restraining forces to a minimum or attain ‘quasi-stationary equilibrium’. He suggested that the organisation’s current state should be disrupted to achieve a new equilibrium (unfreezing phase).

Unfreezing requires the transfer of a substantial amount of resources to overcome a powerful network of forces, which pulled the organisation into the current state (Rouse and Watson, 1994). It aims to reduce resisting forces or increase the driving forces. The change agents then embark on moving the organisation towards the required state. It involves the actual implementation of a new social system. Finally, the change managers re-freeze or habitualise the new state (Dawson, 1994).

Force field analysis is a simple model to understand and use. However, it represents a unidirectional model of change that is an oversimplification of reality. Change is a dynamic and complex process, which cannot be rendered immobile. It does not comply with the contemporary requirements of continuous change and perpetual transition culture (Dawson, 1994).

2.2.7.2 Contingency Model

According to contingency theorists the best way to organise depends upon the circumstances. They reject the search for a universal model and aim to develop useful generalisations about appropriate strategies and structures under different typical conditions (Dawson, 1994). He further argues that the researchers can focus

upon a single variable, environment or a range of variables to identify the relationship between various variables.

Burnes (2004) argues that ‘contingency theory is a rejection of the ‘one best way’ approach previously sought by managers and propounded by academics. In its place, he substituted the view that the structure and operation of an organisation is dependent (‘contingent’) on the situational variables it faces – the main ones being the environment, technology and size. It follows from this that no two organisations will face exactly the same contingencies; therefore, as their situations are different, so too should their structures and operations are different. Consequently, the ‘one best way’ for all organizations is replaced by the ‘one best way’ for each organisation. Organisations are open systems, a structure and therefore, performance is dependent upon the particular circumstances and situational variables that are faced by each organisation (Burnes, 2004, p. 70 and 78).

Donnelly (in Donnelly et al., 1998, p. 19) and his colleagues support the contingency approach on the grounds of: increased globalisation, need of social and ethical aspects of leadership, changing demographics and skill requirements, the emergence of improved organisational structure and changing demands of employees.

Cole (2004)'s view is that it mixes earlier approaches to apply in a particular set of circumstances (Cole, 2004, p. 84). Thus, the more favourable contingencies are for the organisation the more the chance to apply non contingency strategies and vice versa. The theory has been criticized on a number of grounds: it is difficult to relate structure with performance, there is no agreed upon definition of three situational variables, structure and associated practices and policies may be influenced by external forces, organizational objectives have to be fitted into a contingency perspective, and is "too mechanistic and deterministic which ignores the complexity of organisational life" (Burnes, 2004, p. 80).

2.2.8 The Force-field Analysis Theory and BPR

The Force-field analysis theory was first suggested by Kurt Lewin (1951), a social psychologist, who suggested that any situation should be viewed as a dynamic balance between the forces for and the forces against change. The process begins with a detailed analysis of the problem situation. This analysis leads to a discovery of forces already "driving" the problem toward a solution and forces "restraining" progress. Once these "driving" and "restraining" forces have been discovered, they are maximized or minimized to generate progress toward a solution. To help the change process, either the forces for change should be increased, or the resistance for change should be lowered.

Before the implementation of BPR, the enterprise is in a certain situation, which is named the current equilibrium. BPR is adapted to make a better orientation environment and gain continuous competitive advantages. In the theoretical model of this research, we call it the equilibrium after a successful implementation of BPR. Whether BPR can be successfully implemented, that is to say, whether a business can successfully be designed this is decided by the exterior pressure, inner motives and resistance that affect BPR. They change with the change of environment and this change includes not only the size of the force but the type of it. If the exterior competitive environment of a business has not changed or there is no new management conception or methods, BPR cannot be caused. Only when the motive is bigger than the resistance, which is caused by the change of environment through process redesign, can the implementation of BPR succeed.

According to the “AS IS” existence and development environment the enterprises are facing at present, enterprises must carry on BPR to achieve the “TO BE”. The researcher mainly relies on Lewin’s force field model to analysis BPR. In the model, we can directly recognize the factors that affect BPR, and according to them, we adopt measures to evaluate the current operational performance improvement by comparing it to the pre-BPR state. The results could be attributed to enforce motives and weaken resistance to achieve the smooth implement of BPR.

2.2.9 BPR Critical Success and Failure Factors

This model is based on the research works of Crowe et al. (2002), Guimaraes (1999), Motwani et al. (2005), and Terziovski et al. (2003). The research conducted by Crowe et al. (2002) estimated the risk level of BPR efforts by investigating success and failure factors as cited in the work of Abdulvand et al. (2008). They grouped the success factors into four main groups and a total of 17 sub-factors. The main groups are "egalitarian leadership," "working environment," "top management commitment," and "managerial support." The failure factor is introduced just as "employee resistance," which has four sub-factors. Guimaraes (1999), Motwani et al. (2005), and Terziovski et al. (2003) emphasized "change management," and explained "information technology" as two most critical success factors. These factors are explained below:

i. Egalitarian leadership. Some key constructs in managements are employee involvement, communication, and leadership nature (Motwani et al., 2005). Top managers should drive the changes by providing vision (shared vision). Employees should become more responsive. Other members in the BPR team should understand and cooperate in a new system and top management should establish inter- and intra-organizational confidence and trust. The chains' interactions reflect the organizational ability in adapting changes (Crowe et al., 2002). In addition, groupware techniques significantly decrease the time required for performing the analysis phases of BPR (effective use of subordinates' idea). Involving employees and effective use of their idea enable top management to achieve optimal process

operation (Maull et al., 2003; Terziovski et al., 2003). Egalitarian culture makes the positive changes take place with little resistance (Crowe et al., 2002).

ii. Collaborative working environment. Closely related to the egalitarian culture, cooperation (cooperative environment) is one of the critical success factors in BPR projects (Crowe et al., 2002). Employees should work together in the same department/organization and at the same time, and “interact in a friendly way” with each other (Tatsiopoulos and Panayiotou, 2000). In order to work in a cooperative environment, and interact in a friendly way, employees should trust each other, and be assured that the top management recognizes their role (recognition among employees) (Crowe et al., 2002; Maull et al., 2003). A cooperative environment with a friendly interaction, in which employees work in teams, has a chance of improving performance (Green and Roseman, 2000; Marir and Mansar, 2004).

iii. Top management commitment. A clearly defined strategic mission is necessary for reengineering (Maull et al., 2003). Strategic management is the highest level of management where top officials determine the strategic direction of the company (Grant, 2002). Top management should have a clear knowledge about the current situation of the organization. In addition, it is necessary to have a “sufficient knowledge about the BPR projects” and “realistic expectation of BPR results.” In order to have a successful BPR, top management should communicate with

employees in order to motivate the movement, control the BPR team and users (Crowe et al., 2002).

iv. Supportive management. Human resources play a critical role in organizational process improvement. They are the primary decision makers and the essential ingredients of any human activity system (Grant, 2002). In performing reengineering, the human resources architecture should be reengineered to support information sharing and decision making better (Mansar et al., 2003; Vakola and Rezgui, 2000). Finally, employees should be assisted in the transition period to the new working environment (Crowe et al., 2002).

v. Use of information technology. IT is introduced as a critical component and even a natural partner of BPR, which has a continuous and important role in BPR projects (Attaran, 2003; Vidovic and Vuhic, 2003). Many authors have described that successful application of IT is effective in BPR success. Contrarily, overlooking the role of IT can result in failure (Motwani et al., 2005; Shin and Jemella, 2002).

IT covers the areas of hardware, information system, and communication technology, which provide individuals with the required information (Al-Mashari and Zairi, 2000; Attaran, 2003). These bring effectiveness in realizing the above-mentioned critical success factors by pulling human, business, and organization together (Grant, 2002; Motwani et al., 2005). For example, “communication

technology” is to make open communication, share information, and create collaborative team working (Attaran, 2003; Tatsiopoulos and Panayiotou, 2000).

vi. Resistance to change. Naturally, BPR fosters change and human being resists change. This resistance is the most common barrier of BPR and renders success difficult (Guimaraes, 1999; Schniederjans and Kim, 2003). Employees resist changes because of uncertain future initiated by BPR changes including job loss, authority loss, and getting anxious (Crowe et al., 2002; Palmer, 2004).

Authors believe that critical success factors can be mapped into a positive readiness indicator, and the failure factor can be mapped into unreadiness indicator. In fact, the hypothesis is: measuring critical success and failure factors can clarify readiness/unreadiness level in executing a BPR project. BPR has been addressed as a significant solution for radical improvement in the enterprises. However, the high-failure rate of BPR projects makes organizations consider all aspects of the project meticulously.

In this research, firstly, the positive and negative BPR readiness indicators are reviewed and six indicators are extracted. Egalitarian leadership, collaborative working environment, top management commitment, supportive management, and use of information technology are known as positive factors that have a direct

relation with readiness. Finally, resistance to change has been introduced as a negative factor, which decreases the readiness.

Many companies have implemented reengineering projects; some have achieved great success, and others have failed. BPR has been implemented by both service (Hall et al., 1993; Attaran and Wood, 1999; Shin and Jemella, 2002) and manufacturing companies (Hall et al., 1993; Zinser et al., 1998; Tonnessen, 2000) in the USA and Europe. While there are many published success stories, failure can only be deduced or found in published statistics and large studies (Hammer and Champy, 1993; Hall et al., 1993). While the practice of BPR was found to be successful in the US and Europe, it was not enthusiastically received by Scandinavian countries. The Scandinavian culture which emphasizes work place democracy and strong employee participation did not appreciate the top down approach used in BPR.

From the selected research findings above - that have reported on reengineering implementations, one can conclude that, the improper choice of the reengineering process can lead to failure of recognizing its global benefits. The process should have enough breadth and depth. A broadly defined process should include more activities so the improvement is more likely to extend throughout the entire business. The depth is measured by the change in six elements: role and responsibilities, measurements and incentives, organizational structure, information

technology, shared values, and skills (Hall et al., 1993). Moreover, the suitability of the reengineering method to the organizational context is considered as of great significance. The studies have also recommended that, while process reengineering could benefit manufacturing and service firms, there should be a distinction in its implementation to suit the unique situation of the firm (Shin and Jemella, 2002). According to the study, "reengineering" success factors and positive outcomes were reported as: reduce cost; increase productivity; reduce time; improve quality; reduce business cycle; increase profit; and decrease response time.

As we have seen above not all organisations could be successful and reap the result of the reengineering. Halachmi and Bovaird (1997) also found that a key factor influencing the results of BPR initiatives is the capacity of BPR in an organisation. The BPR capacity in this context refers to the ability of the organisation to undertake and survive such a radical initiative. The following elements were recommended and the presence of each constitutes a necessary condition for success in carrying out BPR: First, there should be a proper understanding of the requirements and implications of the BPR process; second, the ability to operationalise and implement the results of the BPR analysis; and third, a shared willingness to face the cultural challenge to the organisation which is posed by BPR.

2.2.10 Measuring Operational Performance and BPR

Efficiency and effectiveness are the central terms used in assessing and measuring the performance of organizations (Mouzas, 2006). Performance, in both profit and non-profit organizations, can be defined as an appropriate combination of efficiency and effectiveness. However, there seems to be some inconsistency in the use of these terms in the existing literature on the subject matter.

For the managers, these terms might be synonymous but each of these has its own distinct meaning. Drucker (1977) distinguished efficiency and effectiveness by associating efficiency to “doing things right” and effectiveness to “doing the right things.” In his terminology, a measure of efficiency assesses the ability of an organization to attain the output(s) with the minimum level of inputs. It is not a measure of a success in the market place but a measure of operational excellence in the resource utilization process. More precisely, efficiency is primarily concerned with minimizing the costs and deals with the allocation of resources across alternative uses (Achabal et al., 1984). While commenting on effectiveness, Keh et al. (2006) observed that a measure of effectiveness assesses the ability of an organization to attain its pre-determined goals and objectives. Simply, an organization is effective to the degree to which it achieves its goals (Asmild et al., 2007). In sum, effectiveness is the extent to which the policy objectives of an organization are achieved.

Good performance measures generally include a mix of outcome, output, and efficiency measures. Outcome measures assess whether the process has actually achieved the intended results. Output measures examine the products and/or services produced by the process, such as the number of claims processed. Efficiency measures evaluate such things as the cost of the process and the time it takes to deliver the output of the process (a product or service) to the customer (GAO, 1997).

Business process efficiency is an important determinant to measure how well a process performs, that is, it represents the performance of a business process (Zaheer et al., 2008). Process efficiency can be improved by minimizing cost, reducing variability and improving cycle time. The cost indicator involves minimizing resources in terms of money, time, material and human resources (Tenner and Detoro, 2000).

Past studies have extensively used organizational performance as a dependent variable (Jaworski and Kohli, 1993). Business performance refers to the extent to which an organization is able to achieve internal and external organizational objectives (Lin et al., 2008). Performance measurement is an essential part of organizational strategy in a highly competitive environment (Houldsworth and Machin, 2008; Singh, Garg and Deshmukh, 2008).

Organizational performance can be measured using two approaches, judgmental and objective. These measures are widely used in the literature to measure organizational performance (Jaworski and Kohli, 1993). The judgmental approach to organizational performance measures the overall performance of organizations as assessed by organizational members and customers. The objective approach uses financial performance parameters, such as return on assets, market share and profitability (Jaworski and Kohli, 1993).

Performance has many dimensions, such as long-term performance, short-term performance, financial performance, non-financial performance. Bureaucracy and extensive layers, within management hierarchies, hinder business processes that impede innovation, quality and service (Keen, 1991; Zaheer Mushtaq et al., 2008; Zaheer Rehman et al., 2008).

Cycle time is the time required to complete a customer-related activity or business process. It is the actual time to convert inputs into desired outputs (Harrington, 1991; Sethi and King, 2003; Tenner and Detoro, 2000). Cycle time is composed of processing time and non-processing time. Processing time comprises activities that add value to a process by converting input to output and helps meeting the customer expectations.

Cycle time also depends on business value-added activities, such as controlling, monitoring, filing, invoicing, record keeping, recruiting and selling. These activities add little value to customers but are considered necessary for business processes. The researchers (eg., Harrington, 1991) argue for BPR in improving the cycle time by eliminating non-processing time, streamlining processing time and optimizing the time spent on business value-added activities (Tenner and Detoro, 2000; Zaheer, Rehman et al., 2008).

In the current understandings of performance, companies strive to redesign business processes to achieve simultaneous significant improvements in quality, cycle time, cost, service and productivity (Davenport, 1993b; Harrison and Pratt, 1993). Improving and shortening cycle time invariably depends on quality improvement by "doing it right the first time" (Harrison and Pratt, 1993). Stalk and Hout (1990) address cycle time as an important measure of strategic Performance. Time-based companies determine what the customer wants and then shape business operations and policies to provide the desired deliverables in the minimum possible time. Traditional companies invest to reduce cost, but time-based companies invest to reduce time.

The concept of processes is not new to business world. The novelty in the approach is its enabling technology, which allows information to be accessed and processed from multiple sources. With the use of information technology (IT), businesses can

achieve process efficiency without compromising functional efficiency. Technology helps the whole organization to think in process terms and to allocate more activities automatically performed by machines without human interaction (Garvin, 1995). IT is an effective tool to manage business processes in public and private enterprises to provide efficient services and better quality (Leghari, 2003). IT changes ways of doing business. It serves as a strategic weapon to leverage business processes and operations (Sethi and King, 2003; Venkatraman, 1994). Performance evaluation (Chang, 2007) is generally carried out by comparison with subjective or quantitative standards. Indicators of the results of processes are termed lag indicators, while measures of process execution are termed lead indicators.

Sidikat and Ayanda (2008, p.116) assessment of BPR impact in banking and other financial services in Nigeria confirmed that the change brought about by re-engineering in banks are reflected in products and services. It is intended to give a new form or structure by introducing a product and service scheme (such as credit cards, hassle free housing loan schemes, educational loans and flex-deposit schemes) integration of the branch network using advanced networking technology and customer personalization programmes (through Automatic Teller Machine (ATM) and anytime banking).

Sidikat and Ayanda (2008) also concluded that many findings from literature which hold the general conception that Business Process reengineering entail a critical

analysis and radical redesign of an existing process to achieve breakthrough improvements in organizational performance cannot be doubted.

2.2.11 Measuring Perceived Service Quality

Two distinct schools of thought are easily identifiable despite the fact that operationalisation of service quality differs from researcher to researcher. One group of researchers supports the disconfirmation paradigm of perceptions minus expectations; and the other group supports the performance-based paradigm of the perceptions-only version of service quality.

2.2.11 Disconfirmation Paradigm

According to Gronroos (1984), consumers evaluate (perceived) service quality by comparing expectations with experiences of the services received. This viewpoint is further supported by Lewis and Booms (1983) who argue that service quality is a measure of how well the service level delivered matches customer expectations on a consistent basis. The implication of their viewpoint is that delivering quality service means conforming to customer expectations on a consistent basis. Focus group interviews held by Parasuraman et al. (1985) further affirmed that service quality is derived from the comparison between a customer's expectations for service quality performance versus the actual perceived performance of service quality (perception minus expectations). Parasuraman et al. (1988, p. 17) also stated that "perceived service quality is viewed as the level of discrepancy between consumers'

perceptions and expectations". According to Parasuraman et al. (1985, 1988), service quality is an overall evaluation similar to attitude, the "expectancy disconfirmation" model is an appropriate operationalisation of service quality, and service quality (as a form of attitude) results from the comparison of perceptions with expectations.

2.2.12 Performance-based Paradigm

The performance-based paradigm highlights that there is little theoretical evidence, if any that supports the relevance of perception-minus-expectations gaps as the appropriate basis for assessing service quality (Carman, 1990). Brown et al. (1993) further argue that there are serious problems in conceptualising service quality as a difference score. Cronin and Taylor (1992) affirmed that an unweighted performance-based approach is a more appropriate basis for assessing service quality. The use of performance-based measures of service quality over gap measures has also been supported by Babakus and Boller (1992). The performance-based paradigm can therefore be best summarised by Cronin and Taylor (1992)'s viewpoints that perceived service quality is best conceptualised as an attitude and that current performance adequately captures consumers' perceptions of the service quality offered by a specific service provider.

Cronin and Taylor (1992) developed a "performance-based" service quality measurement instrument called SERVPERF. This model is different from the

previously discussed disconfirmation models. The model is based on the theory that service quality is a measure of customer attitude towards performance received. According to Cronin and Taylor (1992), their unweighted performance-based SERVPERF instrument was a better method of measuring service quality. Their scale had a reliability rating from 0.88 to 0.96 (i.e., indicating a high degree of internal consistency), depending on the type of service industry. It also exhibited good convergent validity and good discriminant validity.

Cronin and Taylor (1992) suggested that the SERVPERF is more efficient than SERVQUAL for measuring service quality. The SERVPERF questionnaire is limited to 22 out of 44 SERVQUAL questions by eliminating the investigation of expectation. The use of performance-based measures of service quality was also supported by Babakus and Boller (1992).

2.2.13 SERVQUAL versus SERVPERF

Carrillat, *et al.* (2007) conducted a meta-analysis to investigate both performances-only SERVPERF and expectations/performances SERVQUAL scales. Findings indicated that both are equally valid predictors of overall service quality. According to Carrillat et al., (2007), the purpose of the instrument should dictate the choice between SERVQUAL and SERVPERF. They suggested that SERVQUAL would fit a diagnostic purpose especially for practitioners, whereas SERVPERF would fit a shorter instrument for establishing theoretically sound models. Carrillat et al. (2007)

found that both scales provided higher predictive validity when used in non-English-speaking countries, and lower predictive validity in individualistic countries and in industries with a low degree of variation. SERVQUAL required further adaptation to the context of the study to enhance validity (Carrillat *et al.*, 2007; Parasuraman et al., 1991).

Empirical studies evaluating validity, reliability and methodological soundness of service quality scales clearly point to the superiority of the SERVPERF scale (Jain and Gupta, 2004). According to Jain and Gupta (2004), the choice between SERVQUAL and SERVPERF scales should depend on the objective of the research. When the research objective is to compare service quality across industries the SERVPERF scale is the preferred research instrument. On the other hand, when the research objective is to identify areas relating to service quality shortfalls for possible intervention by the managers, the SERVQUAL scale needs to be preferred because of its superior diagnostic power. A study conducted by Jain and Gupta (2004), which used data collected through a survey of consumers of fast food restaurants in Delhi found the SERVPERF scale to be providing a more convergent and discriminant-valid explanation of service quality construct.

In this study the researcher evaluated the level of service quality after BPR implementation by comparing it to the Pre-BPR service quality level of the public commercial banks and its effect on overall customer satisfaction. Given the purpose,

the SERVPERF model is best suited for the study. Different models were selected in order to be able to comparatively assess business process reengineering implementation success and/or failure as a “checklist” of ideal features and to gain a better understanding of the project design and implementation. Several models and frameworks have been proposed in literature for undertaking business reengineering (BPR) projects. It is noticed that some of these have very limited focus, while others are more generic, yet, mainly theoretical in nature. Moreover, most of these frameworks do not address, nor make use of the lessons learned from the critical success and failure factors of the financial sector practice. Moreover, the suitability of the reengineering method to the organizational context is of great significance. While process reengineering could benefit manufacturing and service firms, there should be a distinction in its implementation to suit the unique situation of the firm (Shin and Jemella, 2002). So, the framework combines general and process-based changes.

The business system Diamond model was used to identify the elements of BPR. The Critical success factors were used from the comprehensive investigations by of Crowe et al. (2002), Guimaraes (1999), Motwani et al. (2004), and Terziovski et al. (2003). Arguments have been provided for the changes in these elements and therefore, this point of view is the rationale for the new framework being proposed in this study. The model can be applied in evaluating BPR effects in profit oriented as well as non-profitable institutions.

2.3 Literature Review

2.3.1 Need for reengineering – when and why should reengineer?

The concept of BPR is widely regarded as having been introduced as a perceived solution to the economic crisis and the recession of the late 1980's and early 1990's (Butler, 1993; Arnott and O'Donnell, 1994). As Butler describes it: "the '80s were a time for financial reengineering and the '90s a time for technological reengineering". Hammer and Champy (1993) also proposed that "BPR can help organizations out of crisis situations by becoming leaner, better able to adapt to market conditions, innovative, efficient, customer focused and profitable in a crisis situation".

Before BPR emerged (and even today), it was widely accepted by industries and business enterprises that work should be broken down into its simplest (and most basic) tasks. This leads to the structure of enterprises becoming hierarchical or functional in order to manage such divided tasks. These hierarchical or functional structures were commonly used for a period of time. However, enterprises of these structures later encountered some problems, especially when the competitive environment changed beyond what could be recognized.

During the last two decades, many enterprises faced competition from the global business environment as well as the fact that the taste of customers was becoming complex. As Hammer (1990) argues, "in order to achieve significant benefits, it is not sufficient to computerize the old ways, but a fundamental redesign of the core

business processes is necessary". New organizational structures, which are more suitable to today's environment in which enterprises can understand their current activities and find potential problems, are needed. Hence, BPR has become a management tool in which a business process is examined and redesigned to improve cost efficiency and service effectiveness (Abdolvand et al., 2008). It has been noticed that developments of inter-organizational relationships and significant increases in the business integration have paid special attention to 'process'. Also, BPR has become more important for facilitating processes across the boundaries of organizations and for integrating back and forth office processes (Faddel and Tanniru, 2005).

Macintosh and Francis (1997) suggest that by introducing fast developing information technology, enterprises try to redesign their structures and seek new ways of operation, which results in many enterprises moving toward a *combination* but not *division* of labour. Hammer and Champy (1993) also conclude that previously divided tasks are now being re-unified into coherent business processes. Thus one reason why BPR has become popular is that it provides a mechanism to make the changes better to fit the competitive environment to which the enterprises must adapt themselves in this new and post-industrial age.

Business Process Reengineering (BPR) is a complex process that calls for almost a radical redesigning of the core business processes inside an organization in order to achieve rapid developments in terms of productivity, quality as well as cycle times (McAdam and Donaghy, 1999). In this process, companies start with an open mind without any presumptions and rethink the whole process in an effort to deliver a better value to the clients. They bring about revolutionary changes in their value system and put extra emphasis on the customer needs. They also restructure the organization and do away with unproductive activities especially in two important areas. Firstly, the functional organizations are redesigned into different cross-functional teams. Secondly, modern technologies are used to improve dissemination of knowledge as well as decision making.

Generally the topic of BPR involves discovering how business processes currently operate, how to redesign these processes to eliminate wasted or redundant effort and improve efficiency, and how to implement the process changes in order to gain competitiveness. The aim of BPR, according to Sherwood-Smith (1994), is “seeking to devise new ways of organizing tasks, organizing people and redesigning IT systems so that the processes support the organization to realize its goals”.

Each organisation must determine itself when it is appropriate for it to reengineer. Reengineering should be done only if it can help in achieving an enhanced strategic position. Some strategic indicators that require reengineering include:

1. Realization that competitors will have advantage in cost, speed, flexibility, quality of service

2. New vision or strategy: a need to build operational capabilities.

3. Need to re-evaluate strategic options, enter new market or redefine products/services.

4. Core operating processes are based on outdated assumptions/technologies

5. Strategic business objectives seem unreasonable.

6. Change in market place in the form of: Loss of market share; new basis of competition/new competitors; new regulations; shorter product life cycles; new technologies in play.

So, if the company is at the cutting edge of an industry that has just undergone major changes, reengineering might not be appropriate. However, if the organization operates with old models instead of new technologies and approaches used by others, reengineering may be urgently needed. Even if technical performance is adequate, other improvements may be needed – such as training, organizational change, leadership development etcetera. Also in such circumstances reengineering is required.

Nevertheless, the literature is rife with anecdotal evidence and short on empirical evidence of performance impacts of BPR projects. This indicates that there is still a need to better measure BPR implementations through objective measures, and to

relate them to organizational performance in the context of other variables that may also affect performance. BPR as a project consists of design and implementation phases. Once a reengineering project has been completed, the reconstruction process enters the continuous improvement cycle (Tikkanen and Polonen, 1996). By definition, reengineering is a “radical change, fast.” Reengineering is a fundamental rethinking and transformation of an integrated set of business processes. Understanding that process transformation is ultimately about doing work differently is the key to successful transformation. Michael Hammer (1990) puts it more succinctly:

“Reengineering is rethinking work.” Companies reengineer for a variety of compelling business reasons. Management determines that a significant gap exists between actual and desired results, creating a business problem. At times, senior management translates this business problem into a process performance problem and opportunities. This allows the company to focus on fundamentally transforming the target process (es), thus improving business results and solving the problem. At this early stage of identifying the need for radical change, senior management commitment and sponsorship are essential in making the decision to reengineer.

2.3.2 Principles (Elements) of Reengineering in an Organization

From the work of Abolo (1997) and Thomas (1996) cited by Ezigbo (2003), the essential element or principles of reengineering include the following:

- Rethinking the theory of the business.
- Challenging old assumptions and discharging old rules that are no longer applicable.
- Breaking away from conventional wisdom and the constraints of organizational boundaries.
- Using information technology not to automatic outdated process but to redesign new ones.
- Externally focusing on customers and the generation of greater value for customers.
- Internally focusing on harnessing more of the potentials of people and applying it to those activities that identify and deliver values to customers.
- Encouraging training and development by building creative work environment.
- Thinking and executing as much activity as possible horizontally, concentrating on flows and processes through the organization.

2.3.3 Steps Involved in Business Process Reengineering

In order to carry out any kind of redesigning work, a series of prior steps such as the following have to be taken. The methods employed by consultants in the reengineering field are typically logical and sequential. In general, reengineering

methods are designed to gain management commitment, select a cross-functional reengineering team, identify the processes to be reengineered, understand and redesign the chosen processes, and implement the new processes.

A specific methodology of BPR Life Cycle as discussed by Guha et al, (1993) and by Davenport and Short (1990) suggested a five-step approach to Business Process Reengineering. These are:

I. Develop the business vision and process objectives: Business Process Reengineering is driving by a business vision which implies specific business objectives such as cost reduction, time reduction, output quality improvement, quality of work life.

II. Identify the processes to be redesigned: Most firms use high-impacts approach which focuses and most important processes or those that conflict most with the business vision. A few firms use the exhaustive approach that attempts to identify all the processes within an organization and prioritize them in order to redesigned urgency.

III. Understand and measure the existing process: for avoiding the repeating of old mistake and for providing a baseline for future improvements.

IV. Identity information technology (IT) levels: Awareness of IT capabilities can and should influence the process. This is because IT is a *sine qua non* to the business process reengineering. Regardless of the methods employed, most researchers and consultants who advocate reengineering agree that

information technology is an essential enabler of organizational improvement. These technologies allow the principles advocated by Hammer and others to be realized. Even where it is not used as the basis for redesigning work processes, information technology can improve performance (Bashein, Markus, and Riley, 1994).

