SAINT MARY'S UNIVERSITY SCHOOL OF GRADUATE STUDIES
INSTITUTE OF QUALITY AND PRODUCTIVITY MANAGEMENT

SUCCESS AND FAILURE OF BUSINESS PROCESS REENGINEERING IMPLEMENTATION AND THE WAY FORWARD THE CASE OF MUGHER CEMEN FACTORY

BY:

ABAYNEH KEBEDE

JUNE / 20018

ADDISS ABEBA, ETHIOPIA

SUCCESS AND FAILURE OF BUSINESS PROCESS REENGINEERING IMPLEMENTATION AND THE WAY FORWARD THE CASE OF MUGHER CEMEN FACTORY

BY:

ABAYNEH KEBEDE

ADVISOR:

AMEHA MULUGETA (PhD)

A THESIS SUBMITED TO SAINT MARY'S UNIVERSITY, SCHOOL OF GRADUATE STUDIES INSTITUTE OF QUALITY AND PRODUCTIVITY MANAGEMENT, IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF SCIENCE IN QUALITY AND PRODUCTIVITY MANAGEMENT

JUNE / 20018

ADDISS ABEBA, ETHIOPIA

SAINT MARY'S UNIVERSITY SCHOOL OF GRADUATE STUDIES
INSTITUTE OF QUALITY AND PRODUCTIVITY MANAGEMENT

SUCCESS AND FAILURE OF BUSINESS PROCESS REENGINEERING IMPLEMENTATION AND THE WAY FORWARD THE CASE OF MUGHER CEMEN FACTORY

BY

ABAYNEH KEBEDE

Approval of Examining Board

Name	Title	Signature	Date
Dr. Melaku Girma	Chairperson, _____		_____
Dr. Ameha Mulugeta	Advisor(s), _____		_____
Dr. Alula Tesema	Examiner, _____		_____

DECLARATION

I, the undersigned, declare that this thesis is my original work, prepared under the guidance of laws and regulations. All sources of materials used for the thesis have been duly acknowledged. I further confirm that the thesis has not been submitted either in part or in full to any other higher learning institution for the purpose of earning any degree.

Name: Abayneh Kebede Woldie Signature

St. Mary's University School of Graduate Studies, Addis Ababa, Jun. /2018

ENDORSEMENT

This Thesis has been submitted to St. Mary's University School of Graduate Studies for examination with my approval as a university advisor.

Advisor: Ameha Mulugeta (PhD) Signature _____

St. Mary's University, Addiss Abeba Date_____

ACKNOWLEDGEMENTS

I would like to thank the almighty God for giving me this opportunity, to explore every kind of endeavor and for opening doors when it seemed impossible.

Next I would like to extend my deepest gratitude to my advisor Dr. Ameha Mulugeta, who has committed his time in assisting me throughout this study. I would also like to thank all Mugher Cement management and employees, who has been giving me continuous material and moral support.

I dedicate this thesis to my wife W/ro Belaynesh Zewidie, my daughter, Aelaf Abayneh, my sons Jordanos Abayneh, Ameha Abayneh and Yibabe Abayneh for they sacrificed their precious family time.

This study wouldn't have been possible hadn't I sponsored by Mugher Cement Factory. Hence, I owe it all to the company (MCF).

Table of Contents

TITLE **Pages**

List of Tables

List of Figures

List of Acronyms

BPR ……. Business Process Reengineering

BSC ……. Balanced Score Card

IS ……..Information System

ISO ……...International Standard Organization

IT ……..Information Technology

MCF …….Mugher Cement Factory

PDCA ……..Plan, Do, Check and Act

Abstract

The purpose of this paper is to investigate the success and failure of BPR implementation in Mugher Cement Factory and map out the way forward. Change management and culture, management competency and support, organizational structure, project planning management, IT infrastructure and BPR drivers are major factors dealt in this research. All these factors are catalysts of BPR success factors if properly managed but these can be potential causes for BPR failures if not managed properly. Mugher Cement Factory (MCF) is a leading public enterprise in the industry playing a significant role in national development by producing and supplying to the market mainly two types of cement products which are needed for construction industry in the country. From 1473 total population 142 respondents are taken as a sample size of which 86% are working more than ten years in the factory and three directorate directors are considered for investigation. The researcher used questionnaire, interview, secondary documents and observation. These methods are used to collect data related with BPR factors and map out the way forward. The quantitative data gathered through questionnaire were analyzed by employing the computer software known as Statistical Package for Social Science (SPSS version 20). Moreover, qualitative data is analyzed thematically. Even if workable documentation was prepared by BPR teams and consultants, due to misunderstanding and misapplication, BPR project in MCF was remaining unsuccessful. However there are very important values left by this terminated program, like well installed IT infrastructure, well trained employee and well arranged office layout which can be used to elevate the company to its former leading position if integrated with properly designed process based organizational structure and pre implemented quality and productivity improvement programs (ISO, BSC and KAIZEN).

Key words: *BPR Implementation, Critical Success factor, Critical failure factor, Internal drivers, External drivers and Mugher Cement factory***.**

CHAPTER ONE: INTRODUCTION

As the concern of this paper is to investigate the success and failure of BPR implemented in Mugher Cement Factory and envisages better ways forward in the future career, it is very important to see the word "success" defined from its three dimensional cases. In the first case, success refers to the achievement of BPR program to improve company performance. In the second case, success referred to the sustainability of BPR program itself in the organization's system. In the third case, success referred to the benefit gained by stake holders from BPR project. The fulfillment of all these cases sufficed the meaning of the term success in the context of this thesis.

1.1 Backgrounds

The concept of business process reengineering (BPR) is to rethink and break down existing business processes. This allows a company to improve quality and productivity through newer, more efficient processes. It is important to remember however, that business process reengineering (BPR) is not a perfect method of success; as with all business activities it runs the risk of failure. This is to say that, change always brings initial turbulence which needs to be handled with utmost care and sensitivity. Some estimate that more than 70% of BPR projects fail to achieve the outcomes projected for the projects (Bashein, 1994:7). The high failure rates have caused organizations to seek further guidance on ways to minimize the risk of failure.

The concept of Business Process Reengineering had been around in the 1980s but mainly the focus was more academic than organizational; however in the 90s an organizational awareness of the concept was created by Michael Hammer, Thomas Davenport and James Champy (Harmon, 2007). According to Harmon, (2007) BPR was first introduced into management concepts in Michael Hammer's book: ''Reengineering Work: Don't Automate, Obliterate''. Furthermore, Hammer and Champy (2006), stressed the fact that BPR is focused on dramatic and radical process redesign which entails overhauling of existing processes. This principle was buttressed by Smith, (2007) as the difference BPR presents when compared with other process improvements concepts like TQM and JIT. According to Smith, (2007) BPR approach is therefore a more ag-

gressive one that seeks to breakdown existing business processes and starts up new ones without considering current organizational barriers.

As put forward by Smith, (2007), although BPR can result in dramatic improvements in a company's performance, it can also be source of problems for companies because some use BPR as an excuse to downsize instead of matching the right skills to the right job thereby losing skills. On the other hand, companies that truly want to embark on BPR and enjoy it's immense value will have to be ready to face the technical challenges (designing and developing the process) and behavioral challenges such as resistance to change that come from the employees due to the fear of losing their jobs or their significance (Smith, 2007). As a result of this, the focus of this research is to determine the critical success and failure factors of BPR and thus provide practical recommendations for successful implementation in order for companies to be able to take full advantage of the value BPR adds to organizations.

The business environment is changing with a rapid pace and the only way an organization can survive continual changes in the business environment is by learning to manage and leveraging change effectively. This calls for a major change in the Ethiopian manufacturing sectors as well. Ethiopia has launched the 2nd phase of Growth and Transformation Plan (GTP II). GTP II, which will run to 2019/20, aims to continue work on physical infrastructure through public investment projects, and to transform Ethiopia into a manufacturing center. Growth targets are an annual average GDP growth of 11%; in line with manufacturing strategy, it also hopes the industrial sector will grow by an average of 20%, creating jobs. In the medium and large industries development, eight (8) sub-sectors were prioritized consisting of 1) textile and apparel industry, 2) leather and leather products industry, 3) sugar and sugar related industries, 4) cement industry, 5) metal and engineering industry, 6) chemical industry, 7)pharmaceutical industry, and 8) agro-processing industry.

Growth in Gross Domestic Product (GDP) per capita, a measurement of the average national standard of living, can be a contributing factor to cement demand. According to the Global Cement Magazine 2014 June issue, increased industrialization caused by economic expansion has a tendency to drive corresponding increases in cement consumption. Hence cement, second most consumed material on the planet next to water, is an essential component of infrastructure devel-

opment and most important input for construction industry, particularly in infrastructure and housing programs, which are necessary for the socioeconomic growth and development. In this regard, like many other countries, the Ethiopian Cement Industry is expected to play significant role in terms of supplying variety of cement products for the booming construction and infrastructure development. On this base, the government of Ethiopia has worked strongly on investment of cement factory and the country has currently about 18 cement factories among which the case company (Mugher Cement Factory) is the eldest and the only state owned. As its elder, most of new cement factories have been built by the product of the case company and has rendered remarkable skill and knowledge for their management and high level technicians of the new entrants of cement industry (MCF- 2010-2014 performance evaluation report).