V. Design and build a prototype of a new process: the actual design should not be viewed as the end of the BPR process. Rather, it should be viewed as a prototype, aligning the BPR approach with a quick delivery of results and the involvement and satisfaction of customers.

2.3.4 The diverse Conceptions and Critiques of Methods of BPR

While most writers emphasize the features of a radical change and the enabling role of information technology, the term re-engineering has always meant different things to different people (Margolis, 1992). Marchand and Stanford (1995) noted that BPR had taken a dozen different meanings, from redesigning discrete work tasks to forcing radical changes throughout an organization. Such differences in meaning may align with professional interests and expertise (Gallivan, 1996; Jones, 1994).

Moreover, Carr and Johansson (1995) cited results of a study produced, in which 50 surveyed organizations claimed to be reengineering business processes. Among those organizations, only 30 per cent were pursuing orthodox re-engineering, 42 per cent were engaged in efforts leading to incremental changes, and 28 per cent were

not re-engineering at all. These findings and others (e.g., Grint *et al.*, 1996) suggest that many different change approaches are being pursued under the name of process reengineering.

Reengineering has been under fire of critique emanating from the flaws in its conceptualization and the consequences of its implementation. Graham et al. (2000, p. 23) regard BPR as "a technique strong in rhetoric but weak in methodology". They refer to this methodological gap as a "hollow core" of BPR. According to them, while both Hammer and Champy (1993) and Davenport (1993) outline an approach to the practice of reengineering, neither of these texts prescribes a methodology to implement it. In the absence of this, consultants and practitioners have filled in the gap by using their own approaches with a label of BPR.

Four contradictions potentially undermine the application of BPR. First, the assumption of BPR is founded on the fallacy that re-engineering can obliterate existing processes, thereby "cleaning the slate" for newer, IT-enabled processes. One of the guiding principles of BPR is the assumption that new processes can be designed "from scratch" using a clean slate. The clean-slate approach implies disregarding existing structures and procedures in order to invent new ways of accomplishing work (Hammer and Champy, 1993). BPR, according to the purists, should be distinguished from less radical approaches designed to improve the performance of existing processes – for example, continuous business improvement

and total quality management (Brandt, 1994; Carr and Johansson, 1995; Hammer and Champy, 1993).

Moreover, the clean-slate approach presupposes spending little time analysing current business processes in order not to be influenced by current practices and, ideally, to eliminate the assumptions underlying these actual processes. Its other critiques originate from its other rhetoric of redesigning from clean slate and radical redesign. In this regard, Koontz and Weihrich (2008, p.152) indicated that “radical redesign results in radical downsizing with detrimental effects on the organization”. Second, the paradoxical role of IT in enabling new work processes, arguing that IT can be both an enabler and disabler of organizational improvement. 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 such that a company that cannot change the way it thinks about information technology cannot re-engineer” (Hammer and Champy, 1993, p. 83). Most other BPR proponents also adopt an essentially technical model of organizational change in which information technology basically drives the re-engineering effort (Grey and Mitev, 1995; Jones, 1994). These arguments acknowledge the technological determinism inherent in BPR; technology determines not only work structure, but also organizational structure, culture, management styles, and beliefs (Grey and Mitev, 1995). Thus, outmoded 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 paradoxically can also disable an organization's ability to change. When an organization revises its basic business processes using information technology, it introduces a new structure that may become even more difficult to change in the future. Since the technical backbone of automated processes exists as software routines, a later change in process will require a reconstruction of the software application and its various links to other systems. While all changes require reprogramming of some sort, either to human or machine components, software programs are often virtually inaccessible to the persons nearest to the application. Given the inevitability of business change, "hard-wired" business processes that are built today may seriously constrain later efforts to redesign them. Ironically, today's BPR may have already produced the organizational structures and processes that will be considered outmoded tomorrow, and those processes may be more difficult to change because today's software conventions will probably also be considered outmoded tomorrow. Seen with hindsight, the BPR movement of the 1990s may later be blamed for the construction of the next generation of "legacy" systems and organizations in need of transformation.

Lucas and Olson (1994) provide a clear analysis of this paradox in their examination of information technology's effects on organizational flexibility. They argue that technology provides the capability for more flexible organizational structures by allowing greater variety in the time and place of work while increasing the speed of response. However, they note that information technology also constrains flexibility by embedding routines into software programs that are not easy to change.

The third contradiction manifest in discussions about BPR deals with the empowerment of workers at all levels of the organization. Empowerment entails sharing information with workers, basing rewards on organizational performance, training employees to contribute more toward organizational performance, and involving employees in management decision making (Bowen and Lawler, 1992). Re-engineered business processes, it is argued, result in empowered workers with greater access to information, enhanced knowledge, and the freedom to perform their jobs in ways that make sense to them. Hammer and Champy (1993) portray empowerment as an unavoidable consequence of process re-engineering. They maintain that empowered workers "make their own rules" and have the "authority to make the decisions needed to it get it done" (Hammer and Champy, 1993, p. 70).
While not denying the empowering potential of some BPR programmes, sceptics have been quick to challenge the claim that empowerment results inevitably from re-engineering. Changes in the behaviour, values and attitudes of organizational

members are not so easily achieved, as many years of study by behavioural scientists can attest. It is certainly debatable whether the redesign of business processes can, in and of itself, induce such behavioural changes (McKenna, 1995). Indeed, it seems contradictory for empowerment to be characterized as a gift that can be bestowed by re-engineering. More realistically, empowerment is acquired through active struggle and achievement rather than bestowed (Grey and Mitev, 1995).

A more incisive criticism of the empowerment rhetoric exposes it as hypocritical, motivated by management's desire to place BPR in a more politically correct and favourable light (Willmott and Wray-Bliss, 1996). The researchers argue that re-engineering is firmly wedded to a top-down philosophy of organizational change in which experts design the systems which employees are expected to operate. Moreover, the widespread use of information technologies to enable process change increases the surveillance to which employees are subject – whether through hierarchical monitoring or the internalization of control through processes of self-discipline and peer monitoring. The objectives and values promoted by re-engineering, and the methods proposed to instil them, also involve the coercive manipulation of attitudes and beliefs to secure cultural conformity. Finally, the assumption of consumer sovereignty inherent in BPR legitimizes the shedding of staff and increases the vulnerability of those who remain in employment. On the whole, Willmott and Wray-Bliss (1996) strongly disagree with re-engineering's claim

to bestow power on employees; rather, they argue that BPR remains essentially hierarchical in its approach to organizational control.

Finally, the fourth contradiction considered here deals with the issue of employee commitment to radical organizational change. As with most other approaches to planned organizational change, the proponents of BPR note that the commitment of individuals to a re-engineering project can make the difference between its success and failure. In addition to the widely acknowledged need to obtain the commitment and support of top managers, the literature also emphasizes the importance of commitment for "process owners," BPR team members and implementers of the redesigned processes (Melone,1995). In other words, the commitment and positive attitude of most of the individuals in an organization towards BPR appear to be the *sine qua non* condition for project success and resultant organizational improvements. However, BPR is often a threatening proposition for members of an organization, and gaining their commitment is not easy. Guimaraes (1996) presented evidence that while BPR usually creates a richer overall work environment, lower organizational commitment occurs after business processes are re-engineered.

According to Melone (1995), it is not the redesign of processes *per se* that frightens people and reduces their commitment, but rather the likelihood that BPR can affect the design of these people's jobs, including the way they are evaluated, rewarded and supervised. Their whole lives, their sense of worth and their relationships to

others are thus at stake in BPR. Moreover, because re-engineering is so frequently associated with the downsizing of employment, people subject to re-engineering have good reason to withhold their commitment to change efforts. Indeed, it is ironic that re-engineering seeks to secure the commitment of those who may ultimately suffer from its outcomes.

In most cases, however, we would expect to see re-engineering's progress impeded by employees unwilling to participate wholeheartedly in a systematic programme to terminate their positions or those of their colleagues. Even when a BPR effort is restricted to certain areas of a company, employees in unaffected areas may witness the realities of re-engineering's effects upon their co-workers in other areas. Their commitment to later re-engineering may as a result diminish (Grey and Mitev, 1995). In their minds, avoiding today's re-engineering may only be a temporary stay of execution and knowledge of impending consequences may weaken the commitment necessary to successfully conduct future projects.

Even if BPR proponents like Hammer and Champy (1993) defend their proposition by asserting that BPR is not downsizing or delayering, BPR often results in delayering and lying-off employees. This may affect the organizational fabric of long established team work and trust, and may have effect on the remaining employees of the organization (Koontz and Weihrich, 2008). Besides these, the clean slate and radical redesign rhetoric of BPR was criticized as un-pragmatic thinking. It pushes

the BPR team to design a radically improved process without considering the human resources problems like availability of skills, IT, and other constraints on the ground. This will force the radically redesigned process to be implemented incrementally (Grover and Ketinger, 1998).

Furthermore, BPR is criticized mainly for its little attention to the human side of the organization (Koontz and Weihrich, 2008)). For this, it is nicknamed as the “fad that forgets people”; a “neo-Taylorist” and a continuation of the management fads of the 1980’s and 1990’s, whose aim was “the development of organizational control systems to secure compliance which they saw as being antithesis to participative and incremental approaches to change” (Graham, et al., 2000, p. 24; Davenport, 1996).

The above discussion generally shows that, BPR was criticized as a rhetoric, neo-Taylorist and control oriented improvement approach that pays little attention to the human side of the organization. Hence, unless conscious efforts are made to fill in these gaps its likelihood of success may be seriously impaired. Nonetheless, it is important to address these contradictions so that subsequent research and practice can proceed. Jones (1995) suggested three strategies for coping with the contradictions inherent in BPR: denial, resolution and accommodation.

The strategy of denial refuses to acknowledge the contradictions and dismisses them as misconceptions about BPR or as the product of flawed research into BPR and its consequences. The strategy of resolution seeks to demonstrate that the apparent contradictions in BPR are actually compatible. For example, BPR may produce different effects in different contexts, and different situations may call for different requirements and premises that may very well contradict those of other situations. Resolution occurs when these situational factors are included in a more complete analysis of BPR. Finally, the accommodation strategy posits that the contradictions in BPR should be accepted, not as a deficiency but as a normal feature of organizational life. Accommodation implies that contradictions should be accepted, studied and understood as inherent phenomena in social systems rather than ignored or resolved (Handy, 1994).

Due to the above reasons, a modification to the extreme BPR rhetoric has been offered by Davenport and Stoddard (1995) to cope with the blank slate fallacy. They argue, quite reasonably, that process redesign can proceed using a blank slate, but that process implementation must acknowledge the constraints imposed by existing processes. This leads to the advice to plan for radical change, but to implement it gradually. Many case studies show that this approach is favoured by organizations (Stoddard and Jarvenpaa, 1995).

2.3.5 Evaluating process Re-engineering Initiatives

Empirical studies provide mixed evidence regarding the success of BPR. On the one hand, researchers at CSC Index reported that approximately one-fourth of the re-engineering projects they had studied in North America were not meeting their goals (Cafasso, 1993). The studies, however, speculated that the failure rate was “on the order of 70 per cent”. In another industry survey conducted by Deloitte and Touche (1993), CIOs indicated that the actual benefits of BPR projects had generally fallen short of expectations.

On a scale of one to ten, the average ratings on such categories of BPR benefits as quality, cost reduction, and competitiveness were all below five (Hayley *et al*., 1993). On the other hand, more positive evidence about the success of re-engineering has been obtained in some studies. Bergeron and Limayem (1995), for example, observed a success rate of 70 per cent among Canadian firms. In another study, again conducted among Canadian organizations, Bergeron and Falardeau (1994) refer to a success rate of 75 per cent.

O’Neil et al (2002), based on their study on successful predictors of BPR in financial services, concluded that there is no apparent relationship between increased use of information technology and cycle time reduction of reengineered processes. There was, however, a statistically significant relationship between cycle time reduction and focusing redesign efforts on core-customer focused business processes. This is

consistent with the literature on successful reengineering put forward by Hall et al. (1993). Redesigning core-customer focused business processes and using customer feedback is significantly related to an organisations' ability to satisfy customers. The benefits of implementing BPR at Chase Manhantan Bank (Shin and Jemella, 2001) has been identified as: accepting customer requests at any point or means of contact; eliminating multiple calls by customers, reducing call canter volume; supporting the "One and Done" concept by automatically updating each account as requested by the customer and eliminating duplicate data entry and potential errors.

The most direct benefit that companies derive from reengineering is significant in the process improvement (50 to 100%). Costs are lowered while speed, quality and service are dramatically improved. Unfortunately, reengineering seldom makes a significant impact on the organisation's bottom line (only 20% of the time.) Reengineering has a greater chance of success if it is viewed as leading to growth and value creation. In addition, there are costs to reengineering that must be considered before deciding for such a right strategy for an organisation. Wayne Code, President of Vallen Inc. explains, "These changes may be traumatic, but the pain is outweighed by the gains made in the move towards the significant goals set. Change occurs when the pain of change is less than the pain of staying the same" (Khatibi, 2004).

The inconsistent empirical results regarding the effectiveness of BPR programmes can be traced to two major problems. First, despite its identity as a revolutionary approach to organizational improvement, BPR programmes vary considerably in basic conception and method. Thus, research that attempts to assess BPR's impacts must first resolve controversies surrounding the definition of BPR. Second, it has never been clear how success and failure in BPR programmes should be judged. Should BPR programmes be held to their original promise of "order-of-magnitude" improvements, thereby rendering more incremental improvements as failures? Or should BPR be credited with improvements of any sort? Each of these issues is addressed briefly below.

A *Harvard Business Review* (1995) article stated that BPR appears to take an operational view of improvement rather than a business strategic perspective. Organizations seem to focus on improving poorly planned or irrelevant processes, reducing costs, cycle times and defective rates. In addition, BPR does not seem to address how the various business processes would interact with one another (cited by Selladurai, 2002). Despite the sound theoretical background and striking results, business process reengineering has not always led to stellar performance. In fact, Bashein et al. (1994) showed that only 30% of BPR projects achieved a performance breakthrough. Reasons for large failure include: (i) Lack of sustained management commitment and leadership; (ii) Unrealistic scope and expectation; (iii) Resistance to change and underestimation of the resistance to change within the organization.

The most frequent and harsh critique against BPR also came from the strict focus on efficiency and technology and the disregard of people in the organization that is subjected to a reengineering initiative. Very often, the label BPR was used for major workforce reductions. Thomas Davenport (1990), an early BPR proponent, stated that:

"*When I wrote about "business process redesign", I explicitly said that using it for cost reduction alone was not a sensible goal*." And consultants Michael Hammer and James Champy (1993) the two names most closely associated with reengineering, have insisted all along that *lay-offs shouldn't be the point*. But the fact is, once out of the bottle, the reengineering genie quickly turned ugly" (Davenport, 1995). Michael Hammer similarly admitted that: "*I wasn't smart enough about that. I was reflecting my engineering background and was insufficient appreciative of the human dimension. I've learned that's critical"* (White, 1996).

Beyond the difficulty of finding an unequivocal definition for BPR, there is inconsistency in the way that BPR success is defined and measured. Because there is no generally accepted measure to assess the outcomes of re-engineering, it is difficult to assume that the rates of success from different studies can be reliably compared. CSC Index, for one, uses a narrow definition of failure that includes any project "either completely abandoned or changed for something more incremental" (Cafasso, 1993). But should a re-engineering project that fails to achieve the

“stretch” targets demanded by the purists, such as “100 percent or even tenfold improvement” (Hammer and Champy, 1993), be classified as a failure? If a project attains “only” an 80 per cent improvement, has it been unsuccessful? Moreover, should “success” be only measured in terms of objective criteria, such as economic results, or should the perceptions of managers and employees over the outcomes be considered? Until questions like these can be resolved in empirical research, it will not be easy to judge whether BPR, in any manifestation, is successful or not.

Both of these problems can be traced to the underlying assumption that BPR is something that exerts a causal force on organizational performance. In theoretical terms, the logic employed is one of determination, in which variation in one variable accounts for (or determines) variation in another variable. The logic of determination underlies imperative reasoning, such as those linking changes in information technology with organizational change (Markus and Robey, 1988; Robey, 1995). Applied to BPR, deterministic logic suggests that BPR programmes (however conceived or defined) operate as an independent variable affecting organizational performance, a dependent variable. Empirical research based on deterministic logic has the straightforward objective of measuring variation on both sides of the equation and reporting statistical associations to support the central hypothesis that BPR actually does account for positive changes in organizational performance.

Clearly, the deterministic logical model underlying research on BPR cannot be directly tested if the variables on either side of the equation cannot be uniformly defined. However, as we have seen, both BPR and performance are not defined well and are operationalized differently from one study to the next. Consequently, research has produced no compelling evidence that BPR has had the effects expected of it. Rather, BPR is seen as poorly understood and contradictory. Problems in conception, measurement, and logical specification jointly contribute to the conclusion that BPR is inherently contradictory.

2.3.6 Integrating Alternative Process Improvement Approaches with BPR

The aforementioned discussions on the origin and evolution of BPR indicate that the idea of process improvement is not an invention of BPR and a number of process improvement approaches like TQM and statistical process control or continuous improvement have been there long before the coining of the term and concept of BPR in the 1990 and are in use as a valuable approaches to improvement to date. Hence, currently besides BPR a number of process improvement approaches such as benchmarking, TQM or continuous process improvement, and Six-Sigma are in use either as an alternative or a supplement to BPR (US Performance Based Management Interest Group (PBMIG, 2001); Jatson and Nelis, 2006; Cartin, 2004; GOA, 1997).

According to Curtin (2004, p.217), benchmarking is “considered by many as the most valuable method for achieving improvement”. In terms of process improvement use, benchmarking is about searching for and adapting or adopting the best in class process to an organization’s operation. It is about systematically learning from the best practice owners and surpassing them, not mere copying and transplanting (GOA, 1997; Bennis and Mische, 1995). Besides providing a real world model for the BPR projects (GOA, 1997; Bennis and Mische, 1995; Linden, 1994), benchmarking can stand on its own as a process improvement approach and can result in break through improvement in processes’ performance (Goetisch and Davis, 2000).

Six-Sigma is also another process improvement approach that has emerged in the 1980’s and popularized in 1990’s. “It typically involves a return to focusing on a relatively a small work process and presumes incremental rather than radical improvements”. Furthermore, “its improvement techniques have been employed on an episodic basis rather than continuously” (Davenport in Jatison and Nelis, 2006, p. XIV).

Regarding the current utility of these approaches, Cartin (2004, p.103) noted that “most experts and practitioners believe that all of these approaches are needed”. Their major differences lie in the magnitude of improvement they may achieve (PBMIG, 2001). Total Quality Management (TQM) is another process improvement approach organizations have adapted as an alternative to BPR. According to PBMIG

(2001, p.31), “TQM basically is a continuous improvement, that is, continuously making small incremental changes to a process that will eventually lead to making it a world class process”. In contrary to this, BPR is a radical approach to process improvement. It aims to achieve quantum results in terms of reduction in cycle time and cost, and by so doing to achieve a higher level of customer satisfaction (PBMIG, 2001; Cartin, 2004; Hummer and Champy, 1993). It is a one time, radical change (PBMIG, 2001).

TQM and BPR can be considered similar, since both are based on the concept of process and both involve organisational change. However TQM focuses on continuous incremental improvement whereas BPR is innovative and radical in nature. While BPR is intended to achieve quantum gains rapidly by replacing old processes with new ones, TQM and other quality programs are working on the basis of existing processes and seek to enhance them by incremental, continuous improvement. In this regard, as indicated above, BPR aims for a one time dramatic or breakthrough improvement while TQM and Six-Sigma aim for small incremental improvements. TQM is a continuous process, while BPR is a onetime project, and Six-Sigma is employed in an episodic basic process. Benchmarking on the other hand involves a comparison of not only a process but also products, services, etcetera of an organization with the best in a class and can result in a dramatic improvement (Goetisch and Davis, 2000).

Studies conducted by a group of researchers and practitioners suggest that BPR integrated with TQM can achieve better performance (Al-Mashari and Zairi, 2000). The reason given is that no single approach is believed to be suitable for performance improvement at all times. Therefore, BPR and TQM must be combined as an on-going integrated management system to ensure the improvements that re-engineering brings to organisations. BPR and total quality programs must not necessarily exclude each other, but can be used as complementary concepts, aimed to provide an improvement based on rapid process changes as well as on steady improvement of the new processes.

Hence, the most appropriate approach should be determined based on the level of improvement required, organizational readiness for change, commitment of top management, etcetera (PBMIG, 2001; Goetisch and Davis, 2000; GOA, 1997; Cartin, 2004). According to Goetisch and Davis (2000, p. 648), “BPR should be considered when it is impossible to use benchmarking”. As a justification for this assertion, the authors note that benchmarking can enable an organization to adapt the best process of a partner without the need to spend time, energy and prohibitive costs to redesign a new process. Due to these factors, they recommend that BPR should be used only when it is impossible to use benchmarking. This can be when “no known process is available for benchmarking, when best in class organization is not willing to partner, or when the best in class is in accessible due to geography or expenses” (Goetisch and Davis, 2000, p. 648).

In addition to these, when an organization is doing well, incremental improvement techniques like that of TQM and Six-Sigma are advisable to make it better. On the other hand, in a situation where a process is doing poorly when compared with competitors and needs significant improvement, it is wise at first to try benchmarking and then reengineering; this is when the organization is ready for radical change and when one cannot achieve the required improvement from other methods (GOA, 1997; Goetisch and Davis, 2000).

Furthermore, these approaches may not be seen as mutually exclusive alternatives. They may also be used as supplements and can be combined into one organizational improvement project. In this regard, Davenport (in Jatson and Nelis, 2004) indicated that some organizations combine Six- Sigma with BPR and that BPR is now being considered as one of process management approaches that can be used along with TQM and other process improvement or process management approaches.

2.3.7 BPR in the Financial Sector

One of the primary goals of the financial service industry is to always enhance processes that would improve customer service performance through the management approach of cost reduction, improve quality, speed, and customer service for profit maximization. Therefore, management scholars argue that

organizations can become proactive in operation by adopting the business process reengineering (BPR) to achieve a remarkable improvement in organizational performance (Hammer, 1990; Davenport and Short, 1990).

Studies have shown that attempts are being made to transfer approaches that have proven effective in other industries, particularly manufacturing, to the financial sector. One of these approaches is known as Business Process Reengineering (BPR). BPR is a major management approach that can focus on doing things in a better way that is clearer and easier to achieve a radical improvement on quality, speed, customer service, and reduction in cost (Goll and Cordovano, 1993).

Allen (1994) argued that, the focus of reengineering is on the processes redesign, which relates to doing things better and clearer. One of the primary goals of the financial service industry is to always enhance processes that would improve customer service performance through the management approach of cost reduction, improve quality, speed, and customer service for profit maximization.

The Central Bank of Nigeria's (CBN) 2008 report (as cited by Hasnan et al., 2011) revealed that Nigerian banks have successfully reengineered their operational service by the deployment of various electronic banking channels including the globally secure chip and pin technology, point-of-sale (POS) and internet banking services. The development was traceable to a number of factors, including: 1) the

deployment of more ATMs by the banks, 2) the adoption of bulk salary payments by many institutions, and 3) an increased usage of debit cards and increased public awareness. The e-banking segment has witnessed tremendous growth in all payment channels (Internet, mobile banking, ATM and telephone banking) currently in use as is evident in the number of ATMs and POS machines deployed, that is, over 8,000 and 12,400 machines respectively. The usage and acceptance of these channels of payment will continue to increase across the country. The e-banking platforms have delivered increased profitability, improved customer loyalty, enhanced capacity of existing products and improved visibility to the banks (CBN, 2008).

The benefits of implementing BPR at Chase Manhantan Bank (Shin and Jemella, 2001) has been identified as: Accepting customer requests at any point or means of contact; eliminating multiple calls by customers, reducing call centre volume; supporting the “One and Done” concept by automatically updating each account as requested by the customer and eliminating duplicate data entry and potential errors.

2.3.8 Reengineering (BPR) in Ethiopian Public Sector Organisations

BPR was initially launched as “Quick Win II” in 2001, as part of pilot studies and special programs on Performance and Service Delivery Improvement (PSIP) in selected ministries, agencies, and bureaus. PSIP promoted BPR as a key management initiative, especially in those ministries and regional bureaus, which

directly interface with the private sector (Getachew and Common, 2006). At this stage, though there were some promising signs of the possibility of dramatically improving performance and service delivery of some agencies covered in the pilot study, to a larger extent, the BPR did not produce the expected dramatic improvements in most of the agencies.

An exemplary success story is the case of Ministry of Trade and Industry (MOTI)'s licensing service where its cycle time was reduced from 8 days to 39 minutes (i.e., a 29,500% improvement) and the trade name registration service where the cycle time was reduced from 2 days to 34 minutes which was an 8,400% improvement (Getachew and Common, 2006). Another iconic success story is that of Federal Investment Agency (FIA). The investment license cycle time for Share Company businesses was reduced from 108 days to 2 hours and 50 minitues which is a 457% improvement, and the business license processing time was reduced from 225 days to 3 hours and 30 minutes which is a 771% improvement (CSRO of FIA, 2008). Besides MOTI and FIA, some remarkable and exemplary improvements were made in the passport issuing and renewal process of the Immigration Authority, Vital Statistics office and Contract and Documents Registration and Authentication offices of Addis Ababa city administration (CSRPO, 2008).

In spite of the aforementioned pockets of achievements, and the massive exercises at federal and regional levels, most of the BPR projects reported, have not achieved

the expected dramatic improvements. Some of them have taken years and have not gone into implementation. The ones that have gone into implementation have resulted in only incremental improvements and have not achieved the expected organizational transformation. The reasons mentioned for these unsatisfactory results in the first phase of BPR as indicated by the 2006 survey of the implementation status of civil service reform program were: inadequate technical knowhow of BPR due to insufficient training on BPR, low level of employee participation and resultant suspicion of employees, resistance to change, lack of top management commitment, delays and taking a longer time than required and planned (CSRPO, 2008). Beside these, the first phase of BPR was criticized for being work units based and not process based, incremental and not dramatic, and above all it has not resulted in transforming those institutions.

Hence, BPR was reintroduced in 2007 with a retraining of officials and BPR teams, and assignment of BPR consultants from the Ethiopian Civil Service College (ECSC) and Ethiopian Management Institute (EMI). In addition to these, a national working manual for BPR and transformation to a process-centered organization was issued for the first time (MoCB, 2007). During this phase, a more organized approach was applied, by involving the Ethiopian Management Institute and Ethiopian Civil Service College, as lead implementers and by establishing a central “Quality Assurance” team who made quality checks, monitored, recommended corrective actions and ensured uniformity of application as per the working manual.

Currently, BPR is being undertaken in almost all institutions of the federal government and major regions. Out of the federal government organizations, the Ministry of Transport and Communication (MoTC), Ministry of Capacity Building (MoCB), Ministry of Agriculture and Rural Development (MoARD), Ministry of Information (MoI), Ministry of Federal Affairs (MoFA), and the Ministry of Revenue (MoR) are in the implementation phase, while the rest of the ministries and agencies are in the planning, and ASIS understanding and TOBE redesign phases. Beside these, out of the selected public enterprises, the Commercial Bank of Ethiopia (CBE), Development Bank of Ethiopia (DBE), and the Ethiopian Electric Power Corporation (EEPCO) have reached the implementation phase, while the Ethiopian Telecommunication Corporation (ETC), National Bank of Ethiopia (NBE), and the Ethiopian Insurance Corporation (EIC) are in the redesign phase. In addition to the aforementioned, BPR is also started and underway in seven universities namely Addis Ababa University, Bahir Dar university, Mekele University, Jima University, Haromaya University, Hawasa University, Arbaminch University, and Civil Service College (FCSRPO, 2008).

Regarding its progress in the regions, in Oromia region, twenty bureaus have completed their BPR study, pilot testing and are now in full scale implementation up to the Wereda level. In Amhara region, twelve bureaus have finished the study phase and are on the verge of implementation. In the Southern Nations and

Nationality Region, the revenue sector and twenty bureaus are through with the study phase and are now pilot testing in preparation for the full scale implementation. Similarly, the Tigray Regional state has also conducted BPR studies on many of the regional institutions and is now pilot testing and is in preparation for the full scale implementation (FCSRPO, 2008).

The above mentioned account of the BPR status in the Ethiopian public sector organizations indicates that reengineering is being accepted as a key reform tool and is being pursued in all tiers of the government structure, including public enterprises. For such a massive endeavour to be successful, supporting the progress by a research program that can assess the missing links and recommend timely corrective actions and that can identify lessons of success stories and publicizes the secretes of their success is indispensable.