According to MCF'S SWOT analysis report, Even though the factory has such competencies, currently it is not in a position to exploit to its advantages due to high market competition and low efficiency and productivity. Based on Mugher Cement Factory has initiated different management programs; ISO9001 in 2007, BPR in 2008, BSC in 2010, and KAIZEN in 2013 as preventive and corrective action. However, ISO 9001 has been abandoned due to the emergence of BPR. BPR has been initiated and soon supported by BSC to sustain the program. However, the organization sandwiched between two terrible blocks instead; on one hand new business process environment and on the other hand new market competition of three giant cement industries (Mosobo, Derba and National cement factories). As annual reports and practice of the company indicated, the case company suffered not only due to market competition of the cement product but also due to resign of much skilled manpower. As a result the brand of the organization shrink, efficiency and productivity lowered and the market share declined time to time. To save the organization from such evils, some maintenance has been done specially for Engineering and Quality Control departments against the structure of BPR and hence the program is totally troubled and subjected to failure.

Consequently, the owner of the company (the government) and the management has turned their face from west to east and initiated "KAIZEN" without any investigation of the success and failure of the back improvement tools. This means that most of the management and employee have not taken a lesson from the success and failure of the previous improvement programs (ISO

9001, BPR and BSC) which may result in an obstacle to the introduction and development of KAIZEN and other continuous improvement programs of the case company. The concern of this thesis is therefore, to investigate the success and failure of BPR implemented by Mugher Cement Factory and envisage viable quality improvement tool for the future career.

1.2 Statement of the Problem

Mugher Cement Factory (MCF) is a leading public enterprise in the industry playing a significant role in national development by producing and supplying to the market mainly two types of cement products which are needed for construction industry in the country. The factory produces 2.2 million ton Ordinary Portland Cement and Portland Pozolana Cement, As regards manpower, currently the factory has a total number of 1473 workers, of which 1252 are males and the remaining 221 are females. For long years the company leaders were grown from in-home passing through different hierarchical ladder step by step and built strong institutional and social bondage with potential stake holders which in turn led the company to achieve the ultimate production capacity.

But this continuous development could not maintain after almost all company's top management members replaced by new ones. Productivity decreased, resistance against new management developed. Mean while BPR was initiated by the directors of boards and welcomed by new management and workers' basic labor union from their own independent perceptions. However implementation of BPR and pre-existing ISO-9000 tools could not save MCF from declining in productivity and market share. Terminating ISO-9000, BSC and KAIZEN were installed on this infant and narrow base of BPR without investigating what the success and failure of BPR implementation in MCF and the consequence forward. Therefore this thesis has filled the gap by investigating BPR implementation in MCF.

1.3 Basic Research Questions:

This thesis is proposed to seek answers for the following research questions:-

- What are the successes and failures of BPR implementation in MCF?
- What are the key factors of BPR success and failures in MCF?
- What is the current status of BPR and the way forward in MCF?

1.4 Objectives of the Research

1.4.1 General Objectives:-

The overall research objective of this study is to identify the success and failure of BPR implementation in MCF and to propose the way for ward.

1.4.2 Specific Objectives:-

- To investigate the success and failures of BPR project in MCF.
- To identify factors determined the success and failure of BPR implemented in MCF.
- To design out the way forward to develop the success of BPR and to recover from the failures.

1.5 Significances of the Problem

This thesis investigated the success and failure of BPR and map out viable integrated management technique to boost quality and productivity in Mugher Cement Factory, which off course used to transfer this skill and knowledge for other manufacturing industries in Ethiopia by small adjustment.

More specifically, the significances of this thesis are to:-

- ✓ Enabled Mugher Cement Factory to understand the current status of BPR implementation within the system.
- ✓ Enable Mugher Cement Factory to identify the success and failure of BPR.
- ✓ Enable Mugher Cement Factory to have combatable and applicable tools.
- ✓ Help Mugher Cement Factory to improve quality and productivity.
- ✓ Help Mugher Cement Factory to improve market share and business excellence.
- ✓ Help to elevate the country in construction sector.
- ✓ Help to transfer skill and knowledge to other manufacturing industries.
- ✓ Help to achieve the Growth and Transformation Plan (GTP) of Ethiopia.

1.6 Delimitation (Scope) Of the Thesis

In this study the researcher will cover all operational branches of Mugher Cement Factory (90km Main Factory, 20km Tatek Cement Grinding Plant and Addiss Abeba Cement Grinding Plant, Derba Raw material preparation 50km and Adama Sale branch95km). Relevant data and information will also be taken from Chemical Industries Corporation here in Addis Ababa.

1.7 Limitation (Weakness)

The weaknesses of this research are :

- ✓ Unpunctuality to finalize the thesis as per designed program in proposal.
- ✓ Government body didn't involved in an interviews

1.8 Organization of the Research Report

This paper consists of five chapters, chapter one is introduction which consists of the background, problem statement and objective of the research at large. Chapter two is literature review in which relevant scientific theories and concepts are dealt. Chapter three is methodology in which the type and design, participant of the study, source of the data, procedure of data collection and methodology of analysis. Chapter four deals with the result and findings in which interpretation based on extensive use of literature is seen. Chapter five is conclusion and recommendation in which the brief picture of the thesis is drawn and the new solution to the problem is proposed.

CHAPTER TWO: LITRATURE REVIEW

2.1 Introduction

This chapter will analyze the current literature available on business process reengineering in an effort to establish a methodology from which the researcher can examine the techniques and tools commonly used in implementing BPR efforts. Because of the relative infancy practice of BPR in our country, a standard method for evaluating BPR efforts has yet to be established. Even in the world wide, the majority of the information on BPR is provided in the form of case studies by pioneers such as Hammer and Champy, Davenport, and Harrington (Hammer and Champy, 1994; Davenport, 1993; Harrington, 1991). It is important to acknowledge and understand that BPR is not a foolproof method of success. As with all activities it runs the risk of failure as well. A success and failure in business proves the success and failure of BPR implemented in the organization (Martin 2014).

On this ground, the researcher preferred to start with what business process reengineering is. This will be done by examining the definitions and characteristics attributed to the term in the literature on the subject. Secondly, the theoretical concept and the practical application of the program for successful implementation of BPR in the world wide will be discussed. Here inevitably, the causes or factors responsible for success or leads to failure have been well treated to derive the critical variables crucial for the analysis of this thesis. Finally, the concept of different quality and productivity improvement programs in general and comparison between western ideology BPR and eastern ideology KAIZEN in particular will be seen to show the gap and indicate the fate of BPR implemented in MCF. This is to say that, this section seeks to review the various perceptions of the concept and theories of Business Process Reengineering (BPR).

2.2 Theories and Concepts BPR

From the name of the concept it is evident that Business process reengineering (BPR) entails the reengineering of business processes thus there is a need to understand what a business process is. According to Hammer and Champy (2006: 38) ‘’*business process is a collection of activities that takes one or more kinds of input and creates an output that is of value to the customer’’*. Also Kock, (2005) defined business process as *‘’a set of interrelated activities, usually carried out by teams, whose outputs are the goods or services that are typically sold by an organization to its*

customers''. Reengineering on the other hand, According to Coulson, (1997), was first introduced into common business usage in 1990 in a seminal Harvard Business Review article: *reengineering work: don't automate obliterate* by Michael Hammer. Also Kock, (2005) ascertained that the reengineering work was heralded by Michael Hammer in conjunction with James Champy and Davenport in conjunction with James Short. According to Hammer and Champy (2006 :35), 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''* Hammer and Champy (2006), emphasised four key words in their definition. The first is the fact that reengineering is 'fundamental', implying that organizations need to ask questions like ''*why do we do what we do? And why do we do it the way we do?''.* Therefore no assumptions must be made about what processes should be done and which one should be eliminated (Hammer and Champy 2006). The second key word is 'radical' meaning that reengineering goes beyond making superficial changes but '*disregarding all existing structures and procedures and inventing completely new ways of accomplishing work'* (Hammer and Champy 2006 :36). Thirdly the definition stressed the word 'dramatic', which according to Smith, (2007: 17) means ''*starting with a blank sheet of paper and drawing up the perfect process, without regard to the incumbent organizational barriers'';* as opposed to marginal improvements which entails fine tuning (Hammer and Champy 2006: 36). And lastly the fourth key word is 'processes', reengineering should be focused on processes not tasks, jobs, people or structures because all these other activities takes place in a process and in order to make a change the whole process need to be reengineered not functions (Hammer and Champy 2006 :36).

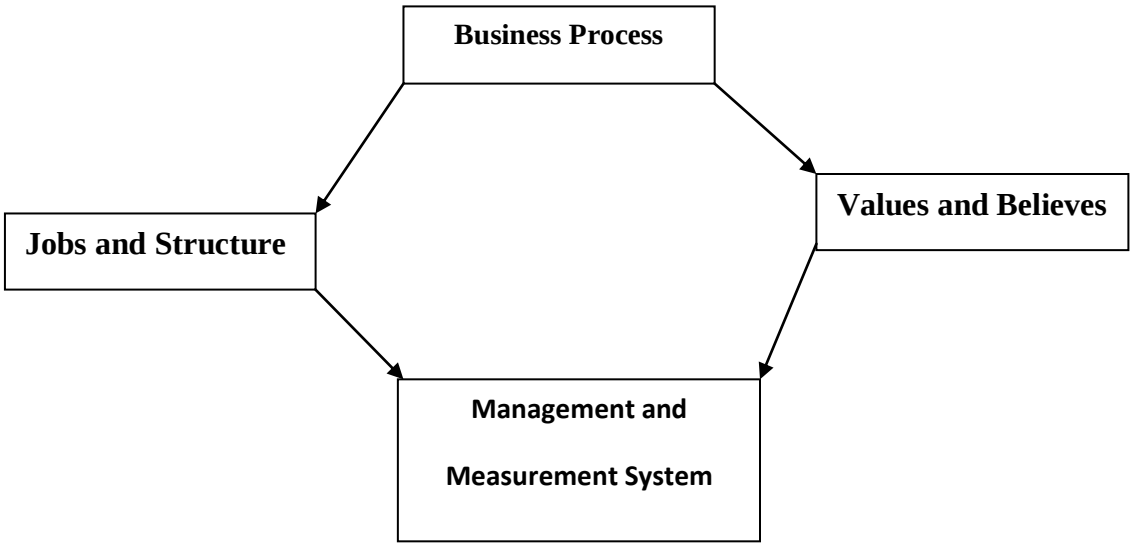
However there were other definitions by other authors; Alter, (1990 :32) cited in Al-Mashari and Zairi (2000), defined reengineering as *''a methodical process that uses information technology to radically overhaul business process and thereby attain major business goals''* also Lowenthal, (1994 :62) cited in Al-Mashari and Zairi (2000) defined it as *''the fundamental rethinking and redesigning of operating processes and organizational structure, focused on organizational core competencies to achieve dramatic improvements in organizational performance''.* Al-Mashari and Zairi (2000) argued that though there are differences in the three definitions, the four authors (Hammer and Champy, Alter and Lowenthal) however all emphasized that: (a)

business process redesign is facilitated by technology particularly IT, (b) BPR need to be radical and (c) the need for organizational change.

However comparing much more recent BPR definitions to the ones of the early eras of BPR, Kock, (2005) referred to BPR as *''radical organizational redesign projects, particularly when they are focused on cross-departmental business processes or sets of interrelated activities''.* Conversely, Grant, (2002) argued that the Hammer and Champy's definition of BPR is inadequate because it focuses more on processes and ignores other important aspects of institutions such as organizational structure, people, communication and technology according to him this narrowed definition which is being followed by organizations is one of the causes of failure in BPR. Grant, (2002) further analyzed that technology, people, communication and structure are important parts of any organization that can also be reengineered if need be so as to yield better results and not just business processes only. In the same vein Coulson, (1997) argued that reengineering can only be effective when used to redesign the business itself and not just its processes. Organizations should utilize the potentials and skills of members of the organization; in other words putting the right person in the right job Coulson, (1997). However the principle of reengineering as put forward by Hammer and champy(2006) shows that Hammer and Champy's claims agrees with the argument of Grant and Coulson. According to Hammer and Champy (2006) reengineering in an organization has several implications not only does it affect business processes but affects every aspect of the organization. According to Hammer and Champy (2003 :69-84), Work units change from functional department to process teams, Jobs change from simple tasks to multi-dimensional work, people's roles change from controlled to empowered and job preparation changes from training to education. Also, focus of performance measures and compensation shifts from activity to result, advancement criteria change from performance to ability and values change from protective to productive (Hammer and Champy 2006).

In addition the management of the organization is also not left untouched as managers change from supervisors to coaches, organizational structure changes from hierarchical to a flattened structure and executives changes from score keepers to leaders (Hammer and Champy 2006). It is not enough to reengineer an organization's business process, but all other aspects have to fit

together to record success in the reengineering projects as illustrated in the business system diamond model (Fig 2) (Hammer and Champy 2006: 85).



Source: Hammer and Champy (2003: 85)

Figure-1 Business System Diamond

The above Fig shows that reengineering an organization's business processes is linked to all other aspects of an organization (people, jobs, managers and values) and therefore will determine the design of jobs and structures, which will in turn lead to the management system of the company (how workers are paid and assessed) the management system thus determines the organization's values and beliefs and consequently shapes the organization's business process all over again (Hammer and Champy 2006).

In general, the principle of reengineering emphasizes that work must not be designed on hierarchical management and specialization of labor but on end-to-end processes and focus on value creation for customers (Hammer and Champy 2006). Furthermore, Grey and Mitev (1995 :7), view BPR as ''the unwinding of traditional modes of organization based on bureaucratic structures and taylorised work systems'', the author believes that BPR is de-division of labor because it reduces the number of steps in performing an operation and also leads to a flatter hierarchy.

Furthermore the only way by which an organization can achieve a flatter hierarchy and eliminate bureaucracy is by reengineering its process so that they are no longer fragmented (Hammer and Champy 2006). BPR emphasizes empowerment implying that staffs are given the training to perform a variety of roles with a high level of autonomy in order to cut costs and create more efficient processes (Coulson, 1997). On the other hand, Grey and Mitev (1993) views empowerment has a form of control from the top management to the employees, because the top management tell workers that they are empowered so as to motivate them and thus making them ignore the need for an overseer hence indirectly reducing cost of overheads. Moreover, hammer and Chapy, (2006) argued that reengineering should use IT to enable a new process and not to automate the existing one; according to him workers are fully empowered to carry out their functions when supported by technology. In the same vein, Groover and Manjor, (1997, cited in Cesnovar, 2006) stressed that ‘‘BPR relies on the use of innovative information technology’’, because it enables easier communication with customers and suppliers and thus instant response to demands.

Harmon, (2009) argued that IT professionals and department need to be incorporated right from the beginning because they can tell if the BPR plan will be compatible with the existing IT infrastructures or if an upgrade or replacement is needed thereby challenging Hammer’s suggestion on excluding IT professionals from the BPR planning team until BPR plan is complete due to the fact that they are usually resistant to BPR changes. Also technology on its own cannot deliver transformation/change because organizational change usually depends on right management hence, technology is not a solution to organizational problems since BPR also presents technology as a problem to be solved, (Grey and Mitev 1995: 15)

Following the publication of the fundamental concepts of BPR by Hammer (1990) and Davenport and Short (1990), many organizations have reported dramatic benefits gained from the successful implementation of BPR. Companies like Ford Motor Co., CIGNA, and Wal-Mart are all recognized as having successfully implemented BPR. However, despite the significant growth of the BPR concept, not all organizations embarking on BPR projects achieve their intended result. Hammer and Champy (1993) estimate that as many as 70 percent do not achieve the dramatic results they seek. Having BPR repeatedly at the top of the list of management issues in annual

surveys of critical information systems reflects executives' failure to either implement properly or acquire the benefits of BPR (Alter, 1994).

This mixture of results makes the issue of BPR implementation very important. BPR has great potential for increasing productivity through reduced process time and cost, improved quality, and greater customer satisfaction, but it often requires a fundamental organizational change. As a result, the implementation process is complex, and needs to be checked against several success/failure factors to ensure successful implementation, as well as to avoid implementation pitfalls. The following analyses the BPR implementation process by reviewing the relevant literature on both soft and hard factors that cause success and failure of BPR efforts. The factors listed below are distilled from various articles and empirical research on BPR implementation. They were then categorized into a number of subgroups representing various dimensions of change related to BPR implementation. These dimensions are:

(1) Change management;
(2) Management competency and support;
(3) Organizational structure;
(4) Project planning and management; and
(5) IT infrastructure.

2.3 BPR success and failure factors

2.3.1 Factors relating to change management systems and culture

Change management, which involves all human- and social-related changes and cultural adjustment techniques needed by management to facilitate the insertion of newly-designed processes and structures into working practice and to deal effectively with resistance (Carr, 1993), is considered by many researchers to be a crucial component of any BPR efforts (Talwar, 1993; Moad, 1993; Zairi and Sinclair, 1995; Towers, 1996; Cooper and Markus, 1995; Hammer and Stanton, 1995; Bashein et al., 1994; Carr and Johanson, 1995; Bruss and Roos, 1993; Janson, 1992; Kennedy, 1994). Revision of reward systems, communication, empowerment, people involvement, training and education, creating a culture for change, and stimulating receptivity of the organization to change are the most important factors related to change management and culture are the most important factors that contribute to the success of BPR projects if properly managed but

these can be potential causes to influence BPR implementation negatively if not managed properly.

2.3.2 Factors relating to management competence

Sound management processes ensure that BPR efforts will be implemented in the most effective manner (Bashein et al., 1994). The most noticeable managerial practices that directly influence the success of BPR implementation are top management support and commitment, championship and sponsorship, and effective management of risks are the most important factors that contribute to the success of BPR projects if properly managed but these can be potential causes to influence BPR implementation negatively if not managed properly.

2.3.3 Factors relating to organizational structure

As BPR creates new processes that define jobs and responsibilities across the existing organizational functions (Davenport and Short, 1990), there is a clear need to create a new organizational structure which determines how BPR teams are going to look, how human resources are integrated, and how the new jobs and responsibilities are going to be formalized are the most important factors that contribute to the success of BPR projects if properly managed but these can be potential causes to influence BPR implementation negatively if not managed properly.

2.3.4 Factors related to BPR project management

Successful BPR implementation is highly dependent on an effective BPR program management (CSC Index, 1994) which includes adequate strategic alignment (Guha et al., 1993), effective planning and project management techniques, identification of performance measures (Zairi and Sinclair, 1995), adequate resources, appropriate use of methodology (Carr, 1993), external orientation and learning (Jackson, 1997), effective use of consultants (Davenport, 1993), building process vision (Talwar, 1993), effective process redesign, integrating BPR with other improvement techniques (Zairi and Sinclair, 1995), and adequate identification of the BPR value (Guha et al., 1993 are the most important factors that contribute to the success of BPR projects if properly managed but these can be potential causes to influence BPR implementation negatively if not managed properly.

2.3.5 Factors related to IT infrastructure

Factors related to IT infrastructure have been increasingly considered by many researchers and practitioners as a vital component of successful BPR efforts (Brancheau et al., 1996; Malhotra, 1996; Ross, 1998a; Broadbent and Weill, 1997). Effective alignment of IT infrastructure and BPR strategy, building an effective IT infrastructure, adequate IT infrastructure investment decision, adequate measurement of IT infrastructure effectiveness, proper IS integration, effective re-engineering of legacy IS, increasing IT function competency, and effective use of software tools are the most important factors that contribute to the success of BPR projects if properly managed but these can be potential causes to influence BPR implementation negatively if not managed properly .