2.3.9 Summary

Approaches that have proven effective in other industries than the financial sector, particularly the manufacturing industry, have been adapted in the financial sector in different parts of the world. One of these approaches is known as Business Process Reengineering (BPR). BPR is a major management approach that can focus on doing things in a better way that is clearer and easier to achieve a radical improvement on service quality, speed of service delivery, customer service, and reduction in cost.

Business process reengineering (BPR) efforts have been reported successful in many firms. However, on average, the failure rates worldwide are as high as 70%. Various reasons are given for the high failure rate, even though no consensus has been reached. A very critical statement to be noted is that “50 to 70 % efforts have failed and not that they will fail”. There is a monumental difference between the two. We can track down failures to the common trivial mistakes that these corporations commit. Once these mistakes are identified and overcome, the successful completion of the BPR effort is very much possible.

From the review of the related literature, there appears to be a popular consensus also that BPR-led change involves three basic features:

- First, it is a planned and is associated with a deliberate endeavour to achieve dramatic improvements in performance; BPR improves corporate performance significantly through radical transformation.
- Second, it involves a radical departure from existing mode(s) of practice and organization; BPR involves a fundamental rethinking of how the company does business, and
- Third, it is usually enabled through the application of information technology. IT is a key enabler for making transformations of the business possible.

The studies also have come up with the fact that BPR practice is not without a problem. A major problem one can see from the concept is that the radical or “clean sheet” approach advocated does not raise the issue that not many organizations can afford to “obliterate” their present infrastructure and implement a completely new one, nor can they afford to interrupt their business while core processes are reengineered. In practice, a general rule for reengineering is therefore “revolutionary design, evolutionary implementation” (Eardley et al., 2008).

Based on the knowledge gaps identified in academic literature and issues identified (mainly as to whether BPR can be implemented alone and results in success in all sectors and industries) from the Business Process reengineering theory and practice, research context and relevant questions have been defined. Subsequently, a preliminary reading on selected aspects of the research context in the financial sector in Ethiopia has been conducted, which has led to the formulation of the research scope, and more clear and precise research questions and sub-questions.

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Based on the research questions, research objectives and hypotheses that appear in chapter one as well as the literature review and conceptual framework in chapter two, the research gap is as follows:

The Ethiopian public (government owned) institutions including the public financial institutions have been embarking on large-scale change projects since 2004 in which

Business process re-engineering (BPR) is a central element. BPR was chosen by the government of Ethiopia as a reform tool to be used in the public sector following the national survey result which revealed the problems of hierarchical bureaucracy with many non-value adding works/staffs/positions, and nepotism. Furthermore, the study indicated that the services delivered by the public institutions were characterized by: Long time taking; costly (high transaction cost); incompetence (not up to the needs of customers); not responsive (many complaints, questions, comments etcetera from customers but no response); and not dynamic (the world is changing but our public institutions are stagnant).

Given the fact that the Ethiopian public sector warranted to instrument BPR throughout the sector, despite the benefits of BPR as well as the mixed successes achieved with BPR due to poor implementation generally in recent decades, and taking into account the risk and high costs associated with implementation failure, this study aimed to assess the BPR project effectiveness and identify the critical success factors, and consequently recommend ways of enhancing BPR implementation in the Ethiopian commercial banks in the context of an emerging economy.

The literature has supported that Organizational performance can be measured using two approaches, judgmental and objective. These measures are widely used in the literature to measure organizational performance (Jaworski and Kohli, 1993).

The judgmental approach to organizational performance measures the overall performance of organizations as assessed by organizational members and customers. Therefore, the judgemental approach and objective indicators of measuring the effect of BPR on the operational performance of the banks was found to be appropriate. In the following chapter, the researcher will discuss how the research problem was investigated scientifically.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

In this chapter, the research design and methodology that were followed to answer the main research question and sub questions of the study are discussed in detail. The chapter outlines the research process and procedures, and also explains the type, approach and strategy applied in the research. Sample selection, specific methods of data collection, analysis, reliability and validity as well as ethical issues of the study are also discussed.

3.2 Research design

Research design is regarded as (Phillips, 1971):

The blueprint for the collection, measurement, and analysis of data aids the scientist in the allocation of his limited resources by posing crucial choices; is the blueprint to include experiments, interviews, observation, and the analysis of records, simulation, or some combination of theses? Are the methods of data collection and the research situation to be highly structured? Is an intensive study of a small sample more effective than a less intensive study of a large sample? Should the analysis be primarily quantitative or qualitative?

In general, research design can be understood as a blueprint showing the arrangement of conditions for the collection, measurement and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure (Gable, 1994; Judd et al.1991; Phillips, 1971). In other words, research design involves all the methods, techniques and procedures used to execute the research project.

The selection of an appropriate research design and method is critical to the success of any research project, and must be driven by the research problem or question and the state of knowledge in the area being studied. Hence, the researcher needs to take into account all of these aspects to choose a research design in order to reach a valid and reliable conclusion about the research question posed.

The research strategy that was used in this study is the multiple-case study design. A case study is ‘’an empirical enquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident’’ and it relies on multiple sources of evidence (Yin, 1994, p.13). A case-study approach was chosen since it has a distinct advantage in situations when ‘how’ or ‘why’ questions are asked about a contemporary set of events over which the investigator has little or no control (Yin, 2003). Through case study methods, a researcher is able to go beyond the quantitative statistical results and understand the behavioral conditions through the actor’s perspective. By

including both quantitative and qualitative data, a case study helps to explain both the process and outcome of a phenomenon through complete observation, reconstruction and analysis of the cases under investigation (Tellis, 1997).

Past literature reveals the application of the case study approach in many areas and disciplines. Among them include natural examples in the fields of Sociology (Grassel and Schirmer, 2006), Law (Lovell, 2006) and Medicine (Taylor and Berridge, 2006). In addition, there are also other areas that have used case study methods extensively, particularly in government, management and in education. For instance, there are studies conducted to ascertain whether particular government programmes are efficient or whether the goals of a particular programme are reached.

The multiple-case design, on the other hand, can be adopted to study real-life events that show numerous sources of evidence through replication rather than sampling logic. According to Yin (1994), generalisation of results from case studies, from either single or multiple designs, is based on theory rather than on populations. By replicating the case through pattern-matching, a technique linking several pieces of information from the same case to some theoretical proposition (Campbell, 1975), multiple-case design enhances and supports the previous results. This helps to raise the level of confidence in the robustness of the method.

In this study, the BPR project implementation and performance gains in two case organisations (public commercial banks) in Ethiopia were investigated thoroughly. Case studies typically combine data collection techniques such as interviews, observation, questionnaires, and document and text analysis. Both qualitative data collection and analysis methods (which are concerned with words and meanings) and quantitative methods (concerned with numbers and measurement) may be used (Yin, 1994, p.14). Case study research may adopt single-case or multiple-case designs. A single-case study is appropriate where it represents a critical case (it meets all the necessary conditions for testing a theory), where it is an extreme or unique case, or where it is revelatory case (Yin, 19994, p.38). Multiple-case designs allow cross-case analysis and comparison, and the investigation of a particular phenomenon in diverse settings. Multiple cases may also be selected to predict similar results (lateral replication) or to produce contrasting results for predictable reasons (theoretical replication) (Yin, 1994, p.46). Multiple cases strengthen study results by replicating the pattern-matching, thus increasing confidence in the robustness of the theory. Yin (1994, p.50) suggests that more replications give greater certainty.

This study used a multiple case study (two cases) and underlined the complexity of the topic under investigation and developed the empirical evidence to support and sharpen the BPR theory in the banking sector.

3.3 Research Approach

There are three main approaches to research design. These approaches are quantitative, qualitative and mixed methods strategies. The choice depends on the general orientation of the researcher about the world “worldview” and the nature of research (Creswell, 2009, p.60). Creswell (2009) describes the four worldviews that influence the selection as post positivism, constructivism, advocacy/participatory, and pragmatism. These will not be discussed here for brevity.

3.3.1 Quantitative research

Quantitative research involves gathering data that is absolute, such as numerical data, so that it can be examined in unbiased manner as much as possible. This type of research is more structured and is based on the measurement of quantity or amount (Castellan, 2010, p.2; Creswell, 2009; Kotler and Kettler, 2006, p.107). The quantitative research method has the following advantages:

- The results could be statistically reliable
- Has precision, is definitive and standardised;
- Provides estimate of population at large;
- Allows for statistical comparison between various groups;
- Provides results that can be condensed to statistics;
- Indicates the extensiveness of attitudes held by people;
- It is relatively cheaper to collect data using quantitative approach compared to qualitative as responses are already coded;

- Depending on the complexity of the questionnaire used, processing of the data is easier.

On the other hand, there are disadvantages of using the quantitative approach. Among these disadvantages are focused at testing hypotheses at the expense of better understanding of the phenomena; and generalization of abstract knowledge which may be difficult to apply in real life situations (Kotler and Keller, 2006, p.108).

3.3.2 Qualitative research

According to Denzin and Lincoln (2000, p.4), qualitative refers to the emphasis on processes and meanings that are not rigorously examined or measured (if measured at all) in terms of quantity, amount, intensity or frequency. Accordingly, the aim of qualitative research is to establish socially constructed nature of reality. Qualitative research is a much more subjective form of research in which it is unstructured measurement technique that allows a wide range of possible responses (Kottler and Keller, 2006, p.107).

Qualitative research has the following advantages (Kotler and Keller, 2006, p.98):

- Using subjective information;
- Exploring new areas of research;
- In-depth examination of phenomena;
- Dealing with value-laden questions;

- Examining complex questions that can be impossible with quantitative methods;
- Giving valuable insights which might be missed by quantitative approach
- Building new theories.

Therefore, the qualitative approach is used to investigate a phenomenon in depth while the quantitative approach is used to test hypotheses and make a study more objective. Due to the limitation of each approach the mixed method that use both the quantitative and qualitative approaches, where both approaches triangulate to support each other in an integrated framework (Creswell, 2009) was used in this study as discussed below.

3.3.3 Mixed Method

Mixed method research is defined as the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or languages into a single study. Mixed method designs are similar to conducting a quantitative mini-study and a qualitative mini-study in one overall research study. To use a mixed-method design, the researcher must make two primary decisions: (a) whether one wants to operate largely within one dominant paradigm or not, and (b) Whether one wants to conduct the phases concurrently or sequentially (Johnson and Onwuegbuzie, 2004). Nonetheless, to be considered a mixed-method design, the findings must be mixed or integrated at some point. For

example, a qualitative phase might be conducted to inform a quantitative phase, sequentially, or if the quantitative and qualitative phases are undertaken concurrently the findings must, at a minimum, be integrated during the interpretation of the findings.

There is a lot of support for the view that a combination of research methods (multiple methods, e.g. triangulation techniques) is most effective in achieving a particular research objective. The researcher of this study also correspondingly argues for a research methodology that incorporates multiple methods (different instruments within one method) and mixed methods (triangulation). Hence, this research followed the mixed methods design. What is most fundamental to justify the use of mixed method in this research study is the research question. It is well understood that research methods follow the research question in a way that offers the best option to obtain useful answers. The research questions of this study required the use of both quantitative and qualitative data as the research was explanatory in nature and made an assessment of quantified results and answered the how and why questions of the results. This case study research was predominantly a quantitative research and qualitative method was used to supplement and explain the obtained quantitative results.

Creswell (2009) stated that mixed method uses the qualitative and quantitative approaches either concurrently, sequentially or transformative (where the researcher

uses either the concurrent or sequential approach depending on the theoretical lens). In this study, therefore, a sequential explanatory mixed method approach was used – where the collection and analysis of quantitative data (questionnaire) were followed by the collection and analysis of qualitative data using an interview schedule, in-depth interviews and personal observation as well as content analysis of the company documents. During the first phase of the research, quantitative data collection and analysis were done. These were followed immediately by qualitative data collection and analysis. Then, the quantitative and qualitative data results were integrated during interpretation.

3.4 Sources and Types of Data Collected

The major research question informs the selection of the level and scope of the unit of analysis, suggesting ‘’where one goes to get answers, with whom one talks, what one observes’’ (Milles and Huber man, 1994, p.43). The unit of analysis may be an individual, group, an organisation, or it may be an event or some other phenomenon. It is related to the way the major research question is initially defined and is likely to be at the level being addressed by the question (Yin, 1994, p.21). In this study, the primary unit of analysis was, therefore, a case bank under investigation in the Ethiopian public commercial bank sector. Multiple data sources were considered by the researcher to collect data from relevant stakeholders. Denzin (2000) stated that data source triangulation occurs when the researcher looks for the data to remain the same in different contexts. This therefore, made this research to use multiple data triangulation. The secondary unit of analysis was the BPR project

implementation. In general, there are two kinds of data sources available to do research, primary and secondary data sources. Primary data denote data collected from scratch for use in the project under research. Secondary data are data that have already been collected, although not necessarily for that purpose.

The type of data used in this study was both quantitative and qualitative data and was obtained both from primary and secondary sources. The primary sources of data involved the use of a semi-structured questionnaire (including both closed ended and open ended questions) that was designed by considering expert views on business process re-engineering and administered to customers, employees, and management group of the respective case banks. The semi-structured questionnaire was administered by well-trained data interviewers. Three different types of questionnaire were prepared to be used to collect data from the different respondent groups and were divided into different sections. The first section of the questionnaire focused on the demographic characteristics of the respondents and the context of the bank, while the other section asked from the sampled respondents their views or perceptions on the effects of BPR on the operational performance of the banks or changes brought about as a result of implementing business process reengineering (BPR).

The study further employed in-depth personal interviews (and used an interview schedule) to obtain additional in-depth information from key informants on the

specific areas that the questionnaire instrument could not cover or give detailed explanation. Individual interviews with the key informants were made with core processes (Departments) owners as well as members of the reform team of the respective banks. Direct personal observation of the branches' operation was also done to look at the actual services provided to customers to measure the average waiting time of customers to get banking services. In addition, a review of BPR study documents and implementation plan of BPR of the respective banks was done by the researcher. All these methods of data collection were used to collect primary data for the study on the BPR status in the banks. The secondary data was extracted from the company's financial statements, annual reports, journals, research books and other relevant publications.

3.5. Target population, sample and sampling methods

A population can be defined as the complete set of elements or entities under investigation. A population refers to the group of individuals, organizations or events that a researcher is interested in making an investigation (Kazeeorani, 2001:996). The context of this case study was the Ethiopian public banking Sector and therefore all public banks in Ethiopia formed the target population for the study. A sample is defined as any subset taken from the population (that is a sample is simply a subset of the population).

Sampling Design

The study covered both commercial banks owned by the government in Ethiopia. To select the branches of the banks, the National bank of Ethiopia report was used which details the profile of the bank branches.

This study used multi stage sampling. The study sample was composed of a heterogeneous group, both from the head offices and respective branches, which included all the different stakeholders of the respective banks (i.e., customers, employees, BPR team members, and management). These different groups (stakeholders) were targeted for collecting empirical evidence about the effects of the BPR change programme in the two banks.

The numbers of branches of the case banks both in the city (Addis Ababa) and outside Addis Ababa (in regions) and their branch classifications were obtained together with their years of establishment. Hence, branches established before the implementation of BPR were targeted as the purpose of the study was to find out the effects of implementing BPR in the respective banks.

Even though, all the branches of the public banks operating in the country were targeted it was not practically possible to include all the branches scattered all over the country in the study due to practicality and resource implications of the researcher. Therefore, the researcher had to classify the bank branches by territory

(as also classified by the banks themselves), that is, located in Addis Ababa (the capital city) and its suburbs and outside or located in regional states. The study included randomly sample branches established before the implementation of BPR in the respective banks in Addis Ababa for the following reasons: First, the capital city is both the political and business centre. Preliminary interviews with key informants of the banks showed that about 80% of the banking transaction (mobilising savings and credit extension) takes place in the city branches of the banks. Second, banking packages characteristics (banking activities) are similar but we find more comprehensive packages (additional packages like “letter of credit” and import export guarantee) in the capital city bank branches than in regions. This justifies targeting branches in the capital city and its suburbs to study the whole core activities of the banks.

The process of drawing samples from clusters is called sub sampling. The bank were classified into 4 strata (grading or classification level ,from highest to lowest level with number as 4, 3, 2, and 1) based on the volume of transaction, number of customers, number of staff members, location of the branch, and service packages (variety of banking products). This classification (grading) divides bank branches into homogeneous groups (i.e., identified by grading).

The researcher used ten per cent of the total branches of the selected banks, among those established before the implementation of BPR, in and around the capital city in the study. Accordingly, 17 branches and their respective head offices were included

in the study. The branches were chosen using the proportional stratified sampling (PSS) technique from each grade and randomly picked using the stratified sampling method from each category. The sub sampling of respondents (i.e., customers, employees, and branch managers) from the selected branches under each category again was selected using proportional to size stratified sampling (PSS). The customer respondents were randomly picked from the respective branch list of customers of each branch and distributed by hand and collected by the respective data enumerator's, assigned for each branch. All those customers were the client of the branch before and after the implementation of BPR. The same approach was followed for the employees and management team of the respective banks. The interview was made with key informants. For the quantitative phase of the study, to determine the sample size of the respondents (i.e., customers, employees and branch managers) the following formula was used:

Sample Size

The sample size was calculated using the intermediate computational formula:

$n = \frac{n_0}{1+n_0/N}$ where n_0 is given by $n_0 = \frac{t^2 pq}{e^2}$ provided that p indicates the maximum variability (i.e. p=0.5), t^2 representing the squared value of tabulated t-value for a given amount of confidence level and 'e' indicating the tolerable error margin (precision level) amounting 5% (or 0.05).

It is recommended by Cochran, that the above formula for sample size computation still generates an optimum sample size for most social researches. The following table 3.1 shows the required sample size that was used in the study, assuming the 95% confidence interval.

Table 3. 1

Sample size determination

	Population and Sample required		Allocating the Sample size proportionally					
Key Respondents	Population (Addis Ababa)	Sample Size.	CBE		CBB		Total returned	
			Sample	Collected	Sample	Collected	Collected	%
Staff(employee)	6,669	385	302	281	48	45	326	84.5%
Customer	1,589,744	385	357	300	28	28	328	85.19%
Management	581	237	192	143	32	19	162	68.35%

For the qualitative phase of the study, purposive sampling was used to select the key informants from each bank.

3.6 Data Collection Methods

There are a number of stages involved in the production of a research document. One of these is a good methodological approach using appropriate data collection techniques (Aderinto, 2007). The specific methods and techniques of data collection that were used in this study are described in the following sub-section.

3.6.1 Quantitative Data Collection

The quantitative data was mainly collected by using a semi-structured questionnaire. A questionnaire is considered to be one of the most appropriate data collection instruments for survey research (Askia, 1999). Hence a semi-structured questionnaire, which consisted of both open- and closed-ended questions, was used in this study. The survey instrument was developed on a Likert scale. Many previous studies have found that the scale between five to seven points is more reliable and valid than the shorter or longer scales (Krosnick and Fabrigar, 1997).

According to Cooper and Schindler(2004:228) many attitudinal scales are presumed to be interval. It has been also supported by Meyers,Gamst and Guarino(2006:20) that a summative response scale requires respondents to assign values to entities based on an underlying continuum defined by the anchors on the scale. The numbers are ordered, typically in an ascending way, to reflect more of the property being rated. In this study, a seven point's scale was used for the quantitative data collection in which respondents were asked to give their level of agreement for each statement in the questionnaire.

The quantitative data was collected from randomly selected respondents from management, customers and employees located in the respective banks' head offices and branches. The questionnaires were distributed by specially trained enumerators and an in-depth interview was made by the researcher. As already mentioned above, the questionnaire was divided into different sections. The first section of the questionnaire dwelt on the demographic characteristics of the respondents as well as on the context and characteristics of the banks, while the other sections asked from the sampled respondents their views or opinions on the effects of business process reengineering on the banks' performance.

Both the questionnaire and interview schedule were preliminary tested by distributing them to colleagues who understood the subject matter and had the research skills. These gave the researcher a feedback on the construction of the measurement instruments and content of question items. After that, the measurement tools were pilot tested on randomly selected respondents from the target population, who were finally excluded from the main study. Furthermore, the instruments were given to language editors for editorial work including checking the construction of the questions. The instruments were prepared in English and translated into the local language to help the data interviewers to translate the questions to customer respondents correctly. The employee and management group respondents'

questionnaires, however, were used in English as the respondents were assumed to understand the English language well.

3.6.2 Qualitative Data Collection

The qualitative data was collected by using in-depth personal interviews, responses from the interview schedule, observation and reviewing company documents including reports.

i) **In-depth interviews**: At each branch of the selected case banks and head office, data from eight key informants (individuals currently appointed as managers of core processes of the bank who served as ex- members of the reform team, during the design of BPR) was collected primarily through interviews. All interviews were recorded on a note book (they were not willing to be tape recorded), transcribed immediately and checked for accuracy with the respondents. This insured validity of data. These interviews were conducted after the collection and analysis of the quantitative data during the quantitative phase of the study. Therefore, in-depth interviews focused on finding explanations of the quantitative results; overall assessment of the effectiveness and challenges of BPR at their respective processes; and on the overall effect of BPR on the operational performance of the banks by comparing the study results to the anticipated results.

ii) **Observation**: The other instrument that was used to collect qualitative data was non-participative observation by the researcher himself to investigate service

delivery. The researcher collected data on the branch layout and situation of the waiting places for customers. He also measured the waiting time of each customer to get the service required. This was done on randomly selected branches of the banks for five consecutive days. The researcher used a pre-prepared protocol or checklist in order to observe the workflow and measure the time taken from arrival to departure of a customer, after getting a service.

iii) Interview schedule. The experiences and opinions of the respondents were also captured to cross-check the results that had been obtained from the semi-structured questionnaire during the quantitative phase of the study. This instrument also helped to get the respondents' perceptions on the benefits and challenges of the BPR implementation.

3.7 Data analysis Strategies

"Data analysis consists of examining, categorizing, tabulating, or otherwise recombining the evidence to address the initial propositions of a study" (Yin, 1994). There are several key features of analysis that can be identified.Two main stages of analysis are recommended for a multiple case study research of this type, that is, within-case analysis and cross case analysis (Eisenhardt, 1989; Yin, 2003).

i) *Within-case analysis* entails analyzing the collected qualitative and quantitative data of each case study independently after which the researcher concludes the

findings about the research issues for each individual case. Yin (2003, p.111) described three main analytic strategies for within-case study analysis:

1. Relying on the theoretical propositions of the research;
2. Defining and testing rival or contrasting explanations and
3. Developing a detailed description or report for each single case study. Further, Yin (2003) identified the pattern matching technique as one of the most desirable analytic techniques to be used in within-case analysis. The technique entails comparing empirically based patterns with expected or predicted one.

ii) *cross-case analysis.* The second suggested stage of data analysis in multiple case study research relates to which implies searching for cross-case patterns. Eisenhardt (1989, p.540) suggested three major cross-case analytic strategies. The first is to categorise cases based on certain dimensions and then search for similarities and differences among the group of cases. The second is to choose two cases and list the similarities and differences between them. The final strategy is to break up the data by data source such that as one researcher works on the interview data, the other one reviews the questionnaire data.

Hence, both the recommended analysis stages, within-case and cross-case analyses, were carried out in analysing the data (quantitative and qualitative) of the current research. Further, pattern or theme matching was used to compare, within

cases, emerged themes with pre coded themes derived from the Business process reengineering (BPR) literature. In cross-case analysis, categorising the case studies based on the type of bank was followed by searching for similarities and differences among these categories and adopting, as an analytic strategy, cross-case analysis.

3.7.1 Quantitative Data Analysis Strategy

In this study, a semi-structured questionnaire was used to collect quantitative data. The data was analysed by using simple percentage analysis and averages, Chi-square test, t tests as well as logistic regression analysis. Frequency tables and graphs were used to summarize and give a clear view of the distribution of the responses given by the respondents to each question in the questionnaire. SPSS version 20 was used in the computing of the quantitative data.

i. T-test

The t-test was used to address the following two specific objectives:

To evaluate the performance gains from BPR implementation in improving operational efficiency (in terms of service quality improvement, and cycle time and process cost reduction) of the banks.

To find out the extent to which BPR has achieved the expected performance gains and helped public banks to become innovative, diversify their products and services

and become easily accessible to customers, and consequently test the following null hypotheses:

Hypothesis 1: Customer satisfaction is not affected by BPR implementation.

Hypothesis 2: Service quality dimensions (i.e., reliability, tangibles, assurance, empathy, and responsiveness) are not affected by BPR implementation

Hypothesis 3: BPR does not reduce operating costs in the bank operation.

Hypothesis 4: BPR does not improve the speed of service delivery in the banks operation.

The t-test (also called the Student's t-test) is one of many statistical significance tests, which compares two supposedly equal sets of data to see if they really are alike or not. The t-test helps the researcher conclude whether a hypothesis is supported or not. The significance test is the process used, by researchers, to determine whether the null hypothesis is rejected, in favour of the alternative research hypothesis, or not. The test involves comparing the observed values with theorised values. The tests establish whether there is a relationship between the variables, or whether pure chance could produce the observed results.

*Steps of t-*test

Hypothesis testing using the *t* distribution

Hypothesis testing is done as for the standard normal distribution.

Step 1

Define H_0 and H_1.

Step 2

Define the probability (α), the degrees of freedom (ν), the acceptance region A, and the rejection region *R*.

$$A = \{t | -t_\alpha < t < t_\alpha ; \nu\}$$

$$R = \{t | t \leq -t_\alpha ; \nu \text{ or } t \geq t_\alpha ; \nu\}$$

Step 3

Calculate

$t = \frac{\bar{x} - \mu}{s_{\bar{x}}}$ with ν d.f.

Step 4

If $t \in R$ reject H_0

If $t \in A$ accept H_0

Statistically significant results

Statistically significant results are those that are interpreted as not likely to have occurred purely by chance and thereby have other underlying causes for their occurrence. Whenever a statistical analysis is performed and results interpreted,

there is always a finite chance that the results are purely by chance. This is an inherent limitation of any statistical analysis and cannot be done away with. Also, mistakes such as measurement errors may cause the researcher to misinterpret the results. However, the probability that the process was simply a chance encounter can be calculated, and a minimum threshold of statistical significance can be set. If the results are obtained such that the probability that they are simply a chance process is less than this threshold of significance, then we can say the results are not due to chance.

Common statistically significant levels are 10%, 5%, 1%, etcetera. In terms of null hypothesis, the concept of statistical significance can be understood to be the minimum level at which the null hypothesis can be rejected. This means if the researcher sets his statistical level of significance at 5% and the probability that the results are a chance process is 3%, and then the researcher can claim that the null hypothesis can be rejected. In this case, the researcher will call his or her results to be statistically significant. The lower the level of significance, the higher the confidence level. While determining significant results statistically, it is important to note that it is impossible to use statistics to prove that the difference in levels of two parameters is zero. This means that the results of a significant analysis should not be interpreted as meaning there was no difference. The only thing that the statistical analysis can state is that the study failed to find any difference.

Respondents were asked to indicate the extent to which they agreed or disagreed with the current service level of the bank branch) by ticking on only one number option on the 7 point-scale for each of the items or statements, by comparing it to the pre-BPR implementation service quality level, on a table (where 7 = agree completely; 6 = strongly agree; 5 = somewhat agree; 4 = neither agree nor disagree; 3 = somewhat disagree; 2 = somewhat disagree; and 1 = disagree completely.

For customer satisfaction, for example, they were asked to indicate the extent to which they were satisfied or dissatisfied with the bank services by ticking on only one number option (on the 7 point-scale) for each of the 10 items or statements (from highest (7) to lowest (1)), by comparing the **current service level** of this bank to the **pre-BPR implementation** service level (where 7 = completely satisfied; 6 = very satisfied; 5 = somewhat satisfied; 4 = neutral; 3 = somewhat dissatisfied; 2 = very dissatisfied ; and 1 = completely dissatisfied).

The one-sample t-test was used, in which case “4” (neither agree nor disagree in the case of service delivery and neutral in the case of customer satisfaction). The scores given by the respondents on the items (on the scale) were added together and the sum was divided by the total number of the items which was for example 10 in the case of customer satisfaction to obtain a mean value. This mean value was then compared with the test value of 4 to find out whether the difference was statistically significantly different from zero (0) or not. If for example, the mean value of the scores was less than 4 and the difference between this mean value and 4 was

statistically significantly different from zero, then it would mean that on average, the respondents were dissatisfied with the current bank services. The interpretation of this result would be that in general, customers were not satisfied with the current bank services - which would imply that BPR implementation did not produce or is not producing the expected results, and therefore something should be done about it. The critical failure factors would be identified to give recommendations or policy implications. On the other hand, if the mean value of the scores was higher than 4 and the difference between this mean value and 4 was statistically significantly different from zero, and then it would mean that on average, the respondents were satisfied with the current bank services. The interpretation of this result would be that in general, customers were satisfied with the current bank services - which would imply that BPR implementation did produce or is producing the expected results, and then the critical success factors would be identified to give recommendations or policy implications.

ii. Chi-square test

The chi-square test was used to test for associations between service quality dimensions (i.e., reliability, responsiveness, assurance, empathy and tangible) and customer satisfaction after BPR was implemented. This was done to try to address the following specific objectives:

- To identify the critical success factors for implementing BPR in the public banks of Ethiopia.