2.4 BPR Drivers

Drivers of BPR have been classified under three Cs: Customers, competition and change while others classify it as external (customers, competition, change and government policies and political pressures) and internal (technology, increase in efficiency, cost reduction and strategy re-definition). However Grey and Mitev (1995) argued that organizations implement BPR irrespective of what customers' perceptions are and saying customers' needs drive companies to implement BPR is a cover up. Also profitability and shareholders drive companies to implement BPR and they are interwoven into each other because if the profitability of a company increases, it is expected that the company's share value would increase correspondingly. In addition, Hammer and Champy, (2006) the driver of competition has caused a change in emphasis from efficiency and control to innovation, speed, service and quality; thus organizations implement BPR so as to meet up. On the contrary Grey and Mitev (1995) believe that competition is not a driver for BPR but it is the implementation of BPR that initiates competition. Change as a driver comes in form of technological, political, regulative, legislative, and economic changes. However Johansson *et al.* (1993) argued that politics, economics legislation, and regulations are influencers not drivers of BPR because adhering to them will lead to changes in business processes and organizations do not have control over the outcomes of these changes unlike other BPR drivers.

Finally, according to Plowman (1995) the development of new strategic directions in an organization is a driver because it often requires the need to develop capabilities that will match and help deliver the new business strategy. Despite the above analysis Chan and Peel, (1998) research showed that the major external and internal drivers of BPR are customer's perception and cost reduction respectively.

2.5 Interface between BPR and Other Improvement Programs

Improving the quality of processes and maintaining acceptable levels of performance quality are critical factors in the success of any organization. Over the past fifty or so years there have been waves of interest and application of several seemingly different approaches beginning with the Total Quality Management (TQM) "revolution of the 1970's and 80's and including Six Sigma, BPR, Lean, etc. A variety of methodologies are available for process improvement. These include Six Sigma, Lean Management, Lean Six Sigma, Agile Management, Re-engineering, Total Quality Management, Just-In-Time, Kaizen, Hoshin Planning, Poka-Yoka, Design of Experiments, and Process Excellence. However, the researcher focused to the interface between BPR and quality improvement programs implemented in MCF so far.

2.5.1 ISO9000:

ISO has been accepted as the international quality standard. It is formally accepted by the European Union and informally by virtue of its use in the rest of the world. However, it is more of an administrative system than an improvement system. In fact, in terms of Deming's principle that specifications and quotas can actually become barriers to improvement, it will not foster improvement. There are no tools associated with ISO 9000. It is heavily oriented towards reliance on documentation for all processes.

2.5.2 Balanced Score card (BSC)

Kaplan and Norton introduced BSC in 1992 as reflect of the inadequacy of traditional management systems, and their dependence on financial measures which are lag indicators, that report on the outcomes from past actions. Additionally, some traditional measurement systems, which incorporate nonfinancial measures, are lake the linkage to the strategy of an organization. Banker, Chang, Pizzini (2004) explained BSC as:

"an essential aspect of the BSC is the articulation of linkage between performance measures and strategy objectives, once linkage is understood, strategic objectives can be further translated into actionable measures to help organizations improve performance". (p 2)

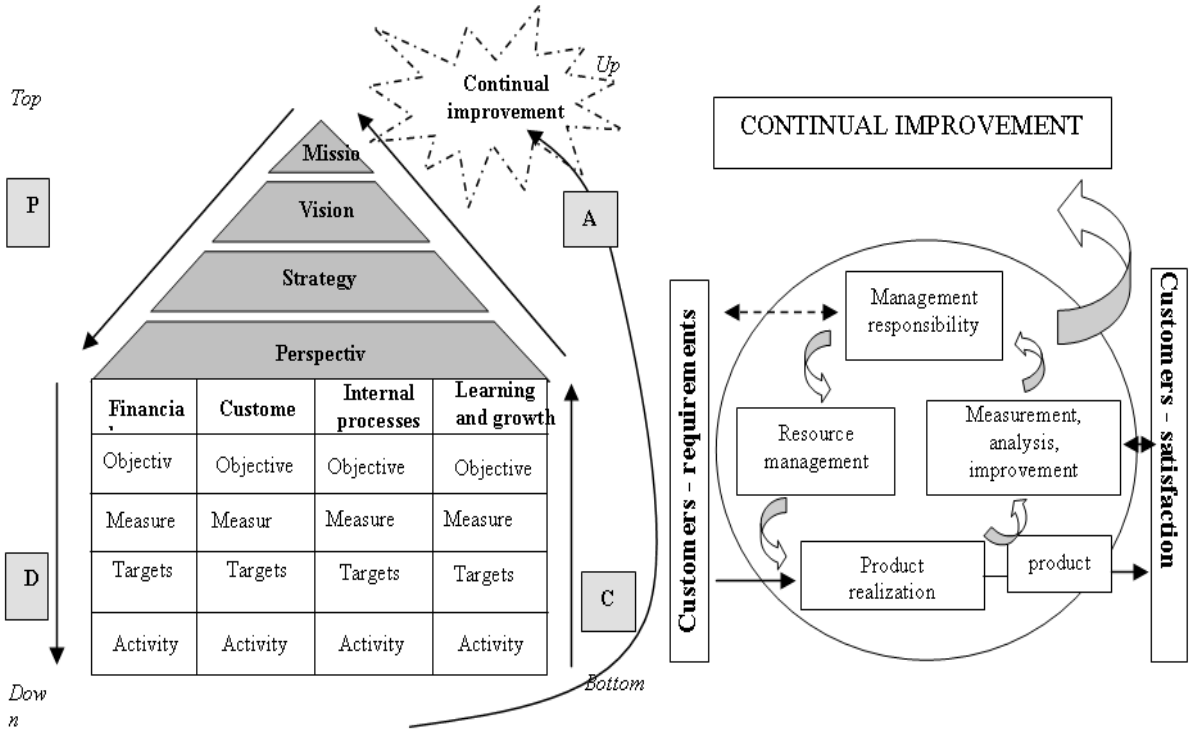


Figure-2 PDCA cycle included in BSC and QMS

2.5.3 KAIZEN

Kaizen was created in Japan following World War II. The word Kaizen means *"continuous improvement"*. It comes from the Japanese words *("kai"*) which means *"change"* or *"to correct"* and (*"zen"*) which means *"good"*. Kaizen is a system that involves every employee - from upper management to the cleaning crew. Everyone is encouraged to come up with small improvement suggestions on a regular basis. This is not a once a month or once a year activity. It is continuous. Japanese companies, such as Toyota and Canon, a total of 60 to 70 suggestions per employee per year are written down, shared and implemented. In most cases these are not ideas for major changes. Kaizen is based on making little changes on a regular basis: always improving

productivity, safety and effectiveness while reducing waste. Suggestions are not limited to a specific area such as production or marketing. Kaizen is based on making changes anywhere that improvements can be made. Western philosophy may be summarized as, "if it isn't broke, don't fix it." The Kaizen philosophy is to "do it better, make it better, and improve it even if it isn't broken, because if we don't, we can't compete with those who do." Kaizen in Japan is a system of improvement that includes both home and business life. Kaizen even includes social activities. It is a concept that is applied in every aspect of a person's life.

Table 1 Interface between BPR and Kaizen

	Reengineering	**Kaizen**
Who leads?	Usually consultants, top management, and a cross functional Project Team	The people that actually do the work (with strong guidance in the early years by top management and a Sensei)
Duration	Is a "project" with a defined beginning and end	Never ending. Every sub-process should be kaizened repeatedly forever
Type of process	Re-engineering works best for processes: - has cross organizational boundaries as complex interrelationships of variables - that involve complex, integrated technologies - with medium-length, somewhat repetitive cycles	Kaizen works best for processes: 1. with well-defined boundaries 2. with most variables in the control of the kaizen team 3. that involve low technology - or islands of technology 4.with short, highly-repetitive cycles
Scope	An entire Value Stream Process	Although kaizen usually starts with a kaikaku that addresses the entire Value Stream process - most kaizen events focus on one specific sub-process
Degree of change	Changes can be incremental or radical and usually affect an entire integrated process	Changes can be incremental or radical but usually only affect a limited sub process at a time
Speed	Generally implemented in a Big Bang changeover	Each kaizen event generates immediately noticeable and measurable changes
Cost	Often involves expensive technologies, computers, and other "systems"	Most "lean" changes are inexpensive or even free
Technology	Re-engineering projects are often led by computer consultants - who tend to "fix" most problems with (you guessed it) computers	Most "lean" methods minimize or even eliminate reliance on technology – with a preference toward visual methods and simplification

2.5.4 Organizational Structure

BPR requires organizational restructuring (include the facility location, capacity, types of products, technology, people) and changes in employees' behavior (training, education, job enrichment, job enlargement, and employee empowerment) with a view to accommodating and facilitating radical changes for achieving dramatic improvements in business performance. IT, such as the Internet, E-Commerce, CAD/CAM, CIM, MRP, Multimedia, ERP and WWW, EDI and EFT, would help to restructure an organization and promote changes with acceptance from employees on any radical changes in the company. The reengineering of a business process will result in improved process delivery systems and hence an improved customer service level.

Organizational restructuring by standardization and simplification eliminates barriers for a smooth flow of information and materials along the supply chains. The smooth flow of information can be facilitated by the use of various ITs to improve the integration of various functional areas. The basic aim of BPR is to deliver quality goods at competitive prices in a timely fashion. Therefore, a manufacturing system as well as a business organization should be modified emphasizing coordination of the basic business processes in the chain, from suppliers to customers, as opposed to the existing complex structures of the functional hierarchies. The behavioral changes should precede the reengineering. Therefore, issues such as training and education, employee empowerment, teamwork and incentive schemes should be given priority in BPR. In order to reengineer a business process, both internal and external process capabilities, such as product development, production, distribution, suppliers and markets, and inter-organizational relationships, especially in a global manufacturing environment, need to be integrated.

Besides the dangers of functional organization structures are well documented and have led to the avocation, particularly by exponents of BPR, of the process enterprise paradigm: Increased market responsiveness, improved collaboration between functions and alignment of organizational objectives were some of the perceived benefits of the new process structures; but some disadvantages were also identified. Duplication of functional expertise and increased operational complexity resulted in an escalation of costs, the emergence of horizontal silos, inconsistency in

the execution of functional decisions between processes, and general erosion of the efficiency of the operations network. These preliminary findings point to some possible contingencies of organizational design, suggesting that process structures may be conducive to the realization of differentiation strategies, whilst functional structures may offer benefits to cost leaders. It is further proposed that matrix structures may be appropriate for companies adopting mixed strategies; however, it is envisaged that a more flexible approach to organizational design, based on a network rather than a matrix paradigm, could stimulate new developments in the future quest for strategic and structural alignment

Table 2 Functional Vs Process Organizational Structure

No	Criteria	Functional structure	Process structure
1	Benefits	-Efficient functional performance -Consistency in functional decision-making requirements -Functional excellence	-More responsive to market -Facilitates market segmentation -Improved communication and closer collaboration between functions -Alignment of functional objectives
2	Limitation	-Functional silos Costly duplication of functional -Poor customer handovers between functions expertise -Optimizations of functional rather than -Lack of focus on end-to-end process	-Optimization of functional rather than -Emergence of horizontal silos organizational performance Inconsistency in the execution of functional decisions between processes -Loss of functional excellence performance and throughput times -Proliferation of processes -Increased complexity in terms of network design -Increased operational complexity
3	Value added	-Value is added within the areas of functional expertise	-Value is added along the process
4	Strategic Match	-Supports a cost leadership strategy	-Supports a di6erentiation strategy

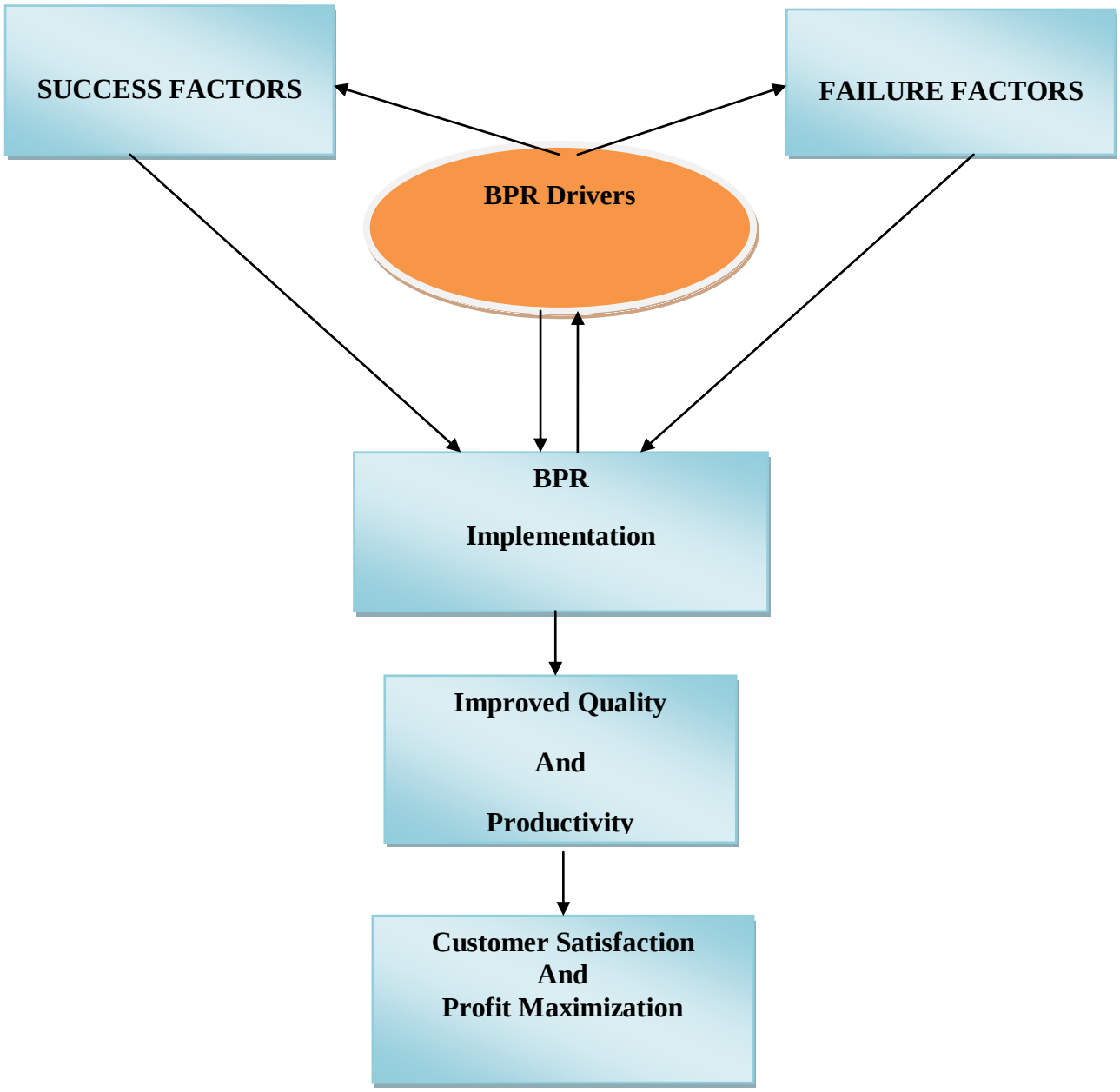


Figure-3 Framework from Literature review and MCF practice

CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY

3.1 Study Design

The descriptive survey method used in this study. Since the study involved different group of management and employee from in Mugher Cement Factory, it is appropriate to use this method to obtain information about BPR implementation of success and failure. Descriptive research is used to obtained information concerning the current status of the phenomena to describe "what exists" with respect to variables or conditions in a situation.

3.2 Target Population

In this research, the target population is all the case company's community. The data was collected from individuals who are critically known the situation before and after the BPR implementation and the one who understand the challenge and success of BPR core issues as cases and assessment was done on the case company. Data was gathered from both head and branch offices through questionnaire with questions rated from 1 to 5 Likert scale. These likert scales are commonly used in attitudinal measurements. This type of scale uses a five-point scale ranging from very low, low, medium, high and very high to rate level of success or failure.

3.3 Data Type and Collection

This study is descriptive study; it investigates the success and failure of BPR implementation in detail and describes various factors that would have significant impact on BPR implementations. In order to achieve the stated objectives, primary data both quantitative and qualitative was used. Quantitative data was collected from selected core and support process staff members using self-administered questionnaires. And the qualitative data was collected through open-end question, interviews, documents, archival records, previous approved annual reports, working manuals, photographs, videotapes and online references has been used as source of data and information for the research. In addition to this the researcher conducted field observation on the sight to

have full picture of the circumstances. This instrument is chosen because of its ability to collect the primary data accurately.

3.4 Sampling Methods

This study used Stratified sampling followed by Purposive sampling method. Stratified sampling is one of the random sampling groups which used to give equal chance of selecting elements in a population when drawing sample and used for most scientific researches while Purposive or judgmental sampling method is of non-random or non-probability sampling methods group.

Stratified sampling technique is used to classify the factory core process, support process and different sub processes as population to be considered. It is also used to classify relevant staff members in to sub groups based on their exposure, involvement to BPR implementation and related responsibilities. Based on these staff members with service years less than 5 was consider as one group, service years between 5&10 as second, between10&15 as third, between15&20 as fourth and 20 and above are classified as fifth group.

Purposive or judgment sampling technique is also used for a number of good reasons. First, people involved in the design process were limited in number and therefore it is crucial to find them and communicate. Second, that on leadership (from super visors to General Manager) was more relevant in providing information on the issue than ordinary workers and they should be targeted. The technique is also cost effective as it reduces cost, time and fewer burdens on the researcher.

3.5 Sample Size

The issues precision (how close the estimate is to the true population characteristics) and confidence (How certain the researcher is that the estimate will really hold true for the population) are addressed by calculating the sample size. The sample size is also influenced by time available, the budget and the necessary degree of precision.

The sample size is calculated as: Z^2/e^2 $(p.q.N)/e^2$ $(N-1)$ $+Z^2.p.q = n$, *(SMU Lecture Note on slides)*

Where, n= sample size, Z=standard deviation=1.65, p=proposition=0.5, q= (1-p) =0.5, e=acceptable error =0.08 and N=population=1473 in the case of MCF.

This implies, n= (1.65x1.65/0.08x0.08) (0.5x0.5x1473)/ 0.08x0.08 (1473-1) + 1.65x1.65x0.5x0.5= 106.4

When this is rounded off it is 106 respondents.