- To identify the challenges of implementing BPR in the public commercial banks of Ethiopia.

Pearson's chi-square test is the best-known of several chi-square tests – statistical procedures whose results are evaluated by reference to the chi-square distribution. It tests a null hypothesis stating that the frequency distribution of certain events observed in a sample is consistent with a particular theoretical distribution. The events considered must be mutually exclusive and have total probability 1. A common case for this is where each of the events covers an outcome of a categorical variable. Pearson's chi-square is used to assess two types of comparison: tests of goodness of fit and tests of independence. A test of goodness of fit establishes whether or not an observed frequency distribution differs from a theoretical distribution.

A test of independence assesses whether paired observations on two variables, expressed in a contingency table, are independent of each other – for example, whether people from different regions differ in the frequency with which they report that they support a political candidate.

The first step in the chi-square test is to calculate the chi-square statistic. The chi-square statistic is calculated by finding the difference between each observed and theoretical frequency for each possible outcome, squaring them, dividing each by the

theoretical frequency, and taking the sum of the results. A second important part of determining the test statistic is to define the degrees of freedom of the test, that is, the number of observed frequencies adjusted for the effect of using some of those observations to define the theoretical frequencies.

Calculating the test-statistic

The value of the test-statistic is

$$\mathrm{X}^2 = \sum_{i=1}^{n} \frac{(O_i - E_i)^2}{E_i}$$

Where

X^2 = Pearson's cumulative test statistic, which asymptotically approaches a χ^2 distribution

O_i = an observed frequency

E_i = an expected (theoretical) frequency, asserted by the null hypothesis

n = the number of cells in the table

iii. Logistic Regression

Logistic regression modeling was also used to address the following specific objective:

"To identify the critical success factors for implementing BPR in the public banks of Ethiopia", and to test the following hypothesis:

“Service quality dimensions (i.e., reliability, tangibles, assurance, empathy, and responsiveness) are not affected by BPR implementation”. Customer satisfaction was the dependent variable.

The logistic function

The logistic function is normally applied to identify the underlying factors of a categorical variable. The logistic curve (figure 3.1) is usually used to model a categorical or binary dependent variables coded 0 or 1 because (unlike the linear regression function) the logistic function is bounded by 0 and 1.

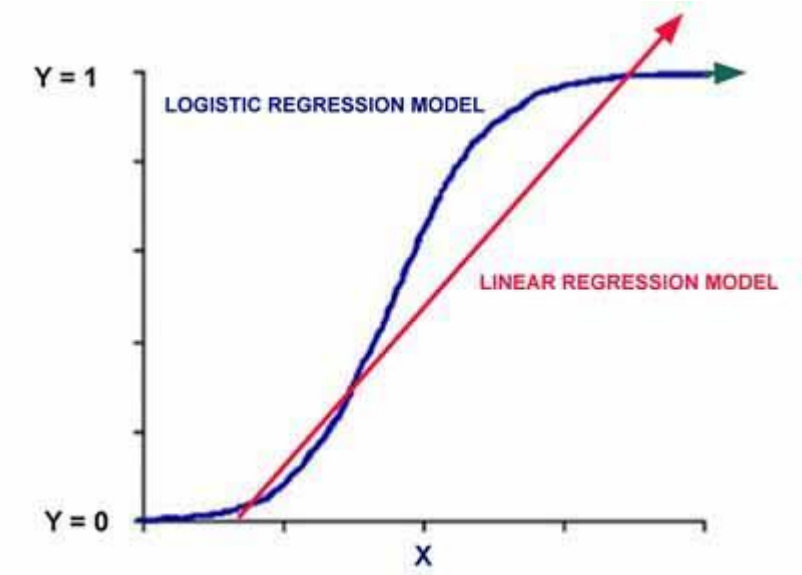

Figure 3.1: Logistic curve

The logistic function is used to predict the probability of an event, which is a particular value of y, the dependent variable. Let π_i be the probability that an individual *i* will migrate. We can model this probability in terms of the *log odds* of migration, called the *logit,*

$$\log it(\pi_i) = \log\left(\frac{\pi_i}{1-\pi_i}\right) \qquad (1)$$

The *logistic regression model* fits the log odds by a linear function of the independent variables (or the factors that affect migration, the event).

$$\log it(\pi_i) = \alpha + x_{i1}\beta_1 + ... + x_{ij}\beta_j + ... + x_{ip}\beta_p \qquad (2)$$

Where α is the intercept and β_j is the regression coefficient associated with the independent variable x_j and the effect of x_j on the log odds (migrating).The odds ratio for a given continuous independent variable represents the value by which the odds (migrating) change for a one-unit change in the independent variable, holding other variables constant.

Logistic coefficients vary between plus and minus infinity, with 0 indicating that the given independent variable does not affect the logit (that is, it makes no difference in the probability of the migration equalling 1). If β is positive (or negative), then as the dichotomous independent variable moves from 0 to 1, the log odds (logit) of migrating increases (or decreases) and also the corresponding odds ratio Exp(β) also increases (or decreases).

Technically, by default the event is y = 1 for a binary dependent coded 0, 1, and the reference category is 0. Exp (logit(migration)) is the odds ratio for migration, being the odds that migration equals 1 rather than 0. Thus for a one-independent model, logit (migrating) would equal the constant (i.e., α) plus the coefficient of x_1 times the

value of x_1, when predicting odds(migrating) for persons with a particular value of x_1, by default the value "1" for the binary case. If x_1 is a binary (0,1) variable, then log odds equals the constant for the "0" group on x_1 and equals the constant plus the β coefficient for the "1" group.

To convert the log odds back into an odds ratio, the natural logarithmic base e is raised to the log odd*th* power and in this case, the value of migration is 1 rather than 0. For a model with additional independent variables, log odds is the constant plus the crossproducts of the coefficients of x times the values of the *x* (independent) variables.

The inverse transformation of (1) and (2) is the logistic function,

$$\pi = \frac{\exp(\alpha + x'_i\beta)}{1+\exp(\alpha + x'_i\beta)} \qquad (4)$$

Which gives predicted probabilities, or

$$\pi = \frac{1}{1+\exp(-\alpha - x'_i\beta)}$$

With this functional form:

If you let $\alpha + x'_j\beta$ =0, then π = .50 as $\alpha + x'_j\beta$ gets really big, π approaches 1 as $\alpha + x'_j\beta$ gets really small, π approaches 0.

Instead of the slope coefficients (β) being the rate of change in Y (the dependent variables) as X changes (as in the OLS regression), the slope coefficient is interpreted as the rate of change in the "log odds" as X changes. To have a more intuitive "marginal effect" of a continuous independent variable on the probability, we compute $d\pi/d\beta = f(\beta X)\ \beta$

Where $f(.)$ is the density function of the cumulative probability distribution function [$F(\beta X)$, which ranges from 0 to 1]. The marginal effects depend on the values of the independent variables, so, it is often useful to evaluate the marginal effects at the means of the independent variables.

The researcher used factor analysis andprincipal components analysis (PCA) with the Varimax rotation method to analyze the underlying structure of the inter-relationships among the variables into a set of common dimensions and to check or assess the validity of the measurement instrument.

The analysis of the multiple case study was based on the comparisons between the empirical evidence and the theoretical proposition developed at the initial stages of the study. This required detailed case study write-ups for each case. The aim was to become intimately familiar with each case as a stand-alone entity. This process helped to understand the unique emerging patterns of each case before pushing towards generalized patterns across cases. In addition, this helped to get a rich familiarity with each case which, in turn, benefited for accelerating cross-case comparisons.

The cross-case analysis in the study followed the process that Yin (1994) calls replication logic or pattern matching, similar to that used in multiple-experiments. There is agreement in the literature that a case study is a ``bounded system'' where all facts and measurements are interconnected with each other. Therefore, each individual case study consists of a ``whole'' study that has to be able to stand alone in its own right (Yin, 1994) and in the cross-case analysis an explanation building approach is adopted (complementary to the pattern matching approach). The explanation building approach is similar to pattern matching, but the aim is to analyze the data by building an explanation about the case.

Based on this theoretical background, the researcher used both pattern-matching and explanation-building analytic techniques for this study. The results of this study are presented in a way that includes a detailed description of procedures and the results derived from the statistical tests. These results are presented not exclusively as statistical results, but with accompanying explanations of the meaning of those test results. In that way both the technical requirements and the informational needs are met. The researcher has a strong belief in that as there are many private banks that are about on the same level of operation with the case banks in the country, by applying the case study to this type of sector, the analytic generalizations could be informative to the private banking firms as well.

The study also used the sequential triangulation mixed method approach in which quantitative and qualitative data analyses for each case bank were used independently. This was followed by comparing and contrasting the data results across the cases, and finally synthesising or integrating the results.

3.7.2 Qualitative Data Analysis Strategy

Overall, qualitative data analysis refers to the large volume of words obtained by in-depth interviews, interview schedule or observations which require describing and summarising. Subsequently the researcher has to look for relationships between various themes that have emerged throughout the analysis process so as to answer the research questions (Lacey and Luff, 2001).

Miles and Huberman (1994) proposed a three-phase qualitative data analysis methodology which can be applied to within and cross-case analyses of the qualitative data in multiple case study research of this type. This methodology involves the following phases: data reduction; data display, conclusion drawing and verification.

i) Data reduction refers to the course of selecting, focusing, simplifying, summarizing and converting the data of written field notes. As a major element of this phase, the data requires summarizing and coding, and finally categories and themes created in accordance with the predetermined research questions.

ii) *Data display* as a second phase entails presenting the reduced data in an organized and understandable shape to allow the researcher to reach conclusions about research issues. Word or diagrammatic forms such as flow charts, tables and other graphics can be used to assemble and systematize the information. In addition, a matrix can be applied for analyzing the patterns of responses to the research questions.

iii) *Conclusion drawing and verification* also known as the interpretation phase implies giving meaning and sense to the analysed data through searching for a descriptive pattern in the data.

Data recordings from the in-depth interviews and the interview schedule as well as observation results were transcribed systematically for each question and thematic analysis was used to analyse the qualitative data. The responses were grouped into mutually exclusive themes and a coding frame was devised. This coding frame was used to code all the qualitative data and to assess themes that were either common or contrasting across the groups and case banks.

3.8. Validity and Reliability Issues

Ascertaining rigour is an indispensable component of all research in general and of case study research in particular (Miles and Huberman, 1984, 1994; Yin 2003).

Therefore, the researcher complied with the established criteria and performed logical assessment during the case study - research, that is, during data collection and data analysis, to ensure the quality of research and make it credible for the scientific community. The researcher gave due care to both validity and reliability issues of the data, the research process in general as well as the research output. Case study design is known as a triangulated research strategy. The need for triangulation arises from the ethical need to confirm the validity of the processes involved. In case studies, this could be done by using multiple sources of data (Yin, 1984). Triangulation increases the reliability of the data and the process of gathering it. In the context of data collection, triangulation serves to corroborate the data gathered from other sources.

In terms of measurement procedures, validity is the ability of an instrument to measure what it was designed to measure. ‘Validity is defined as the degree to which the researcher has measured what he set out to measure' (Kumar, 2005). Validity refers to the accuracy and trustworthiness of data collection instruments, data and findings in the research (Bernard, 2000). There are three main types of validity which require to be evaluated in any research, that is, construct, internal and external validity.

Construct validity refers to establishing correct operational measures for the theoretical concepts being investigated by linking the data collection questions and

measures to research questions and hypotheses (Rowley 2002; Yin 2003). Construct validity in this research was achieved by the use of multiple sources of evidence during data collection and having key informants review the draft case study report at the composition phase. The terms credibility and internal validity are used interchangeably in the literature (Byrne, 2001); they imply that the researcher has to ascertain established relationships between dependent and independent variables (Yin, 2003). Internal validity in this study was tested by doing pattern-matching and explanation building at the data analysis stage of the study. Terms such as generalisation, generalizability, external validity (Yin, 2003), transferability and applicability (Byrne, 2001) are compatibly used in the literature. Overall, generalisation/external validity/transferability refers to the extent to which the research findings can be generalised beyond the immediate case study and applied to other contexts or to other cases of the research entire population (Byrne, 2001; Yin, 2003)

External validity or generalisation was accomplished in the current study by using replication logic in the multiple case design wherein the findings from the selected cases were replicated to the banking sector. Furthermore, to insure external validity the researcher used both a sufficient sample size and applied the proportional probability sampling to Size (PPS) procedure to allocate subsample sizes proportionately to the sizes of the respective respondent groups from the case banks. In addition, content validity was addressed by ensuring that the data

collection instruments (both the questionnaire and interview schedule) were designed very carefully to include all the necessary questions related to the research questions. All the principles of constructing a questionnaire were strictly followed.

The study also employed a variety of qualitative techniques to gather data (multi-method triangulation) including in-depth interviews, semi-structured questionnaire (including the interview schedule) and observations to explore the views of the sample respondents. This ensured good triangulation. The validity of the qualitative data was, therefore, established by following the logic in which the questions were checked and rechecked against the objectives of the study both by the researcher and subject matter experts. In addition, the researcher improved the validity of the instruments by asking a variety of questions and each question was checked for its relevance to the study overall objective. Pre testing of the data collection instruments was also done to increase their validity.

In this study, the survey questionnaires (i.e., one for customers, another for employees and another for managers) were developed by reviewing the literature in similar studies and their reliability and validity were tested using pilot studies. The context was checked by pilot testing (the questionnaires with a few respondents who were automatically excluded from the study sample to make sure that the set of indicators properly indicated the intended variables). Experts from the field of Business process reengineering were consulted to check the questionnaires and

attested to their validity. The actual questionnaires were distributed incorporating feedbacks from the pilot studies.

Factor analysis

Factor analysis is used to study the patterns of the relationships among many dependent variables, with the goal of discovering something about the nature of the independent variables that affect them, even though those independent variables were not measured directly. Thus answers obtained by factor analysis are necessarily more hypothetical and tentative than is true when independent variables are observed directly. The inferred independent variables are called factors. A typical factor analysis suggests answers to four major questions: How many different factors are needed to explain the pattern of relationships among these variables? What is the nature of those factors? How well do the hypothesised factors explain the observed data? How much purely random or unique variance does each observed variable include?

Exploratory factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) are powerful statistical techniques. For the development of a measuring instrument, for example, for a job satisfaction scale or a customer service questionnaire, a research design is developed, questions are written, a scale is determined (e.g., likert scale), the instrument is pilot tested, data is collected, and then a CFA is performed. The design identifies the factor structure or what you think it is. However, some questions

may not measure what you thought they should. If the factor structure is not confirmed, an EFA is the next step. EFA helps you determine what the factor structure looks like according to how participants responded to the questions.

In general, you have to use EFA if you do not have a strong theory about the factor structure. It is reasonable to use an EFA to generate a theory about the constructs underlying your measures and then follow this up with a CFA, but this must be done using separate data sets. You are merely fitting the data (and not testing theoretical constructs) if you put the results of an EFA directly into a CFA on the same data. An acceptable procedure is to perform an EFA on one half of your data, and then test the generality of the extracted factors with a CFA on the second half of the data. If you perform a CFA and get a significant lack of fit, it is perfectly acceptable to follow this up with an EFA to try to locate inconsistencies between the data and your model. However, you should test any modifications you decide to make to your model on the new data.

Traditionally, Exploratory Factor Analysis has been used to explore the possible underlying factor structure of a set of observed or measured variables without imposing a preconceived structure on the outcome (Child, 1990). By performing EFA, the underlying factor structure is identified. CFA is a statistical technique used to verify the factor structure of a set of observed variables. It allows the researcher to test the hypothesis that a relationship between observed variables and their underlying latent constructs exists. The researcher uses knowledge of the theory,

empirical research, or both, postulates the relationship pattern a priori and then tests the hypothesis statistically.

Principal Component Analysis (PCA) is a method that can be used to help investigators represent a large number of relationships among interval-level variables in a simpler way. The method allows the computer to determine which, of a fairly large set of items, "hang together" as a group, or are answered most similarly by the participants.

In this study, principal component analysis was carried out on the items of the measured variables by the questionnaires for both the employees and managers. The central idea of principal component analysis is to reduce the dimensionality of a data set in which there are a large number of inter-related variables, while retaining as much as possible of the variation present in the data set. This reduction is achieved by transforming the variables to a new set of variables, the principal components, which are uncorrelated, and which are ordered so that the first few principal components retain most of the variation present in all the original variables. Computation of the principal components reduces to the solution of an eigenvalue problem for a positive semi-definite symmetric matrix. In this study, eigenvalue and loadings of more than 1 and 0.45 respectively were used. A sample size of more than 350 requires a factor loading of 0.30 to assess statistical significance (Hair et al, 2010). Hence, the minimum requirement for factor analysis was fulfilled.

Reliability also refers to dependability in the literature. It illustrates to which level the instrument is stable and consistent with measuring a concept to allow repeating the same research using the same methods and sample so as to obtain the same results of that previous study (Sekaran, 1984). There are various types of reliability tests; the most common method used in research studies is internal consistency reliability (Litwin, 1995). The Cronbach's coefficient alpha test (which is an index of reliability associated with the variation accounted for by the true score of the "underlying construct.") was conducted to measure the internal consistency of the survey instruments. The issue of reliability was assured by making conclusions only from the gathered data and data being gathered from different stakeholders. The researcher also believes that the triangulation of approaches and techniques helped to make the study more credible. For the quantitative data, the random selection of the sample from the stakeholders, using a good representative sample from the target population and using the right sample size helped to ensure a high reliability of the study.

3.9 Ethical Considerations

Research ethics refers to the way researchers treat both the participants and the information they provide with honesty and respect. For this study, therefore, the researcher did utmost effort to ensure anonymity and confidentiality through trust building and explanation of the importance of the study to the respondents. The discussions held between the researcher and the case banks helped to create a

common understanding of the purpose of the research and how the information given would be managed. The code of ethics (Dawson, 2002) covered among others, the following main issues:

Anonymity

This made sure that the researcher took steps to ensure that what participants had said could not be traced back to them when the final report was produced.

Confidentiality

This again confirmed that information supplied to the researcher during the research process in confidence would not be disclosed directly to third parties. This Issue of confidentiality was applied throughout the organizations (banks).

The *final report*

It was useful for participants (both the individuals and the banks) to know what was going to happen with the results of the study and how they could get or receive a free copy of the final report, and whether it would be on public display or not as per the rule of UNISA. The researcher tried to convince the participants about the potential benefits of the study (including being able to implement their BPR projects better and minimize risks) by taking part in the research. The findings of the research would also be presented in conferences and symposiums so that the results and

experiences would not be buried in shelves. Furthermore, the output could be hosted at the UNISA website and shared worldwide for knowledge transfer.

3.10 summary

This research followed the mixed method approach (involving quantitative and qualitative methods) using the multiple case study design. What is most fundamental to justify the use of mixed method in this research study was the main research question, which required the use of both quantitative and qualitative data as the research was explanatory in nature and had to answer the how and why questions of the quantitative results. The sample design was multistage and targeted different respondent groups, customers, employees and management groups.

CHAPTER FOUR

QUANTITATIVE RESEARCH RESULTS

4.1 Introduction

In line with the mixed method approach adopted for this study, as it has been discussed in chapter 3, the research data was analysed using both the quantitative and qualitative data analysis methods and techniques. This approach was chosen in accordance to the nature of the research question and purpose of the study. The data collected through the survey questionnaires were compared with the data collected using interviews and observation. This helped to get a better response on not only what aspect but also on the why aspect of the banks' operational performance by mixing the quantitative and qualitative methods - to ensure that all the gaps that might have happened would be covered by the data.

Arising from the data collected through the survey questionnaires, interviews and observation, the research results for both public commercial banks in Ethiopia are analysed, compared and presented in this chapter.

The Field Work

4.1.1 Instrument Development and Pilot Testing

The researcher conducted a preliminary pilot testing before the actual survey was administered to identify potential problems in the measurement instrument and to

evaluate the preliminary validity and reliability of the questionnaire. The survey instrument was checked by having five senior instructors(both expatriates and local staff) with research experience and knowledge of the subject matter (BPR) at Addis Ababa university, School of Commerce and ten practitioners from the respective banks who participated as members of the reform teams (BPR teams) of the case banks. These experts gave their verbal and written feedback on the instrument. A common concern was on the format, wording and clarity of the questions. Based on their constructive feedback, some changes were made on the instrument, including the grouping of similar questions together under the same section and simplifying wordings.

Next, the revised instrument was pilot tested with randomly selected thirty customers, thirty employees and randomly selected ten members of the management teams of the case banks. Additional changes involving simplification of wording were made based on the feedback results. The researcher also computed the values of Cronbach's alpha coefficient for the individual scales and found them to be satisfactory.

4.2 Reliability Analysis

A reliability test for each dimension was done before factor analysis was conducted. Cronbach's alpha coefficient is widely used as a measure of checking internal reliability. A value of 0.7 for the Cronbach's alpha coefficient is considered adequate

to ensure reliability of the internal consistency of the questionnaire (Nunnally, 1978). The results are shown in table 4.1.

Table 4.1: Reliability Statistics of the Survey Questionnaire

Questionnaire distributed for	No. of Items	Cronbach's alpha
Customer group	36	.963
Employee group	33	.893
Management group	52	.954

The Cronbach's alpha results as indicated in the above table ranging from 0.893 to 0.963 for the variables (in the questionnaire used for the study) imply that the instrument was reliable. Flynn, Schroeder, and Sakakibara (1994) argued that a Cronbach's alpha of 0.6 and above is considered an effective reliability for judging a scale. The generally agreed lower limit for Cronbach's alpha may decrease to 0.60 in exploratory research (Hair et al., 2010). Hence, the survey instrument used in this study had an excellent reliability as far as internal consistency was concerned. That is, the instrument could give consistent results on the effect of business process reengineering (BPR) factors on organizational performance of public Commercial Banks in Ethiopia.

4.3 Response Rate

The data for this study was collected from the customers, managers and non-managerial staff (i.e., employees) of the public commercial banks in Addis Ababa. The relevant questionnaires were filled in by trained data collectors. Furthermore, an attempt was made to increase the response rate by reminding the management and employee respondents of the survey through telephone calls, SMS and self-visits as well as distributing extra questionnaires to them. The following table shows the results.

Table 4. 2: Response Rate

Response	Customers		Employees		Management	
	CBE	CBB	CBE	CBB	CBE	CBB
Number of distributed questionnaire	351	49	328	72	150	50
Returned and usable Questionnaire	300	34	276	47	143	37
Questionnaires not returned	51	15	52	25	7	13
Usable response rate based on sample required	87%		85%		96%	

Source: Developed for this purpose, July 2012

As a result of this effort, out of the 1000 questionnaires distributed by hand delivery through trained interviewers to the respondents of the selected branches and head offices of both banks located in the Capital city, Addis Ababa, a total of 837

questionnaires were returned. This made a response rate of 83.7%. This response rate is considered adequate considering that, according to Sekaran (2006), the response rate of 30% is acceptable for surveys. Similarly, 37 responses are greater than what Hair et al., (2010) suggested for regression analysis. The list that shows the proportional distribution of the sample that was required for the study and the total number of returned questionnaires by each category of bank branches and the head offices is shown in the appendix.

The data collected was captured into the SPSS (version 20) spreadsheet. The statistical frequency distributions of the key variables of the study were objectively classified and presented in logical categories to reflect the originality of the study. Subsequently, the desired analytical tables were extracted for proper data analysis as shown in the thesis.

Preliminary Analysis

4.4 Missing Data

On receiving the completed questionnaires, the interviewers checked and ensured that all the questions were answered. Where any exception was discovered, the attention of the respondent was drawn to answer appropriately. The researcher also rechecked each questionnaire upon return for completeness. Hence, this exercise assisted significantly in reducing the number of questions un-attended to, in the survey. Preliminary descriptive statistical analysis was run to further confirm and

ascertain if any missing data existed or not. Hair et al., (2010) suggested that any case with more than 15% missing data observed should be deleted as long as the sample is adequate. This suggestion was in line with Tabachnick and Fidell (2007) that a case of missing data should be simply dropped. However, no missing data problem existed in this study.

4.5 Factor Analysis of the Research Instrument

As stated above, factor analysis was conducted on employee and management group questionnaires (but not on the customer questionnaire as the study adopted the standardized 22 items of SERVQUAL instrument) - using principal component analysis (PCA) with the Varimax rotation method to analyze the underlying structure of the inter-relationships among the variables into a set of common dimensions.

In this study, as shown in table 4, the Bartlett's test convincingly rejected the null hypothesis at P-value=0.000, that the samples were selected from populations with equal variances. The Kaiser-Mayer-Olkin (KMO) measures sample adequacy and reinforces the use of the PCA approach. A small value of the KMO measure indicates a weak correlation between pairs of scales and consequently that PCA is unsuitable for the data reduction process.

Table 4.3 : KMO and Bartlett's Test

Variables on which factor analysis was performed	Bartlett's Test of Sphericity	KMO(Kaiser-Meyer-Olkin)
Employee question items	df 300 Sig.000	Measure of Sampling Adequacy .917 Approx. Chi-Square 3882.672
Management	1326 .000	.765 6988.425

In this study, the KMO results were 0.917; and 0.765 respectively for the employee questionnaire and management questionnaire as can be seen in the above table. It is suggested that KMO measures in the region of 0.80's are meritorious (Kaiser, 1974). Therefore, there was not any problem related to sample adequacy in this study. The main components of the factor analysis results from the employees and management perspectives are illustrated in the table below.

Table 4.4 : Employees' perspective (Factor Loading Coefficient and regrouping)

	Process Orientation	Loadings
1	I understand the connection between the works I do and the mission and goals of the bank.	.743
2	The top management and senior line managers of the bank are committed to the design and implementation of the Bank's BPR	.564
3	The business processes of the bank are sufficiently defined so that I know how the work is interrelated	.681
4	The business process design of the bank has addressed the need of its customers	.677
5	The workflows of the bank are fully redesigned so that separate functional tasks are combined under cross-functional process based structure	.608
6	Employees of the bank became customer oriented as a result of BPR implementation	.613
7	Employees of the bank believe that BPR is an important reform tool	.570
8	Our bank became easily accessible to customers after BPR implementation due to opening of new branches	.717
	Jobs and structures	
1	I feel that employees who were assigned to the BPR study team were from all functions of the bank	.581

2	All employees of the bank were provided with sufficient training on the new jobs requirements	.506
3	The placement criteria of employees for the new positions were fair and transparent.	.771
4	The appointment of staff for the new management positions was based on merit	.832
5	Employees are empowered and make decision at the service point, where work is done, without delay as a result of new structure following BPR implementation	.501
6	The reward system has been adjusted to serve the employees workload after the changes.	.597
	Measurement and Motivation	
1	There is continuous evaluation of performance and taking feedback of customers and employees following BPR	.559
2	There is Continuous assessment and feedback to measure the result of BPR and scale up internal best practices at the bank level	.594
3	The bank became a place to retain and attract talented employees	.727
4	Employees motivation has significantly improved after BPR implementation	.754
5	ATM(visa card) banking service provided by our bank is efficient	.616

…Continued from table 5

Table 4.5: Management's perspective (factor loading and coefficient)

	Employees involvement, empowerment and change management	Loadings
1	Employees of the bank have actively participated in the design and implementation of BPR	.574
2	The salary and other benefit packages was adjusted for the employees of the bank at all levels after the change implementation	.561
3	There is an efficient communication channel to get feedback from employees about the reform	.850
4	The employee performance measurement system adequately correspond to the new changes	.625
5	Continuous training and/or educational programs are offered to update employees' skills as per the new requirement of the job assignment	.818
6	The BPR implementation phase was based on properly designed implementation plan	.555
7	Receptiveness of management and employees to the new change is high	.647
8	There was/is Willingness of management to dismantle existing structure and implement the new fully	.688
9	There is regular forum for assessing the BPR Progress with the management of the bank	.787

	Employees involvement, empowerment and change management	Loadings
10	There is a clear understanding of BPR objectives by all staff and management	.861
11	Regular communication of the BPR progress is made to all staff	.796
12	Good practices are recognized and shared at all levels of the bank	.604
13	The BPR projects resulted from analysis of needs of customers	.549
	Role and use of information technology	
1	The employee work culture has been changed as a result of BPR	.470
2	Information Technology has contributed for the end to end process alignment	.862
3	IT played an enabling role in our BPR project	.905
4	Adequate IT investment is a pre-requisite for increasing efficiency in banking firms	.658
5	IT helped us to expand electronic banking services efficiently	.879
6	IT has helped us in reducing paper work	.853
7	It is the main reason for increasing efficiency in our bank	.761
8	It has reduced non value adding steps in the work system	.828
9	It has contributed a lot to the satisfaction of our customers	.776
	Management commitment and competence	
1	The management team of the bank at all levels is competent	.673
2	The top management of the bank has sufficient knowledge about the	.812

	Employees involvement, empowerment and change management	Loadings
	BPR objectives and its connectedness to the bank's strategy	
3	The leadership of the bank at all levels frequently communicate with employees about the BPR project	.498
4	Top management of the bank is committed in implementing the BPR	.710
5	Top management avails all necessary resources for the project	.689
6	Top management of the bank generally has realistic expectation of the BPR project result	.803
7	The BPR's central purpose is to find new ways of adding value to our customers	.508
	Resistance to change	
1	employees were worried about losing their job after the changes	.865
2	there was/is skepticism among employees and management about the results of the projects	.931
3	employees feel uncomfortable with the new reform	.793
	New working culture	
1	top management and line management of the bank initiated and led the BPR project of the bank	.655
2	Employees are empowered to make decisions as per the newly designed process	.525

	Employees involvement, empowerment and change management	Loadings
3	Complaint of customers have reduced significantly following BPR implementation	.558
4	Employee work culture and attitude has been dramatically changed	.838
	Good working environment	
1	Teamwork is the typical way of solving problems following BPR	.600
2	employees feel as if they are working in a cooperative environment following BPR	.747
3	Employees became satisfied in their new jobs	.557
4	The placement of employees for the new jobs was fair and transparent	.625
	Government support	
1	Managers were anxious about losing their authority after the new restructure	.616
2	BPR is/was political/ government sponsored change initiative at our bank	.757
3	Our BPR could not have been possible without the support of external consultants assigned by the government	.804
	Management style	
1	There is friendly interactions between managers and co-workers at all levels of the bank	.628
2	Team members have confidence on their immediate supervisor's competence and trust each other	.751
3	New banking products and services have been introduced to satisfy customers	.614

…End of table 6

The results of the management factor analysis show that the variables in the management of the criteria success factors instrument could be regrouped into the right components as shown above and therefore the measurement instrument was valid because construct validity was high.

Respondents' Background information

The frequency table of the demographic characteristics of all the respondents is shown in Appendix B of this document fully (please refer to this section). The following is extracted from the table to describe the key characteristics of the respondents in the following bar chars.

i. Sex

According to Figure 4.1, the descriptive analysis indicates that majority of the respondents were male (63%) while female respondents were 37%. This means that the majority of respondents were male.

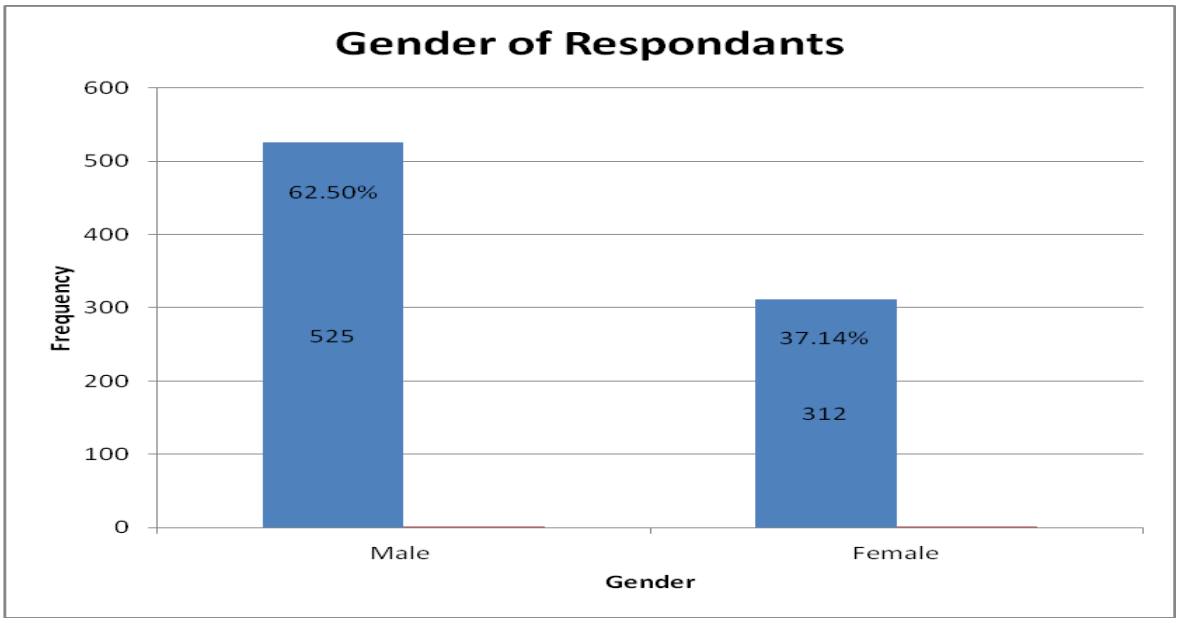

Figure 4.1: Gender distribution of respondents

ii. Job title

In terms of job title (current position of the respondents I n the banks) of the employee and management respondents, 9% were holding the responsibility of branch managers and deputy branch managers, 11% team leaders, and 24% front office Checkers and makers. This shows that the respondents were from different job categories with higher customer contact positions and were knowledgeable and had first-hand information about the BPR effects. See figure 4.2.

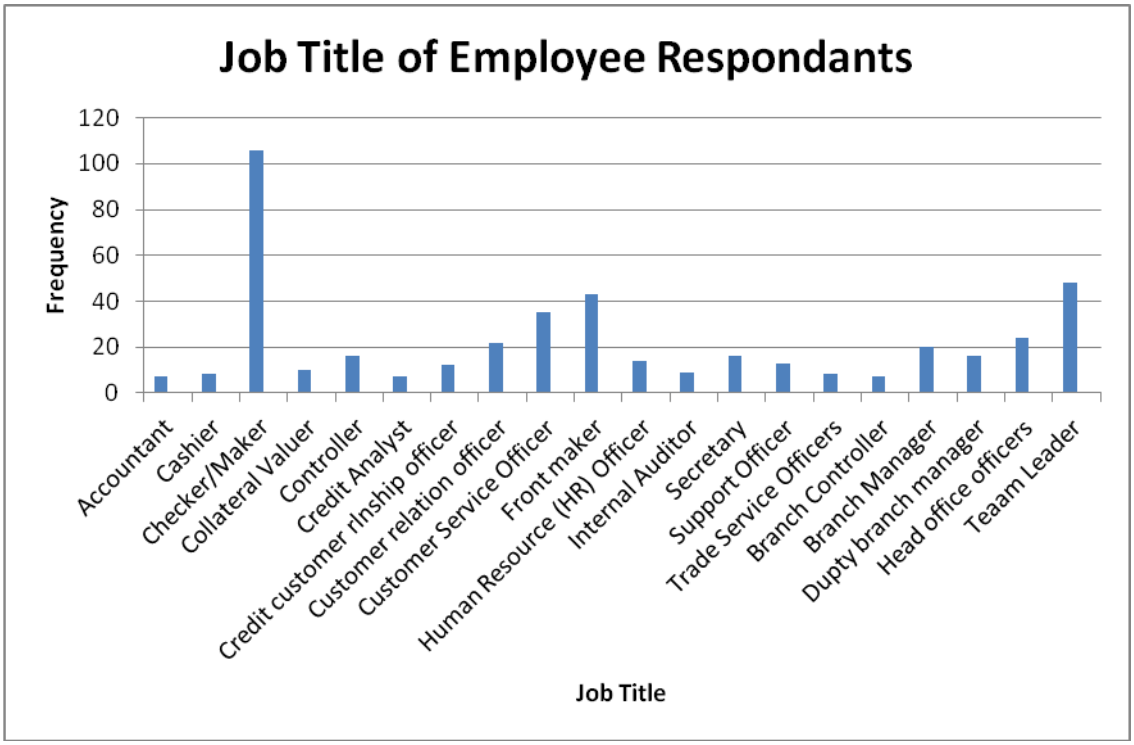

Figure 4.2 Job titles of employee respondents in the banks

iii. Years of Work Experience

In terms of years of work experience with the bank, Figure 4.3 indicates that, as employees, more than 43% of them had more than 5 years of work experience with the bank. This makes the responses of the respondents more valuable; as BPR had been implemented in 2009, the respondents knew the changes before and after the BPR implementation in the respective banks.

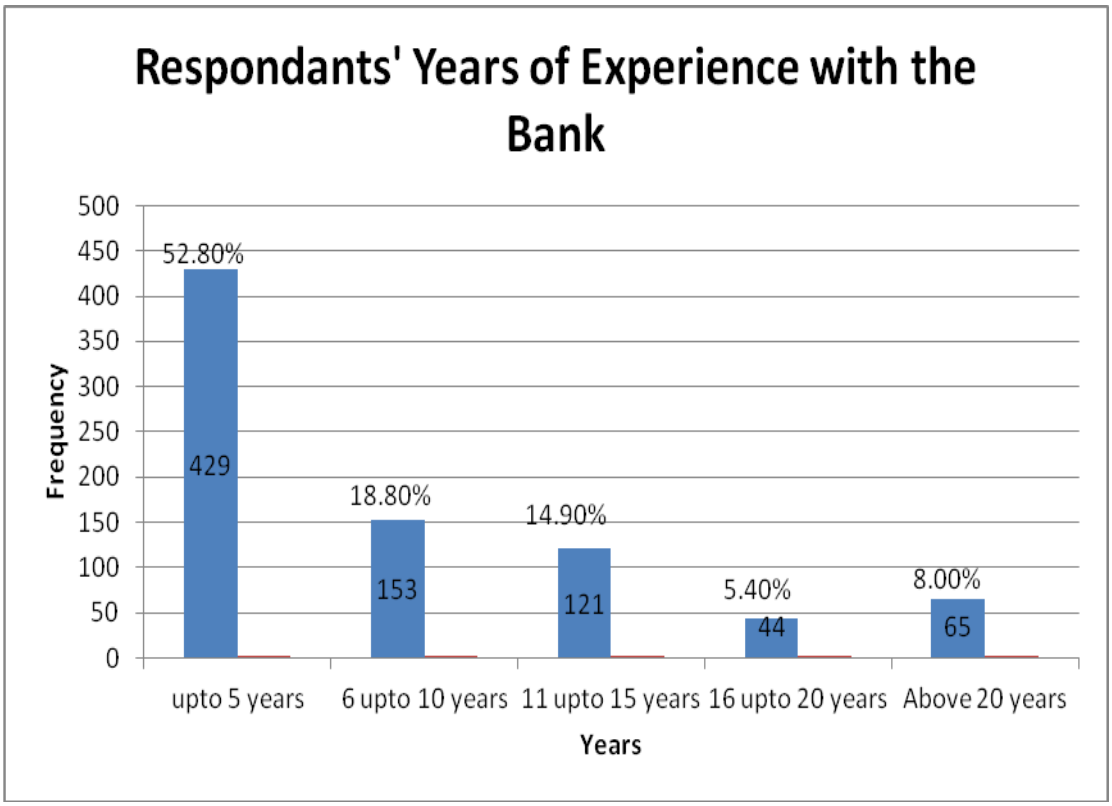

Figure 4.3: Length of years of respondents with the respective Banks

iv. Age Group

Figure 4.4 indicates that 55% of the employee respondents were between the ages of 20 and 30. Hence, these respondents represented the above average of the targeted members of the study population - who were within the young age groups of the people who were supposedly important instruments for effecting change.

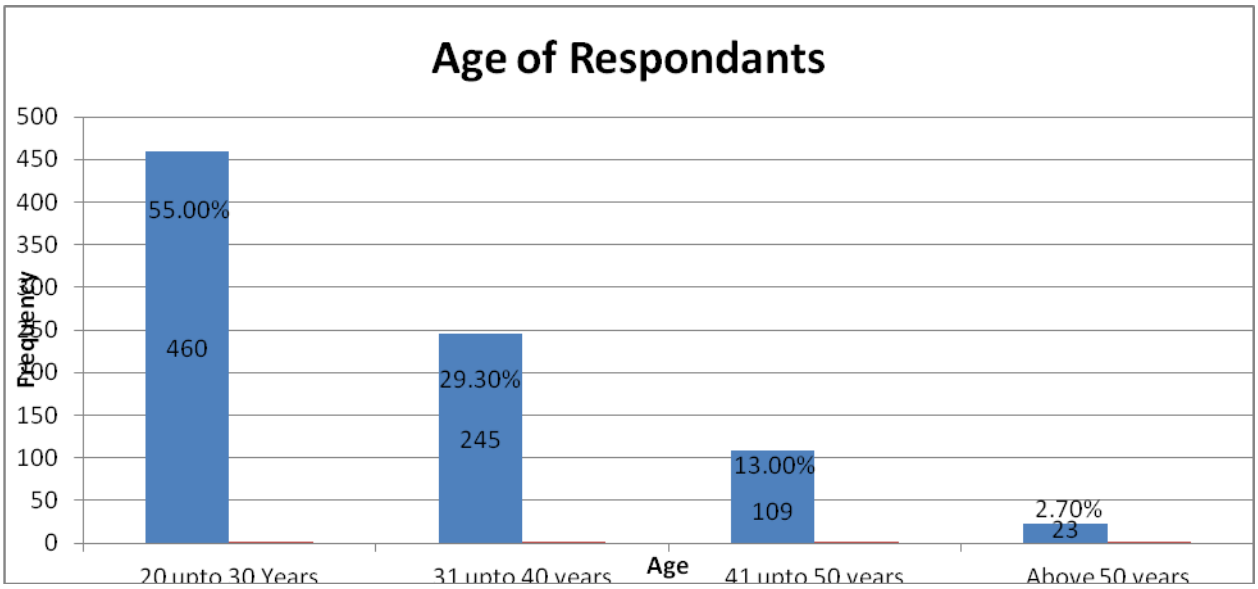

Fig 4.4: Age of respondents

v. Education

In terms of educational levels of staff, as shown in figure 4.5, about 64% of employee respondents had the first and second university degrees. This again helps one to consider that the respondents assessment would be fair and critical.

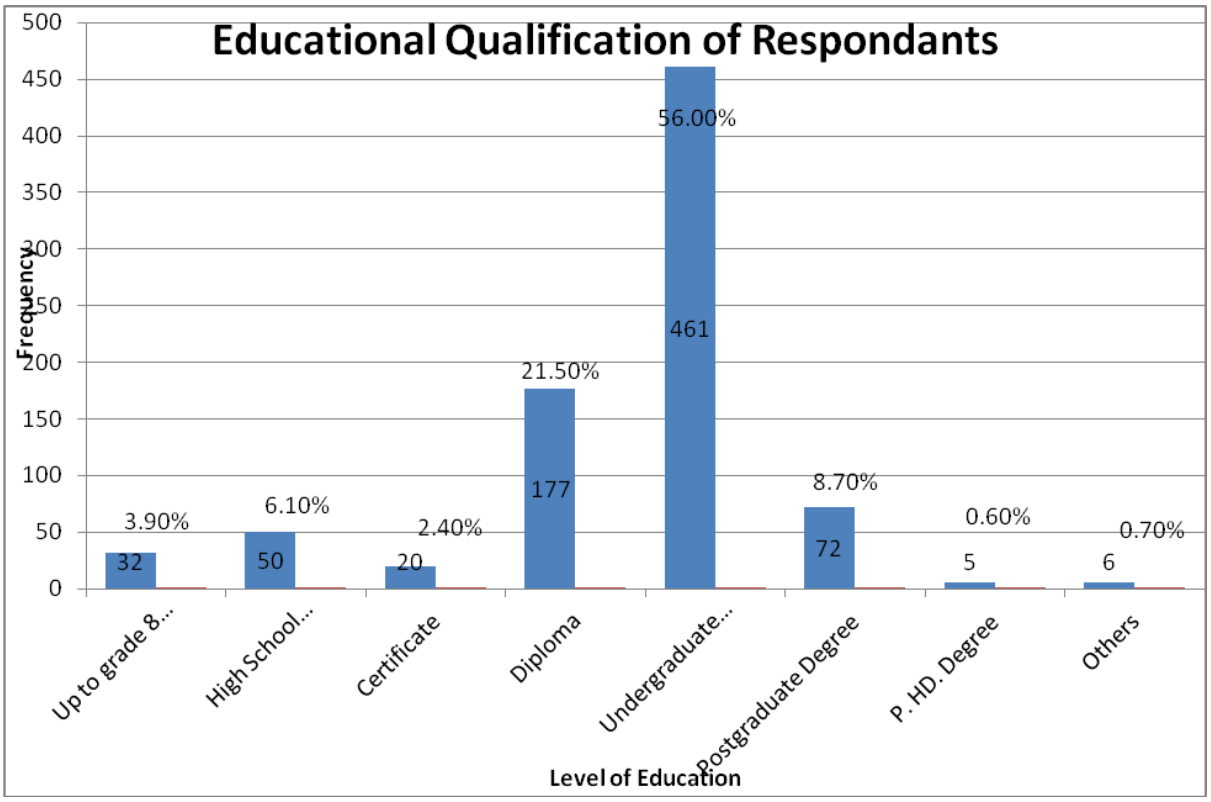

Fig. 4.5 Educational *level of respondents*

4.6 Background Information of the Sampled Banks

Seventeen bank branches and their respective head offices (of both CBE and CBB) were included in the study. The numbers of branches were selected based on the sample frame collected from each bank which included only those branches that were established before the implementation of BPR and implemented the change in order to assess the effects of the reform. Again theses branches were randomly selected proportionally from each bank's branch category (level), which was classified based on the volume transaction, location, number of customers and employees as well as varieties of banking products they offer. Hence, four banking categories were included in this study with 50% coming from level four (the highest rating), 29% from level 3, 12% from level 2 and only 8% from level 1. The highest

proportion was taken from those bank branches with a large customer base and variety of banking products.

4.7 Quantitative Results

The researcher chose the techniques of quantitative data analysis based on the nature of the key variables (i.e. dependent and independent variables) he had to deal with in the study. The dependent variable, customer satisfaction and independent variables, that is, reliability, responsiveness, assurance, empathy and tangible, were regrouped and changed into dichotomous variables to be measured. The researcher combined the responses from the items on a Likert-scale into a single composite score as a measure of the level of a construct. In this way, a construct was given a score of zero (0 = Low) when its level was below average or having the average composite score and a one (1 = High) when its level was above the average composite score.

The same principle was applied to measure the specific variables. The responses were regrouped as “low” and “high”. ‘High’ indicated a high level of agreement for the responses on the changes brought about by BPR for each dimension and ‘low’ for the level of disagreement of the changes.

For the analysis of association of the independent variables with the dependent variables, the researcher used the Chi-square test to check for an existence of

association between the dichotomous dependent variables and the categorical independent variables. After this, the researcher used the binary logistic analysis to measure the net effect of the independent variables on the dependent variables and the relative risk by calculating odds ratios (OR) as explained in chapter 3.

Hosmer-Lemeshow goodness of fit test measures logistic regression models' goodness of fit and it was therefore used in this study. This test showed significant results for all the logistic regression results in this study which indicates that all the logistic models were significant. The Nagelkerke R square value provided an indication of the amount of variation in the dependent variable explained by the model. Except for a few models, these values were higher than 0.45, which indicates that more than 45% of the variations in the dependent variable were explained by the model.

4.7.1 Customer Perspectives on the Effects of BPR

T-test Results

The respondents (i.e., customers of the banks) were asked to rate their perceptions of the changes in service quality of the CBE and CBB banks by comparing it to that of the time period before BPR was implemented (i.e., pre-BPR time period) by using a questionnaire which was adapted from the SERVQUAL measurement instrument to suit bank operations.

The following null hypotheses 1 and 2 (refer to section 3.7.2 in chapter 3) were tested using the t-test.

1: Customer satisfaction is not affected by BPR implementation.

2: Service quality dimensions (i.e., reliability, tangibles, assurance, empathy, and responsiveness) are not affected by BPR implementation.

Because the respondents for this study were randomly selected from customers who had been with the bank before the BPR implementation (i.e., pre BPR) and after the BPR implementation (i.e., post BPR), an example of the statements that appeared in the measurement scale and were used to find out from customers whether the BPR implementation increased the level of their satisfaction with the banks' services or not was:

"I will stick with the bank because I am satisfied with all its services after BPR implementation."

Another example which was used to find out from employees whether BPR implementation increased the level of customer satisfaction with the banks' services was:

"Our customer's satisfaction level has increased following the implementation of BPR in the bank."

The t-test results in table 4.6 indicate that, except for Assurance, Empathy and tangible variables in the case of CBB, the null hypotheses should be rejected at the level of significance (P-value) of 0.01. This implies that the post BPR customer satisfaction level differed significantly from the pre BPR customer satisfaction level and that the pre BPR levels of service quality dimensions differed significantly from the post BPR levels. Because t-values are positive, this means that the post BPR levels of customer satisfaction and service quality dimensions were higher than the pre BPR levels for both banks, CBE as well as CBB. For CBB, the null hypotheses for Assurance and Empathy should be rejected at the 0.05 level of significance and the null hypothesis for Tangibles should not be rejected at the 0.05 level of significance – implying that the pre BPR level of Tangible was not significantly different from the post BPR level. In other words, the results imply that BPR implementation improved customer satisfaction with the banks' services and the levels of service quality dimensions but did not improve the level of Tangible for the CBB bank.

Table 4.6: T- test value for Independent Variables and Dependent Variable

Banks	Factors	T	P-value. (2-tailed)
CBE	Reliability	32.284	.000
	Responsiveness	28.869	.000
	Assurance	28.755	.000
	Empathy	32.269	.000
	Tangibles	26.182	.000
	Satisfaction	32.567	.000
CBB	Reliability	11.373	.000
	Responsiveness	5.735	.000
	Assurance	2.568	.015
	Empathy	2.649	.012
	Tangibles	2.001	.054
	Satisfaction	13.040	.000
Total	Reliability	34.258	.000
	Responsiveness	28.399	.000
	Assurance	23.966	.000
	Empathy	26.685	.000
	Tangibles	21.969	.000
	Satisfaction	34.961	.000

Chi-square Results

The Chi-square test was used to investigate the association between the post-BPR service quality dimensions and the current level of customer satisfaction, after BPR implementation and the results are shown in table 4.7.

Table 4.7: Each bank's chi square test of association between perceived Service quality dimensions and customer satisfaction level after BPR in Ethiopia

Banks	Factors	*Satisfaction*					*P-value.*
		Low (N/%)		*High (N/%)*		*Total*	
	Reliability						
CBE	Low	33	60.0%	22	40.0%	55	.000
	High	40	16.3%	205	83.7%	245	
CBB	Low	5	55.6%	4	44.4%	9	.138
	High	7	28.0%	18	72.0%	25	
	Responsiveness						
CBE	Low	38	56.7%	29	43.3%	67	.000
	High	35	15.0%	198	85.0%	233	
CBB	Low	4	50.0%	4	50.0%	8	.320
	High	8	30.8%	18	69.2%	26	
	Assurance						
CBE	Low	36	50.0%	36	50.0%	72	.000

Banks	Factors	*Satisfaction*					*P-value.*
	High	37	16.2%	191	83.8%	228	
CBB	Low	6	50.0%	6	50.0%	12	.185
	High	6	27.3%	16	72.7%	22	
	Empathy						
CBE	Low	20	47.6%	22	52.4%	42	.000
	High	53	20.5%	205	79.5%	258	
CBB	Low	5	55.6%	4	44.4%	9	.138
	High	7	28.0%	18	72.0%	25	
	Tangible						
CBE	Low	28	45.2%	34	54.8%	62	.000
	High	45	18.9%	193	81.1%	238	
CBB	Low	9	64.3%	5	35.7%	14	.003
	High	3	15.0%	17	85.0%	20	

Note: CBE refers to Commercial Bank of Ethiopia; whereas CBB refers to Construction and Business Bank

Table 4.8: Both banks' chi square test of association between perceived Service quality dimensions and Satisfaction level of customer after BPR in Ethiopia

Factors	*Satisfaction*					*p-value.*
	Low (N/%)		*High (N/%)*		*Total*	
Reliability						
Low	38	59.4%	26	40.6%	64	.000
High	47	17.4%	223	82.6%	270	
Responsiveness						
Low	42	56.0%	33	44.0%	75	.000
High	43	16.6%	216	83.4%	259	
Assurance						
Low	42	50.0%	42	50.0%	84	.000
High	43	17.2%	207	82.8%	250	
Empathy						
Low	25	49.0%	26	51.0%	51	0.09
High	60	21.2%	223	78.8%	283	
Tangible						
Low	37	48.7%	39	51.3%	76	.000
High	48	18.6%	210	81.4%	258	

a. Association between Reliability Dimension and customer satisfaction

To test for independence, the null hypothesis and alternative hypothesis were stated as follows:

H0: Customer satisfaction and reliability dimension of service quality are independent (not associated).

HA: Customer satisfaction and reliability dimension of service quality are dependent (associated).

According to the Chi-square table 4.8, the null hypothesis that customer satisfaction and reliability dimension of service quality are independent should be rejected at the 0.01 level for CBE and the alternative hypothesis that customer satisfaction and reliability dimension of service quality are dependent should be accepted to conclude that customer satisfaction and reliability dimension of service quality are associated for the CBE bank. For the CBB bank, the null hypothesis should be accepted at the 0.05 level since P-value is 0.138. This result indicates that the higher the rating of the service quality due to BPR implementation, the higher the level of customer satisfaction for the CBE bank.

b. Association between Responsiveness Dimensions of service quality and customer Satisfaction

To test for independence, the null hypothesis and alternative hypothesis were stated as follows:

H0: Customer satisfaction and responsiveness dimension of service quality are independent (not associated).

HA: Customer satisfaction and responsiveness dimension of service quality are dependent (associated).

The above table indicates that the null hypothesis that customer satisfaction and responsiveness dimension of service quality are independent should be rejected at the 0.01 level for CBE and the alternative hypothesis that customer satisfaction and responsiveness dimension of service quality are dependent should be accepted to conclude that customer satisfaction and responsiveness dimension of service quality are associated for the CBE bank. Like in the case of reliability, for the CBB bank, the null hypothesis should not be rejected because the corresponding Pvalue (0.320) is greater than the 0.05 level of significance – implying that the variables are not associated.

c. Association between Assurance dimension of service quality and customer Satisfaction

To test for independence, the null hypothesis and alternative hypothesis were stated as follows:

H0: Customer satisfaction and assurance dimension of service quality are independent (not associated).

HA: Customer satisfaction and assurance dimension of service quality are dependent (associated).

According to the table, the null hypothesis that customer satisfaction and assurance dimension of service quality are independent should be rejected at the 0.01 level for CBE and the alternative hypothesis that customer satisfaction and Assurance dimension of service quality are dependent should be accepted to conclude that customer satisfaction and assurance dimension of service quality are associated for the CBE bank. For the CBB bank, the null hypothesis should not be rejected because the corresponding Pvalue (0.185) is greater than the 0.05 level of significance – implying that the variables are not associated.

d. Association between empathy dimension of service quality and customer satisfaction

To test for independence, the null hypothesis and alternative hypothesis are stated as follows:

H0: Customer satisfaction and empathy dimension of service quality are independent (not associated).

HA: Customer satisfaction and empathy dimension of service quality are dependent (associated).

The table indicates that the null hypothesis that customer satisfaction and Empathy dimension of service quality are independent should be rejected at the 0.01 level for CBE and the alternative hypothesis that customer satisfaction and Empathy dimension of service quality are dependent should be accepted to conclude that

customer satisfaction and Empathy dimension of service quality are associated for the CBE bank. For the CBB bank, the null hypothesis should not be rejected because the corresponding P-value (0.138) is greater than the 0.05 level of significance – implying that the variables are not associated.

e. Association between Tangible dimension of service quality and customer Satisfaction

To test for independence, the null hypothesis and alternative hypothesis were stated as follows:

H0: Customer satisfaction and tangible dimension of service quality are independent (not associated).

HA: Customer satisfaction and tangible dimension of service quality are dependent (associated).

It is indicated that the null hypothesis that customer satisfaction and tangible dimension of service quality are independent should be rejected at the 0.01 level for both banks and the alternative hypothesis that customer satisfaction and tangible dimension of service quality are dependent should be accepted to conclude that customer satisfaction and tangible dimension of service quality are associated.

When the data for both banks were combined, all the null hypotheses that customer satisfaction and the dimensions of service quality are independent were rejected at the 0.01 level and the alternative hypotheses that customer satisfaction and the

dimensions of service quality are dependent were accepted to conclude that customer satisfaction and the dimensions of service quality are associated.