Adding 34% to decrease some risks: 106+36=142 is the sample size for this research

Table 3 Population and Sample Size of MCF					
No	Name of the case company	Number of Males	Number of Females	Grand Total	Number of Respondents
1	Mugher Cement Factory	1252	221	1473	142

3.6 Data Processing and Analysis Method

In the data processing phase data editing, coding, entering, and cleaning have been made so as check the consistency and validity of data collected with different tools. In analyzing the data both quantitative and qualitative methods are used. Qualitative analysis is employed for the data collected through interviews open-end questions, working manuals, documents and reports. SPSS is used to make the quantitative analysis of data that has been collected through questionnaires. The analysis results were described by using descriptive statistical methods such as frequency, percentage, arithmetic mean standard deviation.

CHAPTER FOUR: *RESULT* AND DISCUSSION

4.1 Introduction

The presiding chapter presented some principles of research methodology and adopted research method for the study along with its rationale. In this section the result and discussion of finding was organized by using descriptive statistics, such as frequency, percentage, mean, and standard. The data obtained through interview and questioners were analyzed by using quantitative and qualitative method.

The required sample size was 142, however to minimize the risk of non returned questionnaires a total of 150 ((100 in hard copy and the rest 50 in electronic system through local area net work) were invited to participate in the questionnaire and 142 (95 in hard copy and the rest 47 in soft copy) was returned to the researcher. This gives a respondent rate of 94.67% which could be taken a good response rate for the research. The quantitative data gathered through questionnaire were analyzed by employing the computer software known as Statistical Package for Social Science (SPSS version 20).

The investigation results of BPR implementation in MCF were described by using descriptive statistical methods such as frequency, percentage, arithmetic mean standard deviation. The data obtained through open-end questions, interviews, documents, archives and letters were analyzed qualitatively. The responses are analyzed for potential reasons for the success or failure of the BPR initiative against the key success or failure factors for implementing BPR so as to formulate a new better quality and productivity improvement framework.

4.2 MCF Business in Brief

Mugher Cement Factory (MCF) is a leading public enterprise in the industry playing a significant role in national development by producing and supplying to the market mainly two types of cement products which are needed for construction industry in the country. The factory produces 1,000 ton clinker per day in two lines, 3,000 ton clinker per day in one line and 1,500,000 ton clinker every year. It can produce 2.2 million ton Ordinary Portland Cement and Portland Pozo-

lana Cement; the first line was commissioned in 1984; the second line was commissioned in 1990; and the third line was commissioned in 2012.

Infrastructure of line one and line two of the Mugher Cement factory was built with total investment outlay of birr 436,909,975 which was covered by long term loans obtained from Development Bank of Ethiopia and the government of former East Germany, as well as from government of Ethiopia sale of treasury bills. In addition, the third line of cement production factory was built at total investment cost of 135 million USD which was financed by interest free loans of birr 692 million obtained from domestic financing source of Industrial Development Fund and 90.98 million USD in long term loan secured from China EXIM Bank. As regards manpower, currently (as of March 31st /2018) the factory has a total number of 1473 workers, of which 1252 are males and the remaining 221 are females.

For long years the company leaders were grown from in-home passing through different hierarchical ladder step by step. This situation created family hood relationship among organizational community which result in boosting product and productivity. But this continuous development could not maintained after almost all company's top management members imprisoned due to suspect of corruption which off course released free later after some years imprisonment.

During this time the newly recruited top management members challenged to penetrate the strong family hood network to run business. The employee in the other hand suffered from limit of salary scale during such unstable years and thus pressurized the new management and government to revise salary scale through its labor union. For these reason these three main stake holders: the government, the management and the labor union welcomed BPR project in MCF mainly from their independent perspectives. (Open-end questions, Interviews and Archive)

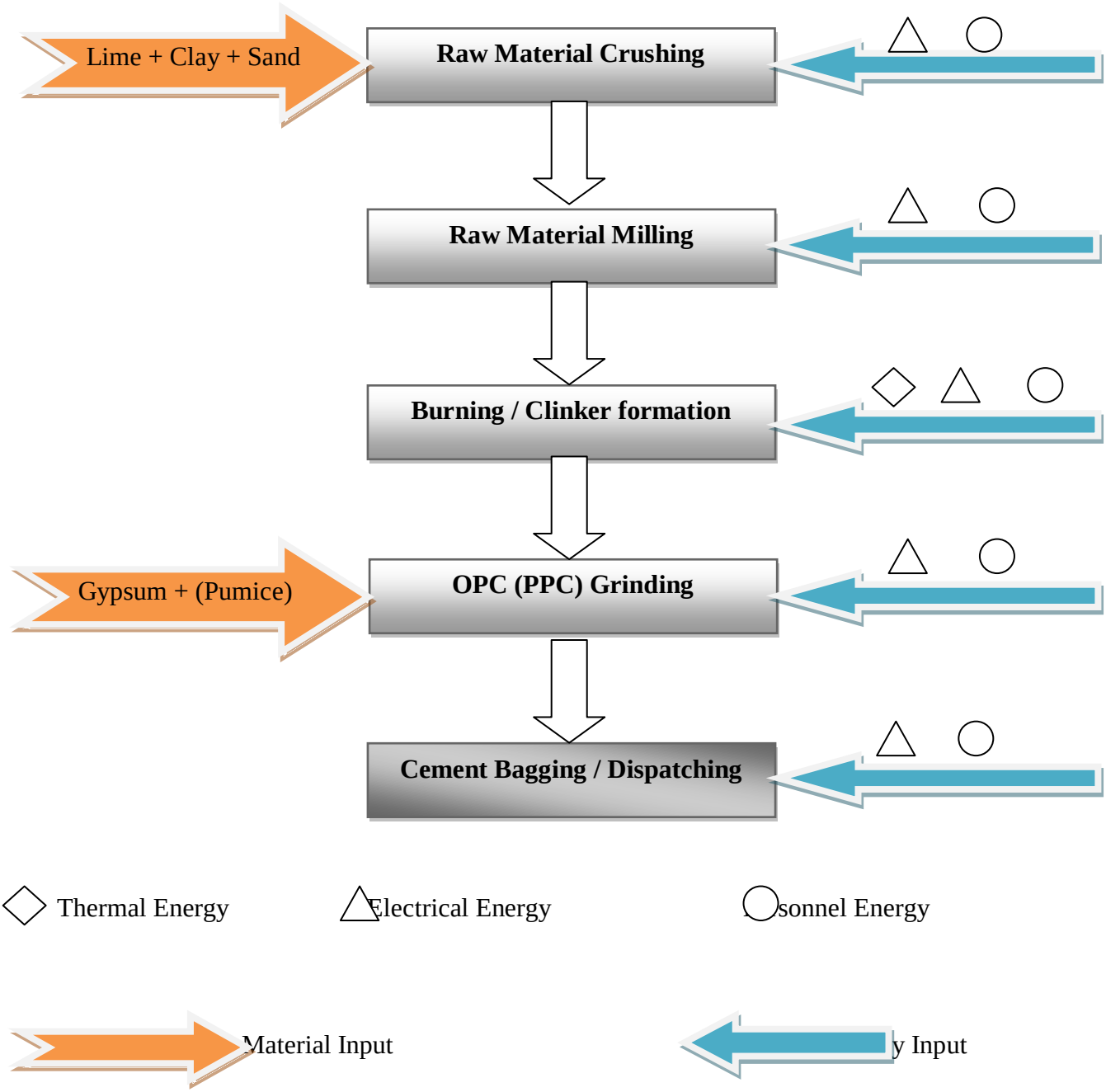


Figure-4 Cement Manufacturing Process Flow Diagram

4.3 Demographic Information:

Table 4: Respondent's level of education			
No	Cases	Frequency	Percent (%)
1	Up to 12 Grade	10	7.0
2	Diploma Holders	79	55.6
3	1st Degree Holders	48	33.8
4	2nd Degree and above	5	3.6
Total		142	100.0

Respondent's profile with respect to their current educational level, and their position at MCF were analyzed. Of the 142 respondents, about 55.6% were Diploma holders, 33.8% were first degree holders, 7.0% were 12 or less than 12 grade , and the remaining 3.6% were 2nd Degree and above. From this observed that more than 90% of the respondents were in good academic position to understand the Questionnaire properly and hence gave reliable feedback.

Table 5: Respondents Work Area Distribution			
No	Cases	Frequency	Percent (%)
1	Core Process	59	41.5
2	Support Process	83	58.5
Total		142	100.0

Table-5 showed data was collected both form Core and Support Processes; out of which 41.5 % of respondents were of core processes and the remaining 58.5% were of support processes. Respondents participated from both the core and the support processes and hence this helped to have full picture of the organization.

Table 6: Work Experience of Respondents			
No	Cases	Frequency	Percent (%)
1	Less than 5 years/ (0-5)	5	3.5
2	Between 5 & 10 years/ [5-10)	15	10.6
3	Between 10 & 15 years/ [10-15)	29	20.4
4	Between 15 & 20 years/ [15-20)	64	45.1
5	Twenty (20) and above	29	20.4
Total		142	100.0

Tables 3 also shown about 85% of the respondents have work experience of above 10 years. Hence qualification and work experience have positive impact on the quality of the response and understanding of the subject. This implies majority of respondents responded in this study was experienced workers that means to understand the changes (performance improvement) after and before BPR implementation. This information believed to help the researcher's to get credible information before and after BPR implementation in MCF.

Table 7: Work Position in the Organizational Structure			
No	Cases	Frequency	Percent (%)
1	Top Management	7	4.9
2	Middle Mgmt	20	14.1
3	Supervisor	48	33.8
4	Employee	67	47.2
Total		142	100.0

Table 4 has shown 81% of the respondents were employee (operative) classes and the rest 19% were employer classes (policy and strategy initiators) in MCF. The numbers are almost proportional to their correspondent population, and hence the researcher believed that the feedback was free from deviating to one positional side.