Logistic Regression Results

Logistic regression was used to not only investigate the relationship between customer satisfaction and the dimensions of service quality but also to assess the strength and direction of the relationship. The analysis also helped to find out the relative importance and effect of each of these service quality dimensions on customer satisfaction. The results are shown in table 4.9.

Table 4.9: Binary Logistic Regression Model on Service Quality Dimension and Customer Satisfaction; Ethiopia

Factors	Adj.OR	p-value.	95% C.I for EXP(B)	
			Lower	Upper
Reliability				
Low	1.00			
High	2.974	.003	1.450	6.103
Responsiveness				
Low	1.00			
High	3.560	.000	1.786	7.098
Assurance				
Low	1.00			
High	2.547	.005	1.330	4.881
Empathy				
Low	1.00			
High	.473	.117	.185	1.207
Tangible				
Low	1.00			
High	2.546	.007	1.286	5.042

The results in table 4.9 indicate the net effect of the perceived service quality dimensions (the independent variables) on customer satisfaction (the dependent variable) by controlling the effect of other variables. The results in general indicate that responsiveness, assurance, reliability, and tangible dimensions have significant and positive effects on customer satisfaction at the 0.01 significant level, whereas, empathy does not have a significant effect on customer satisfaction even at the 0.05 level of significance. The adjusted odds ratio tells us the relative risk of factors on customer satisfaction. Specifically, the adjusted odds ratios for reliability, responsiveness, assurance, and tangible with the bank are 2.97; 3.56; 2.55 and 2.55, respectively. This means that customers with a perception of a higher level of reliability, responsiveness, assurance and tangible with the bank are on average, more likely to be satisfied than those with a perception of a lower level reliability, responsiveness, assurance and tangible with the bank. This implies that reliability, responsiveness, assurance and tangible service quality dimensions affect customer satisfaction positively.

The implication of this finding is that when these service quality dimensions, which lead to overall service quality are improved upon in the banks when BPR is implemented, the level of customer satisfaction increases. Because the t-test indicated that BPR implementation increased the levels of these service quality dimensions and because customer satisfaction and these dimensions are positively

correlated or related, it can be concluded that BPR implementation is important in terms of increasing customer satisfaction with the services rendered by the banks. This therefore shows the importance of BPR initiative on customer satisfaction. Customer satisfaction is measured in terms of obtaining quality and fast service from the banks.

4.7.2 Employee Perspective on BPR

Data was also collected and analysed to identify the effect of BPR on organizational performance from the perspective of the banks' employees. The variables and question items focused on the BPR elements: Business process orientation, Jobs and structures introduced and the management and measurement system in place after BPR implementation. The responses of employees were analysed to find out whether the independent variables (i.e., BPR elements) were associated with the dependent variables (i.e., organizational performance indicators). Chi-square test results and binary logistic regression analysis results are shown in tables 11 and 12 respectively:

Table 4.10: Chi square test of association between BPR factors and organizational performance after BPR in Ethiopia

Bank Name	Factors	*Customer Satisfaction*						*Speed improvement*						*Cost reduction*						*Quality improved*					
		Low (N/%)		*High (N/%)*		*Total*	*p-value*	*Low (N/%)*		*High (N/%)*		*Total*	*p--value*	*Low (N/%)*		*High (N/%)*		*Total*	*p-value*	*Low (N/%)*		*High (N/%)*		*Total*	*p-value*
Process Orientation																									
CBE	Low	37	34%	72	66%	109	.000	35	43%	47	57%	82	.000	37	37%	64	63%	101	.000	42	48%	45	52%	87	.000
	High	6	4%	163	96%	169		8	4%	188	96%	196		6	3%	171	97%	177		1	1%	190	99%	191	
CBB	Low	17	59%	12	41%	29	.067	13	65%	7	35%	20	.045	15	60%	10	40%	25	.081	17	71%	7	29%	24	.001
	High	6	32%	13	68%	19		10	36%	18	64%	28		8	35%	15	65%	23		6	25%	18	75%	24	

Bank Name	Factors	*Customer Satisfaction*						*Speed improvement*						*Cost reduction*						*Quality improved*					
		Low (N/%)		*High (N/%)*		*Total*	*p-value*	*Low (N/%)*		*High (N/%)*		*Total*	*p--value*	*Low (N/%)*		*High (N/%)*		*Total*	*p-value*	*Low (N/%)*		*High (N/%)*		*Total*	*p-value*
Total	Low	54	39%	84	61%	138	.000	48	47%	54	53%	102	.000	52	41%	74	59%	126	.000	59	53%	52	47%	111	.000
	High	12	6%	176	94%	188		18	8%	206	92%	224		14	7%	186	93%	200		7	3%	208	97%	215	
Jobs and Structure																									
CBE	Low	86	79%	23	21%	109	.000	66	80%	16	20%	82	.000	84	83%	17	17%	101	.000	72	83%	15	17%	87	.000
	High	63	37%	106	63%	169		83	42%	113	58%	196		65	37%	112	63%	177		77	40%	114	60%	191	
CB	Low	27	93%	2	7%	29	.00	18	90	2	10	20	.00	22	88	3	12	25	.00	24	100	0	0%	24	.000

Bank Name	Factors	*Customer Satisfaction*						*Speed improvement*						*Cost reduction*						*Quality improved*					
		Low (N/%)		*High (N/%)*		*Total*	*p-value*	*Low (N/%)*		*High (N/%)*		*Total*	*p--value*	*Low (N/%)*		*High (N/%)*		*Total*	*p-value*	*Low (N/%)*		*High (N/%)*		*Total*	*p-value*
B							0		%		%		2		%		%		0		%				
	High	4	21%	15	79 %	19		13	46 %	15	54 %	28		9	39 %	14	61 %	23		7	29 %	17	71 %	24	
Total	Low	113	82%	25	18 %	138	.000	84	82 %	18	18 %	102	.000	106	84 %	20	16 %	126	.000	96	86 %	15	14 %	111	.000
	High	67	36%	121	64 %	188		96	43 %	128	57 %	224		74	37 %	126	63 %	200		84	39 %	131	61 %	215	
Measurement and Evaluation																									
CBE	Low	98	90%	11	10 %	109	.000	69	84 %	13	16 %	82	.000	95	94 %	6	6%	101	.000	73	84 %	14	16 %	87	.000

Bank Name	Factors	*Customer Satisfaction*						*Speed improvement*						*Cost reduction*						*Quality improved*					
		Low (N/%)		*High (N/%)*		*Total*	*p-value*	*Low (N/%)*		*High (N/%)*		*Total*	*p--value*	*Low (N/%)*		*High (N/%)*		*Total*	*p-value*	*Low (N/%)*		*High (N/%)*		*Total*	*p-value*
	High	66	39%	103	61%	169		95	48%	101	52%	196		69	39%	108	61%	177		91	48%	100	52%	191	
CBB	Low	27	93%	2	7%	29	.001	18	90%	2	10%	20	.072	22	88%	3	12%	25	.061	22	92%	2	8%	24	.016
	High	10	53%	9	47%	19		19	68%	9	32%	28		15	65%	8	35%	23		15	63%	9	38%	24	
Total	Low	125	91%	13	9%	138	.000	87	85%	15	15%	102	.000	117	93%	9	7%	126	.000	95	86%	16	14%	111	.000
	High	76	40%	112	60%	188		114	51%	110	49%	224		84	42%	116	58%	200		106	49%	109	51%	215	

…End of Table 11

The results in table 4.10 indicate that the independent variables (BPR elements), process orientation, Jobs and structure, and measurement and evaluation are associated with customer satisfaction, speed improvement, process cost reduction and service quality improvement.

i. Process Orientation and Organizational Performance

To test for independence, the null hypothesis and alternative hypothesis were stated as follows:

H0: Organizational performance outcome indicators and process orientation of employees are independent (not associated).

HA: Organizational performance outcome indicators and process orientation are dependent (associated).

According to the results in table 4.10 the null hypothesis is rejected at the 0.01 level of significance because the P-values (0.000) are less than 0.01 for the CBE bank, but rejected at the level of significance of 0.05 in the case of the CBB bank for speed improvement because the P-value (0.045) is less than 0.05 and at the level of significance of 0.01 for improved service quality because the P-value (0.000) is less than 0.01.Thus organisational performance outcome and process orientation of employees are dependent or associated. Therefore, we accept the alternative hypothesis and it can be concluded that organizational performance outcome (as

measured by speed of service delivery, customer satisfaction, cost and service quality) and process orientations of employees are associated in the case banks. But the level of association between process orientation and dependent variables, namely, customer satisfaction and process cost reduction for CBB are not significant since their corresponding P-values are respectively 0.067 and 0.081.

The results indicate that a high level of process orientation leads to a high level of organisational performance outcome because for the Commercial Bank of Ethiopia (CBE), when the percentage for customer satisfaction, speed improvement, process cost reduction and improved service quality gets higher the employees BPR process orientation also gets higher. The results for the CBB also indicate a significant association between process orientation and speed improvement and improved service quality. The same results were obtained for the CBE bank. This can be explained by the fact that employees who have relatively high business process orientation compared to the functional based thinking before BPR process orientation, are better endowed to contribute to the targets set by the banks than those with low business process orientation (function or task based thinking).

ii. Jobs and Structures and Organizational Performance

To test for independence, the null hypothesis and alternative hypothesis were stated as follows:

H0: Organizational performance outcome improvement and newly designed jobs (and structures) are independent (not associated).

HA: Organizational performance outcome improvement and newly designed jobs (and structures) are dependent (associated).

According to the results, the null hypothesis should be rejected at the 0.01 level of significance. Thus, organisational performance outcome improvement and the newly designed jobs and structures are dependent and therefore associated. Therefore, it can be concluded that organizational performance outcome (as measured by speed of service delivery, customer satisfaction, cost and service quality) and the newly designed Jobs and structures are associated in the case banks. This could be better explained by the fact that aligning jobs and a structure to the new changes contributes to motivating employees to work hard which results in an improvement of organizational performance.

iii. Management and Measurement System versus Organizational Outcome

To test for independence, the null hypothesis and alternative hypothesis were stated as follows:

H0: Organizational performance outcome improvement (as measured by the indicators) and management and measurement system are independent.

HA: Organizational performance outcome improvement (as measured by the indicators) and management and measurement system are dependent (associated).

The results indicate that the null hypothesis should be rejected at the 0.01 level of significance meaning that organisational performance outcome improvement and newly introduced management and management system are associated except for speed improvement and process cost reduction in the case of CBB. Therefore, it can be concluded that speed improvement, customer satisfaction, process cost reduction and service quality are associated with the newly introduced management and measurement system for CBE and for CBB (with the exceptions of speed improvement and process cost reduction).

In conclusion, the process orientation (thinking) of employees and the newly designed jobs and structures as well as the newly introduced management and measurement system were associated with performance improvement of the banks following the BPR implementation. The process view and employee values and attitudes of the change had a significant contribution to enhancing organizational performance.

After looking at the association between the independent and dependent variables, the net effect (contribution) of the independent variables on the dependent variables was analysed using binary logistic regression. Since all the three independent variables had a significant association with each of the dependent variables, all of them were considered for binary logistic regression.

For logistic regression, the dependent variable was a dichotomous variable with 1 referring to High and 0 referring to Low performance level as measured by the performance indicators set for each outcome variable by the banks. In table 12, the adjusted Odds Ratio (OR) shows the net effect of an independent variable on the dependent variables. In the analysis, 1.00 is the reference point and then the result of the OR, is compared to this figure in order to see the effect:

Table 4.11: Binary logistic Regression analysis result of employees

Factors	Satisfaction				Speed improvement				Cost reduction				Quality improved			
	Adj.OR	*p-value*	95% C.I. for EXP(B)		*Adj. OR*	*p-value*	95% C.I. for EXP(B)		*Adj. OR*	*p-value*	95% C.I. for EXP(B)		Adj.OR	*p-value*	95% C.I. for EXP(B)	
			Lower	*Upper*			Lower	Upper			Lower	Upper			Lower	Upper
Process Orientation																
Low	1.00				1.00				1.00				1.00			
High	4.41	.000	2.1	9.45	6.03	.000	3.12	11.67	4.31	.000	2.06	9.00	23.34	.000	9.46	57.56
Jobs and Structure																
Low	1.0				1.00				1.00				1.00			
High	3.58	.000	2.0	6.50	3.17	.001	1.65	6.09	3.83	.000	2.04	7.19	6.06	.000	2.88	12.74
Measurement and Evaluation																
Low	1.0				1.00				1.00				1.00			
High	6.89	.000	3.5	13.69	2.22	.024	1.11	4.45	8.47	.000	3.89	18.43	1.75	.127	0.85	3.60

The binary regression results of the adjusted OR indicate that process orientation significantly and positively affects all the indicators of organisational performance.

The following are noted:

Employees who have high process orientation are 4.4 times more likely to be satisfied than those with low process orientation. In service delivery time (speed) improvement also has a positive effect and those with high process orientation are 6 times more likely to deliver speed service to their customer than their counter parts.

For the process cost reduction target, employees with high process orientation are 4.3 times more likely to contribute to reducing operating costs than those with low process orientation. The effect is also positive for service quality in which case those with high process orientation are 23.3 times more likely to contribute to providing improved quality service to customers than those employees with low process orientation.

The results of logistic regression analysis also confirm that the newly designed Jobs and structures following BPR implementation have a significant and positive effect on all organizational performance indicators as was set and expected by the banks before BPR implementation. The results for both banks show that in general, employees who were rated high on the newly designed jobs and structures have more effect on organisational performance, with adjusted odds ratios of 3.58; 3.17; 3.83; and 6.06 respectively for improving customer satisfaction; reducing cycle time

(speed); process cost reduction and service quality improvement than their counter parts (i.e., those who were rated low).

The logistic regression results indicate similar results in that the newly implemented management and measurement system have a positive and significant effect on improving the banks performance. The results show that in general, employees who are rated high on the management and measurement contribute or have a more effect on organisational performance, with adjusted odds ratios of 6.9; 2.2; 8.5 and 1.8 respectively for improving customer and own satisfaction, providing fast service, reducing process cost and providing quality service to customers than their counter parts.

Management Perspectives on BPR

Table 4.12 shows the results on management perspectives on BPR.

Table 4.12: Each bank's test of association between performance standards and critical success factors for BPR; Ethiopia

Banks Name	Factors	*Satisfaction*						*Speed improvement*						*Cost reduction*					
		Low (N/%)		*High (N/%)*		*Total*	*p-value*	*Low (N/%)*		*High (N/%)*		*Total*	*p-value*	*Low (N/%)*		*High (N/%)*		*Total*	*p-value*
	Employees involvement and empowerment																		
CBE	Low	56	67%	28	33%	84	.000	41	49%	43	51%	84	.005	37	44%	47	56%	84	.311
	High	12	20%	47	80%	59		15	25%	44	75%	59		21	36%	38	64%	59	
CBB	Low	13	76%	4	24%	17	.838	4	24%	13	76%	17	.169	7	41%	10	59%	17	.946
	High	11	73%	4	27%	15		7	47%	8	53%	15		6	40%	9	60%	15	
	Role and use of IT																		
CB	Low	2	58	1	42	45	.0	2	53	2	47	45	.0	3	69	1	31	45	.0

Banks Name	Factors	*Satisfaction*						*Speed improvement*						*Cost reduction*					
		Low (N/%)		*High (N/%)*		*Total*	*p-value*	*Low (N/%)*		*High (N/%)*		*Total*	*p-value*	*Low (N/%)*		*High (N/%)*		*Total*	*p-value*
E		6	%	9	%		97	4	%	1	%		19	1	%	4	%		00
	High	42	43%	56	57%	98		32	33%	66	67%	98		27	28%	71	72%	98	
CBB	Low	14	100%	0	0%	14	.002	3	21%	11	79%	14	.389	3	21%	11	79%	14	.173
	High	12	52%	11	48%	23		8	35%	15	65%	23		10	43%	13	57%	23	
	Management commitment and competence																		
CBE	Low	41	71%	17	29%	58	.000	30	52%	28	48%	58	.011	27	47%	31	53%	58	.228
	High	27	32%	58	68%	85		26	31%	59	69%	85		31	36%	54	64%	85	
CBB	Low	14	70%	6	30%	20	.969	4	20%	16	80%	20	.160	5	25%	15	75%	20	.161
	High	12	71%	5	29%	17		7	41%	10	59%	17		8	47%	9	53%	17	

Banks Name	Factors	*Satisfaction*						*Speed improvement*						*Cost reduction*					
		Low (N/%)		*High (N/%)*		*Total*	*p-value*	*Low (N/%)*		*High (N/%)*		*Total*	*p-value*	*Low (N/%)*		*High (N/%)*		*Total*	*p-value*
	Employees resistance to change																		
CBE	Low	48	48%	52	52%	100	.870	35	35%	65	65%	100	.120	40	40%	60	60%	100	.835
	High	20	47%	23	53%	43		21	49%	22	51%	43		18	42%	25	58%	43	
CBB	Low	11	73%	4	27%	15	.736	5	33%	10	67%	15	.692	4	27%	11	73%	15	.373
	High	15	68%	7	32%	22		6	27%	16	73%	22		9	41%	13	59%	22	
	Introduced new working culture																		
CBE	Low	42	69%	19	31%	61	.000	33	54%	28	46%	61	.002	30	49%	31	51%	61	.070
	High	26	32%	56	68%	82		23	28%	59	72%	82		28	34%	54	66%	82	
CB	Low	1	84	3	16	19	.0	6	32	1	68	19	.8	9	47	1	53	19	.1

Banks Name	Factors	*Satisfaction*						*Speed improvement*						*Cost reduction*					
		Low (N/%)		*High (N/%)*		*Total*	*p-value*	*Low (N/%)*		*High (N/%)*		*Total*	*p-value*	*Low (N/%)*		*High (N/%)*		*Total*	*p-value*
B		6	%		%		57		%	3	%		00		%	0	%		09
	High	10	56%	8	44%	18		5	28%	13	72%	18		4	22%	14	78%	18	
	working environment																		
CBE	Low	37	63%	22	37%	59	.002	30	51%	29	49%	59	.016	26	44%	33	56%	59	.474
	High	31	37%	53	63%	84		26	31%	58	69%	84		32	38%	52	62%	84	
CBB	Low	11	79%	3	21%	14	.389	4	29%	10	71%	14	.904	3	21%	11	79%	14	.173
	High	15	65%	8	35%	23		7	30%	16	70%	23		10	43%	13	57%	23	
	Government support																		
CBE	Low	52	46%	60	54%	112	.609	42	38%	70	63%	112	.439	49	44%	63	56%	112	.140
	High	16	52%	15	48%	31		14	45%	17	55%	31		9	29%	22	71%	31	

Banks Name	Factors	*Satisfaction*						*Speed improvement*						*Cost reduction*					
		Low (N/%)		*High (N/%)*		*Total*	*p-value*	*Low (N/%)*		*High (N/%)*		*Total*	*p-value*	*Low (N/%)*		*High (N/%)*		*Total*	*p-value*
CBB	Low	8	73%	3	27%	11	.832	4	36%	7	64%	11	.566	6	55%	5	45%	11	.108
	High	18	69%	8	31%	26		7	27%	19	73%	26		7	27%	19	73%	26	
	Management Style																		
CBE	Low	44	73%	16	27%	60	.000	20	33%	40	67%	60	.225	26	43%	34	57%	60	.566
	High	24	29%	59	71%	83		36	43%	47	57%	83		32	39%	51	61%	83	
CBB	Low	15	79%	4	21%	19	.235	7	37%	12	63%	19	.331	9	47%	10	53%	19	.109
	High	11	61%	7	39%	18		4	22%	14	78%	18		4	22%	14	78%	18	

Table 4.13 shows the critical success factors for BPR implementation in the Public Commercial Banks as identified by the management group respondents.

Table 4.13: Both banks' test of association between performance standards and critical success factors for BPR; Ethiopia, August 2012

Factors	*Satisfaction*					*Speed improvement*					*Cost reduction*					
	Low (N/%)		*High (N/%)*		*Total*	*p-value*	*Low (N/%)*		*High (N/%)*		*Total*	*p-value*	*Low (N/%)*		*High (N/%)*		*Total*	*p-value*
Employees involvement and, empowerment																		
Low	69	68%	32	32%	101	.000	45	45%	56	55%	101	.046	44	44%	57	56%	101	.346
High	23	31%	51	69%	74		22	30%	52	70%	74		27	36%	47	64%	74	
Role and use of IT																		
Low	40	68%	19	32%	59	.003	27	46%	32	54%	59	.098	34	58%	25	42%	59	.000
High	54	45%	67	55%	121		40	33%	81	67%	121		37	31%	84	69%	121	
Management commitment and competence																		
Low	55	71%	23	29%	78	.000	34	44%	44	56%	78	.122	32	41%	46	59%	78	.704

High	39	38%	63	62%	102		33	32%	69	68%	102		39	38%	63	62%	102	
Employees resistance to change																		
Low	59	51%	56	49%	115	.743	40	35%	75	65%	115	.368	44	38%	71	62%	115	.666
High	35	54%	30	46%	65		27	42%	38	58%	65		27	42%	38	58%	65	
Introduced new working culture (Values and attitudes)																		
Low	58	73%	22	28%	80	.000	39	49%	41	51%	80	.004	39	49%	41	51%	80	.022
High	36	36%	64	64%	100		28	28%	72	72%	100		32	32%	68	68%	100	
working environment																		
Low	48	66%	25	34%	73	.003	34	47%	39	53%	73	.032	29	40%	44	60%	73	.949
High	46	43%	61	57%	107		33	31%	74	69%	107		42	39%	65	61%	107	
Government support																		
Low	60	49%	63	51%	123	.174	46	37%	77	63%	123	.943	55	45%	68	55%	123	.034

High	34	60%	23	40%	57		21	37%	36	63%	57		16	28%	41	72%	57	
Management style																		
Low	59	75%	20	25%	79	.000	27	34%	52	66%	79	.455	35	44%	44	56%	79	.238
High	35	35%	66	65%	101		40	40%	61	60%	101		36	36%	65	64%	101	

i. **Association of Employee involvement and empowerment with BPR success**

To test for independence, the null hypothesis and alternative hypothesis were stated as follows:

Ho: BPR success and employee involvement (and empowerment) are independent (not associated).

H1: BPR success and employee involvement (and empowerment) are dependent (associated).

The Chi-square test table 4.13 indicates that the null hypothesis should be rejected at the 0.01 level of significance for customer satisfaction and speed improvement because their corresponding P-values are less than 0.01 but not for process cost reduction because its P-value is higher than even 0.05, the cut-off P-value for statistical significance in the case of CBE. The null hypothesis should not be rejected for CBB as all the P-values are higher than 0.05. The results indicate that employee involvement and empowerment have a significant association with customer

satisfaction and speed of service delivery but do not have significant association with process cost reduction according to management. Thus, we partially accept the alternative hypothesis and conclude that involving employees and empowering them has a significant positive association with the success of BPR – as far as customer satisfaction and speed improvement are concerned.

ii. Association of Role and Use of Information Technology with BPR success

To test for independence, the null hypothesis and alternative hypothesis were stated as follows:

Ho: BPR success and the use and role of IT are independent (not associated).

H1: BPR success and the use and role of IT are dependent (associated).

From the Chi-square test table 4.13, it can be concluded that the null hypothesis should be rejected at the 0.01 level of significance only for process cost reduction and at the 0.05 level of significance for speed improvement because their respective P-values are less than 0.01 and 0.05 respectively but not for customer satisfaction because its P-value is higher than even 0.05 the cut-off P-value for statistical significance in the case of CBE. For CBB, the null hypothesis should be rejected only for customer satisfaction at the 0.01 level of significance but not be rejected for speed improvement and process cost reduction as their P-values are higher than 0.05. The Chi-square test results indicate that the role and use of IT is significant in BPR success because they show some significant associations with improving

customer satisfaction, speed improvement and reducing operating cost. Therefore the researcher accepted the alternative hypothesis and concluded that IT plays an important role in the achieving of the BPR objectives.

iii. Association of management commitment and competence with BPR success

To test for independence, the null hypothesis and alternative hypothesis were stated as follows:

Ho: BPR success and Management commitment and competence are independent (not associated).

H1: BPR success and Management commitment and competence are dependent (associated).

From the Chi-square test table, the researcher rejected the null hypothesis at the 0.01 level of significance for customer satisfaction because the P-value is less than 0.01 but not for speed improvement and process cost reduction because their P-values are higher than even 0.05 the cut-off P-value for statistical significance in the case of CBE. The null hypothesis should not be rejected for CBB for all the indicators of organisational performance as all the P-values are higher than 0.05. The results of the Chi-square test indicate that management commitment and competence have a significant association with BPR success by improving customer and employee satisfaction at least in the case of the CBE bank. Hence the researcher accepted the

alternative hypothesis and concluded that BPR success and management commitment and competence are significantly associated.

iv. Employee Resistance to change and BPR success

To test for independence, the null hypothesis and alternative hypothesis were stated as follows:

Ho: BPR success and employees resistance to change are independent (not associated).

H1: BPR success and employees resistance to change are dependent (associated).

The results of the Chi-square test table indicate that the null hypothesis should not be rejected because all the P-values are not less than the level of significance of 0.05. The Chi-square test results show that there is no significant association between employee resistance to change and BPR success. These results could be explained by the possible reason that employees could pretend and look like they had accepted the reform agenda due to fear of loss of job considered as “change resisters”.

v. Association of Changing Work Culture with BPR success

To test for independence, the null hypothesis and alternative hypothesis were stated as follows:

Ho: BPR success and introduced new working culture are independent (not associated).

H1: BPR success and introduced new working culture are dependent (associated).

From the Chi-square test table 4.13, the researcher rejected the null hypothesis at the 0.01 level of significance for customer satisfaction and speed improvement because the corresponding P-values are less than 0.01 but not for process cost reduction because its P-value is higher than even 0.05 the cut-off P-value for statistical significance in the case of CBE. The null hypothesis should not be rejected for CBB for all the indicators of organisational performance as all the P-values are higher than 0.05. The results indicate that changing the existing working culture with a new one has a significant association with performance improvement in terms of client or customer satisfaction and cycle time reduction or speed improvement. Therefore, the researcher accepted the alternative hypothesis and concluded that the newly introduced working culture played an important role in BPR success in the CBE bank.

vi. Association of working environment with BPR success

To test for independence, the null hypothesis and alternative hypothesis were stated as follows:

Ho: BPR success and working environment are independent (not associated).

H1: BPR success and working environment are dependent (associated).

From the Chi-square table 4.13, the researcher rejected the null hypothesis at the 0.01 level of significance for customer satisfaction and at the 0.05 level of significance for speed improvement because their corresponding P-values are less than 0.01 and 0.05 respectively but not for process cost reduction because its P-value is higher than even 0.05 the cut-off P-value for statistical significance in the case of CBE. The null hypothesis should not be rejected for CBB for all the indicators of organisational performance as all the P-values are higher than 0.05. The results indicate that working environment is significantly associated with BPR success at least judging by the CBE results in terms of client or customer satisfaction and cycle time reduction or speed improvement. Therefore, the researcher accepted the alternative hypothesis and concluded that working environment played an important role in BPR success in the CBE bank.

vii. Association of Government Support with BPR success

To test for independence, the null hypothesis and alternative hypothesis were stated as follows:

Ho: BPR success and the support of government are independent (not associated).

H1: BPR success and the support of government are dependent (associated).

According to the management respondents, the results indicate that the null hypothesis should not be rejected implying that the role of government has no

significant association with BPR success. This could be explained by the stringent budget control of the government to make organizations cost efficient.

viii. **Association of Management style with BPR success**

To test for independence, the null hypothesis and alternative hypothesis were stated as follows:

Ho: BPR success and management style are independent (not associated).

H1: BPR success and management style are dependent (associated).

According to the results in the table (4.13), the null hypothesis should be rejected at the 0.01 level of significance only for customer satisfaction because unlike other P-values, its corresponding P-value is less than 0.01 in the case of CBE. The null hypothesis should not be rejected for CBB for all the indicators of organisational performance as all the P-values are higher than 0.05.This implies that there is a significant association between BPR success and customer satisfaction at least judging by the CBE results. The results do not indicate any association between BPR success and management style at the CBB bank.

When the data were combined for both banks, the results indicated that there is a significant association between organisational performance or BPR success and customer satisfaction except for employee resistance for change and government support; speed improvement or service delivery time except for the role and use of

IT, management commitment and competence, employees resistance to change, government support and management style; and process cost reduction except in the cases of employee involvement and empowerment, management commitment and competence, employee resistance to change, working environment and management style.

In conclusion, the critical success factors for BPR success were identified as employee involvement and empowerment, role and use of IT, management commitment and competence, introduction of new working culture (values and attitudes), working environment, government support and management style.

The following table (table 4.14) shows the binary logistic regression results according to perceptions of management group respondents. .

Table 4.14 (CSF and Performance Outcome)

Binary logistic Regression analysis results of managers; Ethiopia

Factors	Satisfaction				Speed improvement				Cost reduction			
	Adj. OR	*p-value*	95% C.I. for EXP(B)		Adj.OR.	*p-value*	95% C.I. for EXP(B)		Adj.OR	*p-value*	95% C.I. for EXP(B)	
			Lower	Upper			Lower	Upper			Lower	Upper
Employees involvement and empowerment												
Low	1.00				1.00				1.00			
High	2.077	.144	.780	5.531	1.392	.531	.494	3.917	.650	.400	.239	1.772
Role and use of IT												
Low	1.00				1.00				1.00			
High	.522	.209	.190	1.439	.897	.826	.342	2.354	5.655	.001	2.066	15.480
Management commitment and competence												
Low	1.00				1.00				1.00			
High	1.484	.384	.610	3.610	1.110	.818	.456	2.701	.424	.079	.163	1.104
Employees resistance to change												
Low	1.00				1.00				1.00			

Factors	Satisfaction				Speed improvement				Cost reduction			
	Adj. OR	*p-value*	95% C.I. for EXP(B)		Adj.OR.	*p-value*	95% C.I. for EXP(B)		Adj.OR	*p-value*	95% C.I. for EXP(B)	
			Lower	Upper			Lower	Upper			Lower	Upper
High	1.107	.790	.523	2.344	.548	.116	.259	1.160	.424	.079	.199	.921
Introduced new working culture												
Low	1.00				1.00				1.00			
High	2.819	.027	1.127	7.051	2.653	.042	1.038	6.783	1.615	.310	.640	4.075
Good working environment												
Low	1.00				1.00				1.00			
High	.960	.930	.388	2.375	2.388	.066	.945	6.035	.623	.321	.244	1.589
Government support												
Low					1.00				1.00			
High					.662	.325	.290	1.507	2.850	.017	1.203	6.748
Management style												
Low	1.00				1.00				1.00			
High	2.676	.018	1.187	6.031	.290	.006	.119	.707	1.145	.753	.492	2.662

The results of the binary logistic regression analysis show that management style and work cultures have their adjusted odds ratios as 2.7. This implies a significant positive effect of management style and introduced new working culture on BPR success purposely to improve the time of service delivery and make the BPR implementation successful. The role and use of Information technology (IT) and the support of government have adjusted odds ratios of 5.7 and 2.9 respectively implying that they also have a significant positive effect of reducing operating cost of the banks as part of the total effect of BPR implementation.

Therefore, Information technology, work culture, management style and the role of government are critical success factors for BPR implementation in the public banking sector.

4.8 Conclusion on Quantitative Results

In general, from the earlier discussion on the aspects of BPR from the customers, employees and managers perspectives, results have indicated that there are observable and tangible positive improvements in the banks' process efficiency due to BPR implementation. It has been indicated that BPR implementation brought about operation cost reduction, service quality improvement, cycle time reduction as well as customer satisfaction improvement significantly.

The role and use of IT, employees' participation and government support had a considerable effect on operation cost reduction. As witnessed by managers and employees, it has also been found that process orientation on the BPR, jobs and structuring, and management and evaluation had also a significant effect on process cost reduction. As witnessed by managers and employees, management style and introducing a new working culture were the main success factors of BPR implementation with respect to reducing cycle time and process orientation, jobs and structure and monitoring and evaluation.

The improvement of service quality by BPR was basically assessed by using the perceptions of customers. According to employees, process orientation, jobs and structuring and management and evaluation are the critical success factors of quality improvement by BPR. The destination of BPR is basically customer satisfaction. As described by clients or customers of the banks, the critical success factors of customer satisfaction are reliability, responsiveness, assurance and tangibles which are indicators of service quality improvement in the banks.

CHAPTER FIVE

QUALITATIVE RESEARCH RESULTS

5.1 Introduction

Qualitative data was obtained by the following techniques:

- Through in-depth interviews with senior managers of the banks who are both ex-team members during the BPR design and currently appointed process owners.
- Through open ended questions in the semi-structured questionnaire distributed to both employees and lower level managers.
- Through observation of the branches of the banks to look at the efficiency of service delivery.

The findings of the qualitative data are discussed below under common main themes and sub-themes for both banks.

5.2 Response from Open Ended Questions

The respondents were asked to give their perceptions on the gains of BPR to the different stakeholders of the banks. Their responses are summarised as follows:

BPR Benefits to the Banks

The management and employee respondents of the banks gave their opinions by identifying the main benefits of BPR implementation to their banks as follows:

- Increased customer - focused attitude and their satisfaction
- Decreased service delivery time (cycle time).
- Increased productivity and profitability of the bank (increased financial performance)
- Increased market share of the Bank
- Introducing of Single contact point - Decreased customer contact points.
- Increased service quality
- It creates radical change and improved working system of the Bank.
- Increased competitive advantage.
- Minimized working procedures and cutting of non-value adding activities.
- Focusing on service efficiency and effectiveness.
- Creation of public confidence and reliability.
- Decreased cost of operation
- Most tasks of the Bank become decentralized even to low level employees.
- Reduced work hand-offs and inefficiency in service delivery.
- Changing the working culture of management and employees.

BPR Benefits to Employees of the Banks

The respondents also identified the benefits of BPR to employees of the banks as summarized below:

- Empowering of Employees and increasing Job satisfaction and confidence

through decision making process.

- Increment of salary and benefit packages (better benefit packages)
- Knowledge and skill update as well as enhanced learning and development.
- Attitudinal change and feeling of ownership developed.
- Employee motivation and Inspiration increased due to the change.
- Better recognition and satisfaction from providing better service to customers.
- Skill and knowledge diversification and employees become generalists, not limited to a single task
- Facilitates teamwork rather than individual approach.

BPR benefits to customers

The respondents listed the main benefits of BPR to the bank customers as follows:

- Improving customer satisfaction (existing and new customers)
- They have received quality services on time.
- Reduction of service delivery time and contact points.
- Accessible branch networking service with a reasonable time (Cycle time reduced).

- Providing additional banking products and services through electronic means to utmost customer satisfaction level.
- Awareness and exercise of their right to get efficient service.
- Developing their confidence and trust in the bank services

Additional BPR benefits to other stakeholders of the Bank

- Supporting economic growth and financial mobilization of the nation through expansion of branch networks
- A sense of competition with other banks for better services and products.
- Viewed as socially responsible organizations for the society.
- Backbone for supporting the government transformation plan by mobilizing hard currency from abroad.
- Higher profit and higher tax pay

Challenges of BPR in the design and Implementation

The following points were identified as challenges during the design and implementation of BPR in the banks:

- Negative attitude of some employees and management about the change due to fear of loss of jobs

- Absence of performance measurement and follow up of the BPR plan in the bank after implementation
- Lack of required competencies in Information technology
- Resistance due to employees' previous work culture.
- Unfair and non-transparent placement of staff for the new positions
- Power shortage (continuous breakdown)
- Weak telecom services in the country
- Frequent change of management
- Lack of coordination and cooperation.

The responses to open ended questions indicated that BPR brought benefits to different stakeholders to the bank, customers and employees.

In-depth-Interview Results

In addition to the open ended questions, in-depth interviews were also conducted with eight higher level managers of the respective banks, who were also members of their respective banks' reform teams and participated during the design and implementation of BPR.

Objectives of BPR

The Change management managers of the respective banks stated that the main objectives of BPR in their respective banks were as follows:

- To enhance the service excellence of the bank and business growth
- To increase quality of work
- To decrease customer service delivery time (SDT)
- To implement one window shopping customer service, that is, “First come first served”.
- To deliver prompt customer service whenever requested by customers
- To enhance branch networks across the country and provide varieties of the banking products and services.
- To meet customers touch points (expectations) via fulfilling customers’ requirement.
- To empower both front-line and back office employees to: exercise their decision powers, become solution providers, handle customers’ complaints; become creative and flexible while providing customers’ services.
- To reduce the cost of processing transactions
- To convert the functional based to process based organizational structure.
- To provide all banking products/services on a timely basis.
- To achieve competitive advantage of the bank.
- To dramatically change the previous banking operation systems.
- To launch the state of art of new technology to attract new customers and enlarge the market position of the bank.
- To increase the competency level of staff through training, workshops and knowledge sharing programs.

This list of the objectives set was almost the same for both banks due to the fact that both banks are public banks and the change was initiated by the government of Ethiopia. One of the managers said:

"The objectives and standards were not set just to improve or fix the current status (from existing) but to deliver the best service possible to customers through reforming the bank dramatically".

Achievements of Business Process Reengineering (BPR) in the Banks

The interviewees were asked to identify the achievements and challenges of BPR in their respective banks against the objectives set. The interview focused not only on what were the BPR results but also the reasons behind these achievements and/or challenges as perceived by the management group. The results are summarised as follows:

Service Quality and customer Satisfaction

"Without customer there isn't success in banking business and these customers' needs need to be satisfied"

The interviewees indicated that the new paradigm shift as a result of BPR helped the banks to deliver good quality banking products and services and to satisfy customers. In order to achieve the objective of enhancing customer satisfaction

through quality service provision, the introduction of a single customer contact was one of the initiatives (the customer deals with one person).

One of the interviewee said that the introduction of a single customer contact person was a new approach for which an employee was empowered to make all the necessary decisions at that one point. Such a new approach, however, did not compromise control; rather, it was supported by the principle:

"The 4 EYES Principle"

This principle helped the first contacted employee, at the front window to make decisions. If the case this requires a higher level decision, another (one) person from the back office would help in checking the case and making a decision; that is the maker-checker approach. The other related achievement was further mentioned as the introduction of "One window shopping".

The interviewees explained that this approach helped the banks to deliver any service to a customer at a single window. The work flow during pre-BPR was product based (e.g. Deposit only, or withdrawal only); it was highly specialized. After the implementation of BPR, the structure was organized in such a way that any type of service should be provided at any window.

The interviewees also added that previously (i.e., pre- BPR) an employee of the bank was concerned about his/her task only and did not know what was happening next door, but the new structure became process based and helped employees to follow up customers from the beginning to the end of a transaction.

"Process based view not function based"

These initiatives introduced as a result of BPR helped to improve the quality of services provided and to satisfy customers.

Cycle Time Reduction (speed) and Process Cost Reduction

The interviewees said that, the objectives of BPR also included improving process efficiency. During the study phase of BPR (during the AS stage), the main problem of the banks were identified as high level of inefficiency in rendering services to customers. This was considered as the main area of focus and:

'The main achievement of BPR is that service delivery time has reduced dramatically as a result of the new work flow and change of employee attitude"

One bank manager said that the service delivery time was excessively long and the related process cost was high before BPR implementation, and that by carefully reviewing and benchmarking both from local and international banks new stretched targets were set.

The interviewee said that the target that was set before BPR implementation had been achieved and the results were possible mainly by using information communication technology. The interviewee from CBE said:

"*The use of information technology helped the bank to provide fast services to the customer through ATM service"*

New Jobs and Structure and Employee Satisfaction

In general, the interviewees stated that the results were due to the focus given to the "employee learning and development". They said: "*BPR helped employees to become multi-skilled and empowered"*

The new paradigm shift brought about as a result of BPR implementation helped to combine previously separated activities together and to be performed by generalists and not employees performing single tasks. This initiative helped employees to get job satisfaction and knowledge of a transaction from the beginning to the end.

The Challenges in Implementing BPR

The interviewees mentioned the following as the major challenges during the implementation stage:

Resistance to change: - this was a major factor as there was lack of experience in BPR and in literature, it is said that it is a radical change. Both employees and some managers had a concern of being laid off, and that due to the new process redesign,

there would be increased work load without compatible rewards. Employee coined BPR negatively as: “Blood pressure raiser”.

To change staff attitudes, an aggressive training and communication was conducted at all levels: *“We do not fully say there is no problem at all, there is still a lot of work ahead of us”*

The other area of concern that was identified was “telecom infrastructure” and “power interruption”. Both of these were considered as a main problem area in providing banking services efficiently and effectively. Information Technology infrastructure and banking service are highly associated. But due to the monopoly of having only one state owned telecom company in the country, it was not possible to get efficient telecommunication services. A respondent said that due to this fact new banking products like POS (point of sale) and other banking products were not introduced as planned.

“*Information technology infrastructure is basic for increasing efficiency and introducing new banking products*”

Critical Success Factors for BPR in the Banks

In this study, it was found that the critical success factors for BPR implementation are as follows:

- Combining of several jobs into one so that non-value adding activities are eliminated by creating a single contact point for customers.
- The commitment and vision of top management.
- Empowerment - empowering lower level employees so that a decision is made at the level of actual operation.
- A strong team for designing and implementation of BPR

The results also showed that BPR had helped the banks to become competitive and to satisfy their customers better than before. This however was not without a challenge.

Results of Observation

The third technique used to collect qualitative data was personal observation of selected bank branches in order to measure the speed of service delivery and convenience of the waiting places. The researcher measured the service delivery time of busy bank branches for five consecutive days, for half an hour in each branch, and found the following:

Depositing, withdrawing, opening a bank account and money transfer transactions were carried out in the branches and the average service delivery time showed six minutes for CBE and nine minutes for CBB.

All windows were functional and customers were served at any of the windows. At the commercial Bank of Ethiopia (CBE) “Que machine” was installed and customers were served on a first come first served basis. This, however, was not the case at CBB. Lobby boys were assigned to assist customers to fill forms in both banks.

Summary of Qualitative Results

One window service was introduced which is an international standard service to customers and this helped as a source of customer satisfaction. Customers became clients of the bank, not of a single branch due to branch networking through a core banking software that was introduced after BPR implementation. The opening of as many as 40 service windows in one bank has helped to sharply reduce the waiting time of the bank customers. This has helped the bank to meet its stretched objective of reducing service delivery time. BPR did not only eliminate some positions but also came with new positions like customer relations office and “Loby boys” (who provide information to customer and help in filling in the forms). This has helped to create a positive image of the bank and to increase customer satisfaction.

Eliminating non-value adding activities and introducing “Four eyes principle” has helped the banks to deliver fast service to customers. The introduction of a new system “Zero balance” opening a bank book, has encouraged Ethiopian citizens to promote the saving culture.

Summary

The overall results of the mixed method research have showed that BPR has brought about an improvement in service quality and through this the satisfaction of customers. BPR has made the banks to deliver fast services by making the banks less bureaucratic through branch networking. The results are indicative of, but there is no clear data on, the process cost reduction objectives. However, one can conclude that fast services and this, combined with non-value added activities has contributed to process cost reduction of the banks' operation.

The results are consistent in claiming that BPR has contributed to the improvement of the banks' operations and has helped the banks to achieve their objectives.

CHAPTER SIX

SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

In this chapter, the researcher gives a summary and conclusion of the study's findings about the effects of BPR implementation on the operational performance of the Ethiopian public commercial banks including the critical success factors of BPR implementation. Finally, he gives recommendations on how commercial banks should implement BPR in the future. The overall objective of this study was to analyse and assess the effects of BPR on service delivery to customers of the public Commercial banks in Ethiopia and the overall resultant performance gains from BPR implementation. The researcher adopted a mixed research design to study the perceptions of the banks' customers, employees and managers who were associated with BPR implementation. By using these perceptions (including the employees' knowledge on BPR implementation), the critical success factors of BPR were identified.

Seventeen branches of the commercial banks that were established in Addis Ababa before BPR implementation were randomly selected for the study. One thousand (1000) questionnaires were distributed in both banks, namely, the Commercial bank of Ethiopia (CBE) and Construction and Business Bank (CBB). The stratified random

sampling method and procedures were used to select them. The data was analysed using the Statistical Package for Social Sciences (SPSS) software version 20.

The study revealed that the banks undertook the BPR project with the aim of restructuring the work along the process lines. This was achieved through removing functional barriers and accommodating a balance between functional expertise and process involvement which were made possible by offering standardised services to customers, reducing contact points, installation of ATM machines and branch net workings.

As a result of undertaking reengineering projects, there has been an improvement in the measures of performance such as quality service and speed of service delivery. This has been made possible because the management of the banks was able to identify the core processes and supportive processes that were considered fundamental to the bank business and also by finding ways and means of improving such processes. This is in line with Davenport and Short (1990) who defined BPR as the analysis of workflow and process within and between organizations.

6.2 Summary of Results

The current levels of service quality of the banks were rated by customers as high (after BPR implementation). As a result of improvement in service quality, the general customer satisfaction level showed significant positive changes in both

banks. The important findings were that, in general, all of the perceived service quality dimensions (reliability, assurance, tangibles, empathy and responsiveness) and customer satisfaction were significantly positively associated in the public commercial banks sector of Ethiopia.

6.3 Research Conclusions

At the beginning, the introduction of BPR was met with mixed reactions. The major negative attitude was due to the employees' lack of knowledge about BPR and fear of loss of their comfort zone; they were expressing it as "Blood Pressure raiser". Reengineering is not complete until all elements of the business system, that is, business process, the content of jobs, organizational structures and management change for all employees; and when the measurement system has also been put in place in order to bring about radical changes in values and beliefs.

The advocates of BPR claim that if the concept of BPR is correctly implemented, organizations would achieve a quantum leap of improvements in process cost reduction, speed of service quality, productivity and profitability (Hammer, 1993).

A lot of research work has stressed the positive relationship between service quality and customer satisfaction. According to Berry, service has become a powerful and competitive weapon for companies in achieving customer satisfaction (see Lu and Seock, 2008).

The importance of CSF in the public commercial banks was identified by the respective banks that were studied. In general, as the findings discussed in each section have indicated, the changes perceived after BPR implementation by comparing the pre-BPR service delivery (by the banks) (from the perspectives of customers, employees and managers of the respective banks) to the post-BPR service delivery, have affected the operational performance in the Ethiopian public commercial banks positively. The study has shown that BPR is a method that can improve the performance of an organization with the objectives of finding new ways of organizing people, redesigning a process, changing management and measurement system to achieve the organizational goals. There are observable and tangible positive improvements in the banks' process efficiency. Operation cost was reduced; service quality improved, cycle time was reduced by BPR and consequently customers' satisfaction improved significantly.

The role and use of IT, employees' participation and government support had a considerable effect on operation process cost reduction. As witnessed by managers and employees, process orientation on the BPR, jobs and structuring, and management and evaluation had also a significant effect on process cost reduction. Management style and the introduction of a new working culture were the main critical success factors of BPR with respect to reducing cycle time and process orientation, jobs and structure, and monitoring and evaluation.

The improvement of service quality was basically assessed using the perceptions of employees. Employees assured that process orientation, jobs and structuring and management and evaluation are critical success factors of service quality improvement. The destination of BPR is basically customer satisfaction and as described by clients or customers of the banks the critical success factors for their satisfaction are service quality indicators: reliability, responsiveness, assurance and tangibles which are driven by an improvement of service quality and reduction of cycle time.

6.4 Recommendations

The researcher recommends the following points for a better BPR implementation and success results in the banking sector:

The banks should establish (it could be through the office of Finance Agency or the National Bank of Ethiopia), a forum to discuss and share good banking practices among public and private banks in the country in order to become competitive. Such a forum would contribute to the use of resources more efficiently and transfer knowledge so that each bank does not start from scratch in the designing and implementation of continuous change initiatives, like BPR. Each bank should not also invest in installation of ATM machines and banking software's, rather, it should cooperate with those banks who have already installed the machines and information and communication technology software so that customers of both

banks would use to withdraw money from their nearby locations. This is a basic suggestion both in terms of resource utilization and customer satisfaction.

The design and implementation of the change initiative at each bank should be led and supported by establishing a strong change management office. The main responsibility of this office should be to follow up the implementation plan and bring to the attention of the management any corrective action to be taken in case it is needed. In the absence of such a responsible office, it would not be possible to predict the sustainability of the positive results shown in the operational performance following the design and implementation of Business process Reengineering(BPR).

Original Contribution of the Study

This study contributes to the body of knowledge as follows:

Implications for existing theory: The role of government was found significant in initiating and implementing radical organizational reforms, BPR, successfully by reinforcing the desired behaviour in making the public become aware of their rights to get the best and quick services from public banks as well as supporting organizations through budget and policy. This intervention is unique to the developing economies like Ethiopia which was not commonly cited in the literature.

Contribution to research methodology: This research used mixed research approach for evaluating the contribution of change programmes by collecting and analysing

both quantitative and qualitative data from key stakeholders. This is, therefore, a contribution to methods. According to the literature, previous researches focused on a single research approach, either quantitative or qualitative approach.

Further Research

This study was limited only to the capital city branches and used data as reported by respondents. Further research is, therefore, needed to be conducted to assess the effect of the change initiative of all branches of the banks at a national level by including additional metrics of organizational performance(financial and non financial).

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Appendix A

SURVEY INSTRUMENTS

A1- QUESTIONNAIRE TO BE FILLED BY CUSTOMERS

A2- QUESTIONNAIRE TO BE FILLED BY EMPLOYEES

A3- QUESTIONNAIRE TO BE FILLED BY MANAGEMENT

Survey instruments **Appendix A1**

UNIVERSITY OF SOUTH AFRICA (UNISA)

SCHOOL OF BUSINESS LEADERSHIP (SBL)

QUESTIONNAIRE TO BE FILLED BY CUSTOMERS

Dear Respondent:

The undersigned is conducting a research study as a partial requirement for the Doctoral Degree in Business Leadership (DBL) at Unisa, School of Business Leadership (SBL). The study is aimed at examining the effect of business process reengineering (BPR) on the performance outcome of the Ethiopian public banks.

In this connection, the researcher is requesting for your kind cooperation to fill in this survey questionnaire and return it back to the data collector promptly. You are required to answer all questions because your opinion on this matter is most important.

May I assure you that your information will be kept anonymous and completely confidential and will be used only for academic purposes. Your kind cooperation is highly indebted. My PROMOTER (Advisor) is: Prof. Phillip Serumaga-Zake, who can be contacted at; serumpa@unisa.ac.za

With Thanks,

Abdurezak Mohammed Kuhil

PhD. Scholar/Researcher

UNISA

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Email: m.abdurezak@yahoo.com OR 72125098@mylife.unisa.ac.za

Part I- **Demographic characteristics** (Tick whichever is applicable to you)

Gender: Male ☐ Female ☐

Name of Bank----------Branch---------- Level----------

What type of customer are you? Individual ☐ Corporate ☐ Both ☐

What type of account do you have in this bank?

Current ☐ Saving ☐ Others ☐

Your current Educational Level

Up to grade 8 completed	High School completed	Certificate	Diploma	Undergraduate Degree	Postgraduate Degree	PhD Degree	others

For how long are you customer of this bank?

Below 1 year	5 years	6-10 years	11-15 years	16-20 years	above 20 years

How frequently do you go to your nearest branch of this bank to get service (cash deposit, withdrawal, etc)?

Daily	At least 2 times weekly	At least Once a week	At least Once a month	Very occasionally

Part II. **Service Quality**: Please indicate the extent to which you agree or disagree with the current service of the bank (branch) by ticking on only one number option for each of the 7 items or statements, by comparing it to pre-BPR implementation service quality level, on the table below.(Where AC: agree completely; SA strongly agree; SWA somewhat agree; NAND neither agree nor disagree; SWD somewhat disagree; SD somewhat disagree; and DC disagree completely).

Reliability		AC(7)	SA(6)	SWA(5)	NAND(4)	SWD(3)	SD(2)	DC(1)
1	Whenever I request for service (cash deposit, cash withdrawal, bank statement, etc), the bank's staff provide it to me as promised							
2	Whenever I experience problem, the bank employees handle it in constant manner							
3	Whenever I request for banking service, the bank's staff provides it							

	very quickly							
4	Whenever I request for any banking service, I can get it from any of its branches							
5	the bank always maintains my records correctly and finds it quickly							
Responsiveness								
6	Always the bank keeps me informed as to when service will be performed							
7	The time taken to get any service from the bank has become faster after BPR implementation							
8	Always the bank's employees are willing to solve customer problems							
9	the bank provides quality services quickly							
Assurance								
10	The behavior of all employees of							

	the bank instills confidence in me when handling problems							
11	I always feel safe in my transaction with the bank (account maintenance, cash transfer, cash deposit and withdrawal, ATM card pin, etc)							
12	the electronic banking services(ATM visa) is efficient and accessible any where							
13	employees of the bank have the knowledge to answer my questions related to the bank operation							
Empathy								
14	Whenever I request for service, the bank's employees gives me individual attention							
15	The front line employees in the bank pass transactions at one window in a caring manner							

16	The bank offers all services at single window after BPR implementation							
17	The front office employees of the bank are customer centred							
18	The banking hours are extended to serve the customer at any time							
Tangibles								
19	The bank has opened convenient branches and became accessible from anywhere							
20	Materials and equipment associated with the service are visually appealing							
21	The interior and exterior of the Bank is appealing and spacious							
22	Employee of the bank's branch are professionally dressed							

Part III- Customers' Satisfaction: Please indicate the extent to which you are satisfied or dissatisfied by ticking on only one number option for each of the 7 items or statements(from highest to lowest), by comparing the service level of this bank to pre-BPR implementation, on the table below.

		7 Completely satisfied	6 Very satisfied	5 Somewhat satisfied	4 neutral	3 Somewhat dissatisfied	2 Very dissatisfied	1 Completely dissatisfied
Customer loyalty								
1	I will stick with the bank because I am satisfied with all its service after BPR implementation							
2	All things being equal, I really intend to continue using this bank in the future							
3	I consider myself to be loyal to the entire bank(not a single branch of the bank)							
4	I will do more							

	business with the bank in the next few years than I do right now							
5	I'm satisfied with new innovations and creativity made by the bank, after BPR implementation.							
	Positive word of mouth							
6	I encourage friends and colleagues to do business with this bank							
7	I say positive things about this bank to my friends, etc.							
8	Currently, I tell to anyone about the new positive changes of the bank has made after the reform							

9	I will now recommend my friends, relatives, colleagues, etc. to open an account and do business with this bank							
10	I will now recommend former dissatisfied customers to return back and renew their accounts with the bank							

THE END

Thank you very much for your cooperation!

UNIVERSITY OF SOUTH AFRICA (UNISA)

SCHOOL OF BUSINESS LEADERSHIP (SBL)

QUESTIONNAIRE TO BE FILLED BY EMPLOYEES (**Appendix A2**)

Dear Respondent:

The undersigned is conducting a research in partial requirement for the Doctorial Degree in Business Leadership (DBL). The research study is aimed at examining the effects of business process reengineering (BPR) on the performance improvement of the Ethiopian public banks.

In this connection, it is requested your kind cooperation to fill this survey questionnaire and return back to the data collector promptly. You are required to answer all questions because your opinion is most important.

May I assure you that your information to the survey questionnaire will be kept anonymous and completely confidential to be used only for academic purpose? Your kind cooperation is highly indebted. PROMOTER (Advisor): Prof. Phillip Serumaga-Zake; serumpa@unisa.ac.za

With Thanks,

Abdurezak Mohammed Kuhil

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SECTION-I: Demographic Characteristics

☐ Gender ☐ Male ☐ Female

☐ What is your age? ☐ 20-30 Years ☐ 31-40 ☐ 41-50 ☐ Above 50

☐ Last Educational level attained ☐ Diploma ☐ Undergraduate degree

☐ Masters Degree ☐ PhD degree Other _____

☐ How many years have you been with the bank?----------

☐ Your current position _____

☐ Your Bank Name _____

☐ Branch Category/Department _____

SECTION II: Please indicate the extent to which you agree with the following statements on the 7 point- scale. Using the value from highest to lowest as: agree completely(AC);strongly agree(SA);somewhat agree(SWA);neither agree nor disagree(NAND);somewhat disagree(SWD);strongly disagree(SD);and disagree completely(DC).