4.4 Result and Discussion for success Factor

Table 8: Success Factors contribution to BPR implementation in MCF			
No	**Success Factors**	**Mean**	**SD**
1	Motivation and reward system	2.61	1.002
2	Effective Communication	2.71	0.700
3	Empowerment of the employee	2.65	0.610
4	Involvement in sustaining the change tool	2.55	0.813
5	Training and Education	2.82	0.599
6	Effective Culture for Organizational Change	2.65	0.717
7	Positive responsiveness to the Organizational Change	2.50	0.889
8	Committed and Strong Leadership in your sub process or team	2.75	0.820
9	BPR Protection from internal and external impact	2.61	0.724
10	Risk Assessment in BPR Implementation Program	2.51	0.857
11	Adequate Job Integration Approach	2.32	0.855
12	Effective BPR Teams	2.49	0.769
13	Allocation of Appropriate Jobs, Definition and Responsibilities	2.33	0.848
14	Alignment of BPR Strategy with Corporate Strategy	2.46	0.649
15	Effective Use of Internal Professionals	2.41	0.745
16	Effective Planning and Use of Project Management Techniques	2.73	0.694
17	Setting Performance Goals and Measures	2.40	0.817
18	Adequate Resources	2.82	0.701
19	Appropriate Use of Methodology	2.56	0.855
20	External Orientation and Learning	2.56	0.739
21	Effective Use of Consultants	1.99	0.724
22	Building a BPR Vision	2.56	0.635
23	Effective Process Redesign	1.96	0.829
24	Integrating BPR with Other Improvement Approaches	2.43	0.894
25	Adequate Identification of BPR Values to stake holders	2.83	0.694
26	Adequate Alignment of IT Infrastructure and BPR Strategy	2.51	0.722
27	Building an Effective IT Infrastructure	2.68	0.720
28	Adequate IT Investment and Sourcing Decisions	2.57	0.748
29	Adequate Measurement of IT Infrastructure Effectiveness	2.64	0.611
30	Proper Information System Integration	2.68	0.728
31	Effective Reengineering of Legacy Information System	2.58	0.666
32	Increasing IT Function Competency	2.61	0.630
33	Effective Use of Software Tools	2.61	0.684
Over all		**2.55**	

Table 8 showed the average contribution of success factors to BPR implementation in MCF. In likert scale rating it was less than even high medium from this the researcher deduced that the contribution of success factors to BPR implementation in MCF were minimum which indicated that the program was in danger state, because as described by many authors like Herzog, Polajnar, and Tonchia (2007), BPR does not guarantee profits unless the key success factors are properly worked out.

Table 9: Success Factors Related to Change Management System and Culture

NO	To which extent did the following variables contribute to BPR implementation in MCF?	Measurement	Responses in Likert Scale					Total
			Very Low	Low	Medium	High	Very High	
1	Motivation and reward system	Frequency	26	30	60	25	1	142
		Percent	18.3	21.1	42.3	17.6	0.7	100
		Cum Percent	18.3	39.4	81.7	99.3	100	-
2	Effective Communication	Frequency	3	50	76	11	2	142
		Percent	2.1	35.2	53.5	7.7	1.4	100
		Cum Percent	21	37.3	90.8	98.6	100	
3	Empowerment of the employee	Frequency	2	54	78	8	0	142
		Percent	1.4	38.0	54.9	5.6	0	100
		Cum Percent	1.4	39.4	94.4	100		
4	Involvement in sustaining the change tool	Frequency	13	54	59	16	0	142
		Percent	9.2	38	41.5	11.3	0	100
		Cum Percent	9.2	47.2	88.7	100		
5	Training and Education	Frequency	3	31	96	12	0	142
		Percent	2.1	21.8	67.6	8.5	0	100
		Cum Percent	2.1	23.9	91.5	100		
6	Effective Culture for Organizational Change	Frequency	6	52	70	14	0	142
		Percent	4.2	36.6	49.3	9.9	0	100
		Cum Percent	4.2	40.8	90.1	100		
7	Positive responsiveness to the Organizational Change	Frequency	22	42	64	13	1	142
		Percent	15.5	29.6	45.1	9.2	0.7	100
		Cum Percent	15.5	45.1	90.1	99.3	100	
Overall Percent			**7.5**	**31.5**	**50.6**	**10**	**0.4**	**100**

Scale: 1=Very Low, 2=Low. 3 =Medium, 4=High, and 5=Very Low

Table-9.1 shows the level of respondents' rating in percentages of key success factors for revising reward and motivation systems. Accordingly, 18.3% rated to a very low extent, 21.1% rated to a low extent, 42.3% rated to a medium extent, while 17.6% rated to a high, and the rest 0.7% rated to the very high extent. Generally, 81.7% of the total respondents rated to maximum of medium extent. This means the contribution of revising reward and motivation systems to the success of BPR implementation in MCF was of medium range.

Table-9.2 showed the level of respondents' rating in percentages of key success factors for effective communication. Accordingly, 2.1% rated to a very low extent, 35.2% rated to a low extent, 53.5% rated to a medium extent, while 7.7% rated to a high, and the rest 1.4% rated to the very high extent. Generally, 90.8% of the total respondents rated to maximum of medium extent. This means the contribution of effective communication to the success of BPR implementation in MCF was of medium range.

Table-9.3 shows the level of respondents' rating in percentages of key success factors for empowerment of employee. Accordingly, 1.4% rated to a very low extent, 38% rated to a low extent, 54.9% rated to a medium extent, while 5.6% rated to a high, none of the respondent rated to the very high extent. Generally, 94.4% of the total respondents rated to maximum of medium extent. This means the contribution of empowerment of employee to the success of BPR implementation in MCF was of medium range.

Table-9.4 shows the level of respondents' rating in percentages of key success factors for people involvement in sustaining the change tool. Accordingly,9.2% rated to a very low extent, 38% rated to a low extent, 41.5% rated to a medium extent, and 11.3% rated to a high, extent. Generally, 88.7% of the total respondents rated to maximum of medium extent. This means the contribution of effective communication to the success of BPR implementation in MCF was of medium range.

Table-9.5 shows the level of respondents' rating in percentages of key success factors for human resource training and education. Accordingly,2.1% rated to a very low extent, 21.8% rated to a low extent, 67.6% rated to a medium extent, and 8.5% rated to a high, extent. Generally, 91.5%

of the total respondents rated to a maximum of medium extent. This means the contribution of training and education to the success of BPR implementation in MCF was of medium range.

Table-9.6 shows the level of respondents' rating in percentages of key success factors for creating an effective culture for organizational change. Accordingly,4.2% rated to a very low extent, 36.6% rated to a low extent, 49.3% rated to a medium extent, and 9.9% rated to a high, extent. Generally, 90.1% of the total respondents rated to a maximum of medium extent. This means the contribution of creating an effective culture for organizational change to the success of BPR implementation in MCF was of medium range.

Table-9.7, shows the level of respondents' rating in percentages of key success factors for organization's responsiveness to change. Accordingly, 15.5% rated to a very low extent, 29.6% rated to a low extent, 45.1% rated to a medium extent, 9.2% rated to a high extent and 0.7rated to a very high extent. Generally, 90.1% of the total respondents rated to a maximum of medium extent. This means the contribution of training and education to the success of BPR implementation in MCF was of medium range.

- In general Table 9 contained seven success factors related to Change of Management System and Culture and showed that 89.6% of the total respondents rated to a maximum of medium extent. From this the researcher understood that the extent to which Change of Management System and Culture contributed to BPR implementation in MCF was not satisfactory.

Table 10 Success Factors Related to Management Commitment								
No	To which extent did the following variables contribute to BPR implementation in MCF?	**Measurement**	**Responses in Lickert Scale**					**Total**
			Very Low	**Low**	**Medium**	**High**	**Very High**	
1	Committed and Strong Leadership in your sub process or team	Frequency	1	66	44	30	1	142
		Percent	0.7	46.5	31.0	21.1	0.7	100
		Cum Percent	0.7	47.2	78.2	99.3	100	
2	BPR Protection from internal and external impact	Frequency	14	34	88	6	0	142
		Percent	9.9	23.9	62	4.2	0	100
		Cum Percent	9.9	33.8	95.8	100		
3	Risk Assessment in BPR Implementation Program	Frequency	16	54	56	15	1	142
		Percent	11.3	38.0	39.4	10.6	0.7	100
		Cum Percent	11.3	49.3	88.7	99.3	100	
Overall Percent			**7.3**	**36.1**	**44.1**	**12**	**0.5**	**100**
Scale: 1=Very Low, 2=Low. 3 =Medium, 4=High, and 5=Very Low								

Table-10.1 shows the level of respondents' rating in percentages of key success factors for committed and strong leadership. Accordingly, 0.7% rated to a very low extent, 46.5% rated to a low extent, 31% rated to a medium extent, while 21.1% rated to a high, and the rest 0.7% rated to the very high extent. Generally, 78.2% of the total respondents rated to maximum of medium extent. This means the contribution of effective communication to the success of BPR implementation in MCF was minimal.

Table-10.2 shows the level of respondents' rating in percentages of key success factors for BPR protection from any internal and external impact. Accordingly, 9.9% rated to a very low extent, 23.9% rated to a low extent, 62% rated to a medium extent and 4.2% rated to a high extent. Generally, 95.8% of the total respondents rated to maximum of medium extent. This means the contribution of BPR protection to the success of BPR implementation in MCF was minimal.

Table-10.3 shows the level of respondents' rating in percentages of key success factors for management of risk. Accordingly, 11.3% rated to a very low extent, 38% rated to a low extent,

39.4% rated to a medium extent 10.6% rated to a high extent and 0.7% rated to a high extent. Generally, 88.7% of the total respondents rated to maximum of medium extent. This means the contribution of BPR protection to the success of management of risk in MCF was minimal.