S.No	Business process design	AC(7)	SA(6)	SWA(5)	NAND(4)	SWD(3)	SD(2)	DC(1)
1.	I understand the connection between the works I do and the							

	mission and goals of the bank.							
2	The top management and senior line managers of the bank are committed to the design and implementation of the Bank's BPR							
3	Employees of the bank have pariciated in the design and implementation of the bank's BPR							
4	The business processes of the bank are sufficiently defined so that I know how the work is interrelated							
5	I feel that employees who were assigned to the BPR study team were from all functions of the bank							
6	The business process design of the bank has addressed the need of its customers							

Jobs and structures		AC(7)	SA(6)	SWA(5)	NAND(4)	SWD(3)	SD(2)	DC(1)
7	The workflows of the bank are fully redesigned so that separate functional tasks are combined under cross-functional process based structure							
8	All employees of the bank were provided with sufficient training on the new jobs requirements							
9	The placement criteria of employees for the new positions were fair and transparent.							
10	The appointment of staff for the new management positions was based on merit							
11	Employees are empowered and make decision at the service point, where work is done, without delay as a result of new structure following BPR							

	implementation							
12	The new job design and assignment helped me to do complete tasks to serve a customer than a single part job							
Process Management and measurement system		AC(7)	SA(6)	SWA(5)	NAND(4)	SWD(3)	SD(2)	DC(1)
13	There is continuous evaluation of performance and taking feedback of customers and employees following BPR							
14	Employee workload has increased as a result of the new process design and job assignment							
15	The reward system has been adjusted to serve the employees workload after the changes.							
16	There is Continuous assessment and feedback to measure the result of BPR and scale up internal best practices at the bank							

	level							
17	Team sprit has developed as result of working on the new process based organisational set up							
Values and beliefs		AC(7)	SA(6)	SWA(5)	NAND(4)	SWD(3)	SD(2)	DC(1)
18	Our team members care more about the quality of services and customer satisfaction as a result of BPR.							
19	Employees of the bank became customer oriented as a result of BPR implementation							
20	The bank became a place to retain and attract talented employees							
21	Employees motivation has significantly improved after BPR implementation							
22	Employess attitude has shifted from functional based to process based							

	orientation							
23	Employees of the bank believe that BPR is an important reform tool							
	SECTION III. Overall satisfaction	AC(7)	SA(6)	SWA(5)	NAND(4)	SWD(3)	SD(2)	DC(1)
24	Our customer's satisfaction level has increased following the implementation of BPR in the bank.							
24	The use of IT has increased after BPR implementation and helped me to deliver better services to customers more quickly.							
25	BPR has brought a major change in the work culture of employees							
26	customers complaints has reduced as a result of BPR							
27	Time taken to complete a transaction(cash deposit, withdrawal, loan processing, etc) has improved after BPR							

	implementation							
28	our bank became easily accessable to customers after BPR implementation due to opening of new branches							
29	Employee morale and motivation has improved now than pre-BPR situation							
30	I feel the bank's service quality has improved after BPR implementation.							
31	ATM(visa card) banking service provided by our bank is efficient							
32	Resource utilisation became efficient as a result of working in the same office with team members							
33	Our bank becomes less bureaucratic as result of BPR							
34	I am now satisfied with my job in the bank							
35	The single window banking service is the							

	best arrangement for efficiency and effectiveness of our service							

SECTION IV: OVERALL ASSESSMENT

36.In your opinion, what are the main benefits (gains) of BPR at your bank?

To the Bank-

_____

_____

_____

_____

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To Customers

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_____

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To Employees

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_____

_____

37. In your opinion, what are the main problems in the design and implementation of BPR at your bank?

_____

_____

_____

_____

_____

SECTION VII: BPR Effort and overall success

On a scale of 1 to 7, please rate the overall performance success of the BPR project implemented at your bank(process/sub process/branch) and its expected benefits.

	7	6	5	4	3	2	1
37	Completely successful	Highly successful	Somewhat successful	Neither sucessful nor unsuccessful	Somewhat unsuccessful	Less successful	Completely unsuccessful

THE END

Thank you very much for your cooperation!

UNIVERSITY OF SOUTH AFRICA (UNISA)

SCHOOL OF BUSINESS LEADERSHIP (SBL)

QUESTIONNAIRE TO BE FILLED BY MANAGEMENT (**Appendix A3)**

Dear participant

The undersigned is conducting a research as a requirement for his Doctorial Degree in Business Leadership (DBL). The part of the research study is aimed at examining the effect of business process reengineering (BPR) project design and implementation on the performance outcome of the Ethiopian public banks by collecting data from Process owners, sub-process owners, Team leaders, Change management heads, ex-BPR team members, officers and Branch managers.

In this connection, he is requesting for your kind cooperation to fill this survey questionnaire and return it back to the data collector promptly. You are required to answer all the questions because your opinion is of utmost important.

May I assure you that your information to the survey questionnaire will be kept anonymous and strictly confidential to be used only for academic purpose. You might need to know that participation in this survey is voluntary and that you may withdraw from the survey at any time without any consequences. Your kind cooperation is highly indebted. The PROMOTER (Advisor) is Prof. Phillip Serumaga-Zake, who can be reached for clarification on Tel. +27 11 6520318 and Email. serumpa@unisa.ac.za

With Thanks,

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SECTION-I: Demographic characteristics (please give us your personal and organizational information)

☐ Gender (please tick) ☐ Male ☐ Female

☐ Age (in years) ? ☐ 20-30 ☐ 31-40 ☐ 41-50 ☐ Above 50

☐ Your highest Educational level attained :

☐ Diploma ☐ Undergraduate Degree ☐ Masters Degree ☐ PhD Other _

___

☐ Job Experience (in years) in the bank _____

☐ Your current

position_____

_____

_____

☐ Your Bank Name _____

_____

☐ Branch Category/Department _____

SECTION II: BPR Experience

1. Your role in BPR design and/or

implementation_____

2. Date of the Launch of the first BPR study at your Bank_____

3. How long did the BPR study and pilot testing take (before its full scale implementation)?

   ---

4. Do you think it took longer period than expected? ☐ Yes ☐ No

   If your answer is “yes”, which factors of the following do you consider were the main reasons for the delay in the implementation of the BPR project in your bank?)? (*Please rank them in order from 1st, 2nd...etc.)*

   ☐ magnitude and extent of the business process changes of the bank----------

   ☐ inexperience in BPR implementation----------

   ☐ Lack of proper knowledge of BPR_____

   ☐ Unexpected resignation of some reform team members_____

   ☐ unexpected problems faced during the BPR project----------

   ☐ resistance to change by the staff ----------

   ☐ others,(please specify) _____

   _____

   _____

   _____

5. Which of the following are the business drivers causing your bank for undertaking business process reengineering (BPR)?(*please rank them in order from 1st,2nd...,etc.)*

☐ Proactively anticipating of a wider liberalisation of the financial regulation in the country____

☐ Pressure from existing customers for better and new banking services_____

☐ Government pressure for reform_____

☐ Competition from private banks_____

☐ Others(please specify)----------

---

6. What are the main objectives of the BPR project at your bank?(*please put in rank order from 1st to last*)

☐ To reduce cycle time(time taken to complete a task)_____

☐ To Improve quality of customer services_____

☐ To become widely accessible by opening new outlets and banking products_____

☐ To Increase market share_____

☐ To improve existing banking products/services_____

☐ To improve working system/process of the bank through restructuring_____

☐ To improve financial performance of the bank_____

☐ To enhance customer satisfaction_____

☐ To enhance employee learning and development_____

☐ To change working culture of employees and management_____

☐ Others(please specify)----------

---

7. In what time period do you expect your BPR project fully achieve its intended results (objectives)?

Less than 1 year	1 to 2 years	2 to 3 years	3 to 4 years	No time limit

SECTION II: CRITICAL SUCCESS FACTORS please indicate the extent to which you agree with the following statements on the 7 point- scale. Using the value from highest to lowest as: agree completely(AC);strongly agree(SA);somewhat agree(SWA);neither agree nor disagree(NAND);somewhat disagree(SWD);strongly disagree(SD);and disagree completely(DC).

PART A: Working Environment		AC(7)	SA(6)	SWA(5)	NAND(4)	SWD(3)	SD(2)	DC(1)
1	There is friendly interactions between managers and co-workers at all levels of the bank							
2	Team members have confidence on their immediate supervisor's competence and trust each other							
3	Teamwork is the typical way of solving problems following BPR							
4	employees feel as if they are working in a cooperative environment following BPR							
5	Employees became satisfied in their new jobs							
PARTB: Management Commitment and competence		AC(7)	SA(6)	SWA(5)	NAND(4)	SWD(3)	SD(2)	DC(1)
6	The management team of the bank at all levels is competent							
7	The top management of the bank has sufficient							

	knowledge about the BPR objectives and its connectedness to the bank's strategy							
8	The leadership of the bank at all levels frequently communicate with employees about the BPR project							
9	Top management of the bank is committed in implementing the BPR							
10	top management and line management of the bank initiated and led the BPR project of the bank							
11	Top management avails all necessary resources for the project							
12	Top management of the bank generally has realistic expectation of the BPR project result							

PART C: Employee involvement and empowerment		AC(7)	SA(6)	SWA(5)	NAND(4)	SWD(3)	SD(2)	DC(1)
	Employees of the bank have							

13	actively participated in the design and implementation of BPR							
14	The salary and other benefit packages was adjusted for the employees of the bank at all levels after the change implementation							
15	There is an efficient communication channel to get feedback from employees about the reform							
16	The employee performance measurement system adequately correspond to the new changes							
17	employees are empowered to make decisions as per the newly designed process							
18	Continuous training and/or educational programs are offered to update employees' skills as per the new requirement of the job assignment							
19	The employee work culture has been changed as a result of BPR							

Part D: Change Management		AC(7)	SA(6)	SWA(5)	NAND(4)	SWD(3)	SD(2)	DC(1)
20	The placement of employees for the new jobs was fair and transparent							
21	The BPR implementation phase was based on properly designed implementation plan							
22	Receptiveness of management and employees to the new change is high							
23	There was/is Willingness of management to dismantle existing structure and implement the new fully							
24	There is regular forum for assessing the BPR Progress with the management of the bank							
35	There is a clear understanding of BPR objectives by all staff and management							
26	Regular communication of the BPR progress is made to all staff							
27	There is a separate change management office responsible for BPR programme of the bank							

28	Good practices are recognised and shared at all levels of the bank							
Part E Customer focus		AC(7)	SA(6)	SWA(5)	NAND(4)	SWD(3)	SD(2)	DC(1)
28	The BPR projects resulted from analysis of needs of customers							
29	The BPR's central purpose is to find new ways of adding value to our customers							
30	Newly redesigned process have a direct impact on customer value and cost							
31	Complaint of customers have reduced significantly following BPR implementation							
32	New banking products and services have been introduced to satisfy customers							
Part G: Role and Use of Information Technology		AC(7)	SA(6)	SWA(5)	NAND(4)	SWD(3)	SD(2)	DC(1)
33	Information Technology has contributed for the end to end process alignment							
35	IT played an enabling role in our BPR project							
36	Adequate IT investment is a pre-requisite for increasing efficiency							

	in banking firms							
37	IT helped us to expand electronic banking services efficiently							
38	IT has helped us in reducing paper work							
39	It is the main reason for increasing efficiency in our bank							
40	It has reduced non value adding steps in the work system							
41	It has contributed a lot to the satisfaction of our customers							

PART H: Employee Resistance								
42	Managers were anxious about losing their authority after the new restructure	AC(7)	SA(6)	SWA(5)	NAND(4)	SWD(3)	SD(2)	DC(1)
43	employees were worried about losing their job after the changes							
44	there was/is scepticism among employees and management about the results of the projects							
45	employees feel uncomfortable with the new reform							
46	Employee work culture and attitude has been dramatically changed							
Part I-Government support		AC(7)	SA(6)	SWA(5)	NAND(4)	SWD(3)	SD(2)	DC(1)

47	BPR is/was political/ government sponsored change initiative at our bank							
47	Government supported our bank by assigning external consultants in designing and implementation of the project							
48	The support of government was crucial for our success in the BPR project							
48	There is a regular high level meeting to share good practices of the reform among public banks							
49	Our BPR could not have been possible without the support of external consultants assigned by the government							
50	The bank could have done a better reform without external initiative							

SECTION III. PERFORMANCE MEASURES

The answer to this section of the questionnaire is based on (please tick):

Perception ☐ Empirical data ☐

1. What has been the change in work force numbers as a result of BPR at your Department (Process/sub process/team?

None	Up to 10% reduction	11 to 20% reduction	21 to 30% reduction	Above 31% reduction

2. What has been the average reduction in cost of operation as a result of BPR at your Department (Process/sub process/team?

None	Up to 5% reduction	6 to 10% reduction	11 to 15% reduction	Above 16% reduction

3. What has been the reduction of the average cycle time (service) as a result of BPR at your Department (Process/sub process/team?

None	Up to 10% reduction	11 to 20% reduction	21 to 30% reduction	Above 31% reduction

4. Which response best describe your bank's ability in satisfying customers following the implementation of BPR?

Completely satisfied	Very satisfied	Somewhat satisfied	neutral	Somewhat dissatisfied	Very dissatisfied	Completely dissatisfied

5. Which of the following best describes your bank's ability in your employees' satisfaction through learning and growth following the implementation of BPR?

Completely satisfied	Very satisfied	Somewhat satisfied	neutral	Somewhat dissatisfied	Very dissatisfied	Completely dissatisfied

Section IV-: Please give us your overall assessment

8. a) In your opinion, what are the main achievements (benefits) of BPR at your bank (branch)?

   To the Bank

   _____

   _____

   _____

   _____

   To Employees

   _____

   _____

   _____

   _____

   _____

   _____.

   To Customers

   _____

   _____

   _____

   _____.

   Others

   _____

   _____

   _____.

b). What do you think are the main challenges in the implementation of BPR at your organization?_____

_____

_____

_____

c). what do you suggest to make BPR in your organization (and/or similar banks) successful and sustainable?_____

_____

_____

_____

SECTION V: BPR Effort and overall success at your bank level On a scale of 1 to 7, please rate the overall performance success of the BPR project implemented at your bank (process/sub process/branch) and its expected benefits.							
	7	6	5	4	3	2	1
10	Completely successful	Highly successful	Somewhat successful	Neither successful nor unsuccessful	Somewhat unsuccessful	Less successful	Completely unsuccessful

THE END

Thank you very much for your cooperation!

Appendix B

Background Characteristics of Respondents

Appendix B: Back ground characteristics of Respondents

Age	Customers						Employees						Managers						Over all					
	CBE		CBB		Total		CBE		CBB		Total		CBE		CBB		Total		CBE		CBB		Total	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
20 upto 30 Years	192	64.0%	23	67.6%	215	64.4%	181	65.6%	29	61.7%	210	65.0%	35	24.5%	0	0.0%	35	19.4%	408	56.7%	52	44.1%	460	55.0%
31 upto 40 years	73	24.3%	7	20.6%	80	24.0%	65	23.6%	14	29.8%	79	24.5%	57	39.9%	29	78.4%	86	47.8%	195	27.1%	50	42.4%	245	29.3%
41 upto 50 years	26	8.7%	3	8.8%	29	8.7%	24	8.7%	4	8.5%	28	8.7%	45	31.5%	7	18.9%	52	28.9%	95	13.2%	14	11.9%	109	13.0%
Above 50 years	9	3.0%	1	2.9%	10	3.0%	6	2.2%	0	0.0%	6	1.9%	6	4.2%	1	2.7%	7	3.9%	21	2.9%	2	1.7%	23	2.7%
Total	**300**	**100.0%**	**34**	**100.0%**	**334**	**100.0%**	**276**	**100.0%**	**47**	**100.0%**	**323**	**100.0%**	**143**	**100.0%**	**37**	**100.0%**	**180**	**100.0%**	**719**	**100.0%**	**118**	**100.0%**	**837**	**100.0%**
Sex																								
Male	174	58.0%	18	52.9%	192	57.5%	182	65.5%	19	39.6%	201	61.7%	108	75.5%	27	73.0%	135	75.0%	464	324.5%	64	173.0%	528	293.3%
Female	126	42.0%	16	47.1%	142	42.5%	96	34.5%	29	60.4%	125	38.3%	35	24.5%	10	27.0%	45	25.0%	257	179.7%	55	148.6%	312	173.3%
Total	**300**	**100.0%**	**34**	**100.0%**	**334**	**100.0%**	**278**	**100.0%**	**48**	**100.0%**	**326**	**100.0%**	**143**	**100.0%**	**37**	**100.0%**	**180**	**100.0%**	**721**	**504.2%**	**119**	**321.6%**	**840**	**466.7%**
Type of customer																								
Commercial	227	80.8%	28	84.8%	255	81.2%													227	80.8%	28	84.8%	255	81.2%
Corporate	42	14.9%	4	12.1%	46	14.6%													42	14.9%	4	12.1%	46	14.6%
Business class	12	4.3%	1	3.0%	13	4.1%													12	4.3%	1	3.0%	13	4.1%
Total	**281**	**100.0%**	**33**	**100.0%**	**314**	**100.0%**													**281**	**100.0%**	**33**	**100.0%**	**314**	**100.0%**
Account type																								
Current	76	25.5%	10	30.3%	86	26.0%													76	25.5%	10	30.3%	86	26.0%
Saving	171	57.4%	15	45.5%	186	56.2%													171	57.4%	15	45.5%	186	56.2%
Others	51	17.1%	8	24.2%	59	17.8%													51	17.1%	8	24.2%	59	17.8%
Total	**298**	**100.0%**	**33**	**100.0%**	**331**	**100.0%**													**298**	**100.0%**	**33**	**100.0%**	**331**	**100.0%**

Educational level																								
Up to grade 8 completed.	29	9.9%	3	8.8%	32	9.8%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	29	4.1%	3	2.5%	32	3.9%
High School completed	44	15.1%	6	17.6%	50	15.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	44	6.2%	6	5.1%	50	6.1%
Certificate	17	5.8%	3	8.8%	20	6.1%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	17	2.4%	3	2.5%	20	2.4%
Diploma	88	30.1%	8	23.5%	96	29.4%	57	21.1%	12	25.5%	69	21.8%	12	8.4%	0	0.0%	12	6.7%	157	22.3%	20	16.9%	177	21.5%
Undergraduate Degree	85	29.1%	12	35.3%	97	29.8%	193	71.5%	28	59.6%	221	69.7%	120	83.9%	23	62.2%	143	79.4%	398	56.5%	63	53.4%	461	56.0%
Postgraduate Degree	24	8.2%	2	5.9%	26	8.0%	18	6.7%	5	10.6%	23	7.3%	10	7.0%	13	35.1%	23	12.8%	52	7.4%	20	16.9%	72	8.7%
P. HD. Degree	0	0.0%	0	0.0%	0	0.0%	2	0.7%	1	2.1%	3	0.9%	1	0.7%	1	2.7%	2	1.1%	3	0.4%	2	1.7%	5	0.6%
Others	5	1.7%	0	0.0%	5	1.5%	0	0.0%	1	2.1%	1	0.3%	0	0.0%	0	0.0%	0	0.0%	5	0.7%	1	0.8%	6	0.7%
Total	**292**	**100.0%**	**34**	**100.0%**	**326**	**100.0%**	**270**	**100.0%**	**47**	**100.0%**	**317**	**100.0%**	**143**	**100.0%**	**37**	**100.0%**	**180**	**100.0%**	**705**	**100.0%**	**118**	**100.0%**	**823**	**100.0%**
Current position								**CBE**		**CBB**		**Total**		**CBE**		**CBB**		**Total**						
Accountant							6	2.2%	1	2.1%	7	2.1%							6	1.7%	1	1.2%	7	1.6%
Cashier							7	2.5%	1	2.1%	8	2.5%							7	2.0%	1	1.2%	8	1.8%
Checker/Maker							100	36.0%	6	12.5%	106	32.5%							100	28.1%	6	7.1%	106	24.0%
Collateral Valuer							3	1.1%	7	14.6%	10	3.1%							3	0.8%	7	8.2%	10	2.3%
Controller							13	4.7%	3	6.3%	16	4.9%							13	3.7%	3	3.5%	16	3.6%
Credit Analyst							7	2.5%	0	0.0%	7	2.1%							7	2.0%	0	0.0%	7	1.6%
Credit customer rlnship officer							10	3.6%	2	4.2%	12	3.7%							10	2.8%	2	2.4%	12	2.7%
Customer relation officer							21	7.6%	1	2.1%	22	6.7%							21	5.9%	1	1.2%	22	5.0%
Customer Service Officer							26	9.4%	9	18.8%	35	10.7%							26	7.3%	9	10.6%	35	7.9%
Front maker							41	14.7%	2	4.2%	43	13.2%							41	11.5%	2	2.4%	43	9.8%
Human Resource (HR) Officer							12	4.3%	2	4.2%	14	4.3%							12	3.4%	2	2.4%	14	3.2%
Internal Auditor							9	3.2%	0	0.0%	9	2.8%							9	2.5%	0	0.0%	9	2.0%
Secretary							12	4.3%	4	8.3%	16	4.9%							12	3.4%	4	4.7%	16	3.6%

Support Officer							10	3.6%	3	6.3%	13	4.0%							10	2.8%	3	3.5%	13	2.9%
Trade Service Officers							1	0.4%	7	14.6%	8	2.5%							1	0.3%	7	8.2%	8	1.8%
Branch Controller													4	5.1%	3	8.1%	7	6.1%	4	1.1%	3	3.5%	7	1.6%
Branch Manager													13	16.7%	7	18.9%	20	17.4%	13	3.7%	7	8.2%	20	4.5%
Dupty branch manager													12	15.4%	4	10.8%	16	13.9%	12	3.4%	4	4.7%	16	3.6%
Head office officers													10	12.8%	14	37.8%	24	20.9%	10	2.8%	14	16.5%	24	5.4%
Teaam Leader													39	50.0%	9	24.3%	48	41.7%	39	11.0%	9	10.6%	48	10.9%
Total							**278**	**100.0%**	**48**	**100.0%**	**326**	**100.0%**	**78**	**100.0%**	**37**	**100.0%**	**115**	**100.0%**	**356**	**100.0%**	**85**	**100.0%**	**441**	**100.0%**
Clients duration of customership/Staffs years of stay with the bank																								
upto 5 years	184	63.7%	21	84.0%	205	65.3%	180	66.4%	32	68.1%	212	66.7%	12	8.4%	0	0.0%	12	6.7%	376	53.5%	53	48.6%	429	52.8%
6 upto 10 years	65	22.5%	3	12.0%	68	21.7%	31	11.4%	6	12.8%	37	11.6%	33	23.1%	15	40.5%	48	26.7%	129	18.3%	24	22.0%	153	18.8%
11 upto 15 years	25	8.7%	0	0.0%	25	8.0%	21	7.7%	5	10.6%	26	8.2%	55	38.5%	15	40.5%	70	38.9%	101	14.4%	20	18.3%	121	14.9%
16 upto 20 years	9	3.1%	1	4.0%	10	3.2%	17	6.3%	1	2.1%	18	5.7%	13	9.1%	3	8.1%	16	8.9%	39	5.5%	5	4.6%	44	5.4%
Above 20 years	6	2.1%	0	0.0%	6	1.9%	22	8.1%	3	6.4%	25	7.9%	30	21.0%	4	10.8%	34	18.9%	58	8.3%	7	6.4%	65	8.0%
Total	**289**	**100.0%**	**25**	**100.0%**	**314**	**100.0%**	**271**	**100.0%**	**47**	**100.0%**	**318**	**100.0%**	**143**	**100.0%**	**37**	**100.0%**	**180**	**100.0%**	**703**	**100.0%**	**109**	**100.0%**	**812**	**100.0%**
Visit frequency for service		**CBE**		**CBB**		**Total**																		
Daily	48	16.8%	3	8.8%	51	16.0%													48	16.8%	3	8.8%	51	16.0%
Atleast 2 times weekly	60	21.1%	11	32.4%	71	22.3%													60	21.1%	11	32.4%	71	22.3%
Atleast Once a week	55	19.3%	11	32.4%	66	20.7%													55	19.3%	11	32.4%	66	20.7%
Atleast Once a month	87	30.5%	5	14.7%	92	28.8%													87	30.5%	5	14.7%	92	28.8%
Very Occasionaly	35	12.3%	4	11.8%	39	12.2%													35	12.3%	4	11.8	39	12.2%

																						%		
Total	**285**	**100.0 %**	**34**	**100.0 %**	**319**	**100.0%**												**285**	**100.0 %**	**34**		**100. 0%**	**319**	**100.0 %**
Bank's background characterstics																								

Brach																							
Aba Koran Branch	23	7.7%	0	0.0 %	23	6.9 %	21	7.6%	0	0.0%	21	6.4%	11	7.7%		0.0%	11	6.1%	55	7.6%	0	0.0%	55
Addis Ketema Branch	32	10.7%	0	0.0 %	32	9.6 %	26	9.4%	0	0.0%	26	8.0%	10	7.0%		0.0%	10	5.6%	68	9.4%	0	0.0%	68
Air Port Branch	15	5.0%	0	0.0 %	15	4.5 %	21	7.6%	0	0.0%	21	6.4%	6	4.2%		0.0%	6	3.3%	42	5.8%	0	0.0%	42
Anwar Mesgid Branch	15	5.0%	0	0.0 %	15	4.5 %	24	8.6%	0	0.0%	24	7.4%	10	7.0%		0.0%	10	5.6%	49	6.8%	0	0.0%	49
Arat Kilo Branch	71	23.7%	2	5.9 %	73	21.9 %	30	10.8%	4	8.3%	34	10.4%	9	6.3%	4	10.8%	13	7.2%	110	15.3%	10	8.4%	120
Belay Zeleke Branch	0	0.0%	4	11.8 %	4	1.2 %	0	0.0%	16	33.3%	16	4.9%		0.0%	4	10.8%	4	2.2%	0	0.0%	24	20.2%	24
Gerji Branch	9	3.0%	0	0.0 %	9	2.7 %	12	4.3%	0	0.0%	12	3.7%	8	5.6%		0.0%	8	4.4%	29	4.0%	0	0.0%	29
Gurd Shola Branch	16	5.3%	0	0.0 %	16	4.8 %	16	5.8%	0	0.0%	16	4.9%	6	4.2%		0.0%	6	3.3%	38	5.3%	0	0.0%	38
Head Office	0	0.0%	0	0.0 %	0	0.0 %	18	6.5%	15	31.3%	33	10.1%	33	23.1%	15	40.5%	48	26.7	51	7.1%	30	25.2%	81

																			%					
Kolfe branch	35	11.7%	0	0.0%	35	10.5%	22	7.9%	0	0.0%	22	6.7%	8	5.6%		0.0%	8	4.4%	65	9.0%	0	0.0%	65
Mahtema Ghandi Branch	9	3.0%	0	0.0%	9	2.7%	18	6.5%	0	0.0%	18	5.5%	8	5.6%		0.0%	8	4.4%	35	4.9%	0	0.0%	35
Main Branch	0	0.0%	25	73.5%	25	7.5%	0	0.0%	4	8.3%	4	1.2%		0.0%	9	24.3%	9	5.0%	0	0.0%	38	31.9%	38	
Mehal Ketema Branch	20	6.7%	0	0.0%	20	6.0%	17	6.1%	0	0.0%	17	5.2%	8	5.6%		0.0%	8	4.4%	45	6.2%	0	0.0%	45	
Pawlos	15	5.0%	0	0.0%	15	4.5%	14	5.0%	0	0.0%	14	4.3%	8	5.6%		0.0%	8	4.4%	37	5.1%	0	0.0%	37	
Piassa Branch	0	0.0%	3	8.8%	3	0.9%	0	0.0%	9	18.8%	9	2.8%		0.0%	5	13.5%	5	2.8%	0	0.0%	17	14.3%	17	
T/Haimanot Branch	28	9.3%	0	0.0%	28	8.4%	24	8.6%	0	0.0%	24	7.4%	10	7.0%		0.0%	10	5.6%	62	8.6%	0	0.0%	62	
Tewodros Branch	12	4.0%	0	0.0%	12	3.6%	15	5.4%	0	0.0%	15	4.6%	8	5.6%		0.0%	8	4.4%	35	4.9%	0	0.0%	35	
Total	**300**	**100.0%**	**34**	**100.0%**	**334**	**100.0%**	**278**	**100.0%**	**48**	**100.0%**	**326**	**100.0%**	**143**	**100.0%**	**37**	**100.0%**	**180**	**100.0%**	**721**	**100.0%**	**119**	**100.0%**	**840**	
Level																								
One	0	0.0%	27	79.4%	27	8.	0	0.0%	8	24.2%	8	2.7%	0	0.0%	8	21.6%	8	4.	0	0.	43	41.	43	

						1%													4%		0%		3%	
Two	40	13.3%	0	0.0%	40	12.0%	49	18.8%	0	0.0%	49	16.7%	61	42.7%	0	0.0%	61	33.9%	150	21.3%	0	0.0%	150
Three	91	30.3%	7	20.6%	98	29.3%	86	33.1%	25	75.8%	111	37.9%	32	22.4%	29	78.4%	61	33.9%	209	29.7%	61	58.7%	270
Four	169	56.3%	0	0.0%	169	50.6%	125	48.1%	0	0.0%	125	42.7%	50	35.0%	0	0.0%	50	27.8%	344	48.9%	0	0.0%	344
Total	**300**	**100.0%**	**34**	**100.0%**	**334**	**100.0%**	**260**	**100.0%**	**33**	**100.0%**	**293**	**100.0%**	**143**	**100.0%**	**37**	**100.0%**	**180**	**100.0%**	**703**	**100.0%**	**104**	**100.0%**	**807**