- In general Table 10 contained three success factors related to Management Commitment and show that 87.5% of the total respondents rated to a maximum of medium extent. From this the researcher understood that the extent to which Management Commitment contributed to BPR implementation in MCF was not still satisfactory as of the privious.

Table 11 Success Factors Related to Organizational Structure

No	To which extent did the following variables contribute to BPR implementation in MCF?	Measurement	Responses in Lickert Scale					Total
			Very Low	Low	Medium	High	Very High	
1	Adequate Job Integration Approach	Frequency	27	51	55	9		142
		Percent	19	35.9	38.7	6.3	0	100
		Cum Percent	19.0	54.9	93.7	100		
2	Effective BPR Teams	Frequency	11	62	60	7	2	142
		Percent	7.7	43.7	42.3	4.9	1.4	100
		Cum Percent	7.7	43.7	42.3	4.9	1.4	100
3	Allocation of Appropriate Jobs, Definition and Responsibilities	Frequency	26	52	55	9	0	142
		Percent	18.3	36.6	38.7	6.3	0	100
		Cum Percent	18.3	54.9	93.7	100		
Overall Percent			**15**	**38.7**	**40**	**5.8**	**0.5**	**100**

Scale: 1=Very Low, 2=Low. 3 =Medium, 4=High, and 5=Very Low

Table-11.1, shows the level of respondents' rating in percentages of key success factors and hence for adequate job integration approach. Accordingly, 19% rated to a very low extent, 35.9% rated to a low extent, 38.7% rated to a medium extent and 6.3 rated to a high extent. Generally, 93.7% of the total respondents rated to maximum of medium extent. This means the contribution of adequate job integration approach to the success of management of risk in MCF was minimal.

Table-11.2 shows the level of respondents' rating in percentages of key success factors for effective BPR teams. Accordingly, 7.7% rated to a very low extent, 43.7% rated to a low extent,

42.3% rated to a medium extent, 4.9 rated to a high extent, and 1.4% rated to a very high extent. Generally, 93.7% of the total respondents rated to maximum of medium extent. This means the contribution of effective BPR teams to the success of management of risk in MCF was minimal.

Table-11.3 shows the level of respondents' rating in percentages of key success factors for appropriate job definitions and allocation of responsibilities. Accordingly, 18.3% rated to a very low extent, 36.6% rated to a low extent, 38.7% rated to a medium extent and 6.3 rated to a high extent. Generally, 93.7% of the total respondents rated to maximum of medium extent. This means the contribution of appropriate job definitions and allocation of responsibilities to the success of BPR in MCF was minimal.

- In general Table 11 contained three success factors related to Organizational Structure and showed that 93.7% of the total respondents rated to a maximum of medium extent. From this the researcher understood that the extent to which Organizational Structure contributed to BPR implementation in MCF was null and void. This area needs special attention in this research.

Table 12 Success Factors Related to BPR Project

No	To which extent did the following variables contribute to BPR implementation in MCF?	Measurement	Responses in Lickert Scale					Total
			Very Low	Low	Medium	High	Very High	
1	Alignment of BPR Strategy with Corporate Strategy	Frequency	4	76	54	8	0	142
		Percent	2.8	53.5	38.0	5.6	0	100
		Cum Percent	2.8	56.3	94.4	100		
2	Effective Use of Internal Professionals	Frequency	14	64	56	8	0	142
		Percent	9.9	45.1	39.4	5.6	0	100
		Cum Percent	9.9	54.9	94.4	100		
3	Effective Planning and Use of Project Management Techniques	Frequency	4	45	79	13	1	142
		Percent	2.8	31.7	55.6	9.2	0.7	100
		Cum Percent	2.8	34.5	90.1	99.3	100	
4	Setting Performance Goals and Measures	Frequency	20	55	57	10	0	142
		Percent	14.4	38.7	40.1	7.0	0	100
		Cum Percent	14.1	52.8	93	100		

5	Adequate Resources	Frequency	1	46	74	20	1	142
		Percent	0.7	32.4	52.1	14.1	0.7	100
		Cum Percent	0.7	33.1	85.2	99.3	100	
6	Appropriate Use of Method-ology	Frequency	25	20	92	3	2	142
		Percent	17.6	14.1	64.8	2.1	1.4	100
		Cum Percent	17.6	31.7	96.5	98.6	100	
7	External Orientation and Learning	Frequency	4	72	49	17	0	142
		Percent	2.8	50.7	34.5	12.0	0	100
		Cum Percent	2.8	53.5	88.0	100		
8	Effective Use of Consultants	Frequency	31	89	15	7	0	142
		Percent	21.8	62.7	10.6	4.9	0	100
		Cum Percent	21.8	84.5	95.1	100		
9	Building a BPR Vision	Frequency	2	67	64	9	0	142
		Percent	1.4	47.2	45.1	6.3	0	100
		Cum Percent	1.4	48.6	93.7	100		
10	Effective Process Redesign	Frequency	45	62	31	3	1	142
		Percent	31.7	43.7	21.8	2.1	0.7	100
		Cum Percent	31.7	75.4	97.2	99.3	100	-
11	Integrating BPR with Other Improvement Approaches	Frequency	21	57	46	18	0	142
		Percent	14.8	40.1	32.4	12.7	0	100
		Cum Percent	14.8	54.9	87.3	100		
12	Adequate Identification of BPR Values to stake holders	Frequency	4	35	85	17	1	142
		Percent	2.8	24.6	59.9	12	0.7	100
		Cum Percent	2.8	27.5	87.3	99.3	100	
Overall Percent			**10.3**	**40.4**	**41.2**	**7.8**	**0.3**	**100**

Scale: 1=Very Low, 2=Low. 3 =Medium, 4=High, and 5=Very Low

Table-12.1, shows the level of respondents' rating in percentages of key success factors for aligning BPR strategy with corporate strategy. Accordingly, 2.8% rated to a very low extent, 53.5% rated to a low extent, 38% rated to a medium extent and 5.6 rated to a high extent. Generally, 94.4% of the total respondents rated to maximum of medium extent. This means the contribution of aligning BPR strategy with corporate strategy to the success of BPR in MCF was minimal.

Table-12.2 shows the level of respondents' rating in percentages of key success factors for effective use of professionals. Accordingly, 9.9% rated to a very low extent, 45.1% rated to a low extent, 39.4% rated to a medium extent and 5.6 rated to a high extent. Generally, 94.4% of the total respondents rated to maximum of medium extent. This means the contribution of effective use of professionals to the success of BPR in MCF was minimal.

Table-12.3 shows the level of respondents' rating in percentages of key success factors for effective planning and use of project management techniques. Accordingly, 2.8% rated to a very low extent, 31.7% rated to a low extent, 55.6% rated to a medium extent, 9.2 rated to a high extent and 0.7% rated to a very high extent. Generally, 90.1% of the total respondents rated to maximum of medium extent. This means the contribution of effective planning and use of project management techniques to the success of BPR implementation in MCF was minimal.

Table-12.4 shows the level of respondents' rating in percentages of key success factors for setting Performance Goals and Measures. Accordingly, 14.1% rated to a very low extent, 38.7% rated to a low extent, 40.1% rated to a medium extent and 0.7% rated to a high extent. Generally, 93% of the total respondents rated to maximum of medium extent. This means the contribution of setting Performance Goals and Measures to the success of BPR implementation in MCF was minimal.

Table-12.5 shows the level of respondents' rating in percentages of key success factors and hence for adequate resources. Accordingly, 0.7% rated to a very low extent, 32.4% rated to a low extent, 52.1% rated to a medium extent, 14.1% rated to a high extent and 0.7% rated to a very high extent. Generally, 85.2% of the total respondents rated to maximum of medium extent. This means the contribution of adequate resources to the success of BPR implementation in MCF was minimal.

Table-12.6 shows the level of respondents' rating in percentages of key success factors for appropriate use of methodology. Accordingly17.6% rated to a very low extent, 14.1% rated to a low extent, 64.8% rated to a medium extent, 2.1% rated to a high extent and 1.4% rated to a very high extent. Generally, 96.5% of the total respondents rated to maximum of medium extent. This

means the contribution of appropriate use of methodology to the success of BPR implementation in MCF was minimal.

Table-12.7 shows the level of respondents' rating in percentages of key success factors for external orientation and learning. Accordingly 2.8% rated to a very low extent, 50.7% rated to a low extent, 34.5% rated to a medium extent and 12% rated to a high extent. Generally, 88% of the total respondents rated to maximum of medium extent. This means the contribution of external orientation and learning to the success of BPR implementation in MCF was minimal.

Table-12.8 shows the level of respondents' rating in percentages of key success factors for effective use of consultants. Accordingly 21.8% rated to a very low extent, 62.7% rated to a low extent, 10.6% rated to a medium extent and 4.9% rated to a high extent. Generally, 95.1% of the total respondents rated to maximum of medium extent. This means the contribution of effective use of consultants to the success of BPR implementation in MCF was minimal.

Table-12.9 shows the level of respondents' rating in percentages of key success factors for building a BPR vision. Accordingly 1.4% rated to a very low extent, 47.2% rated to a low extent, 45.1% rated to a medium extent and 6.3% rated to a high extent. Generally, 93.7% of the total respondents rated to maximum of medium extent. This means the contribution of building a BPR vision to the success of BPR implementation in MCF was minimal.

Table-12.10 shows the level of respondents' rating in percentages of key success factors and hence for effective process redesign. Accordingly 31.7% rated to a very low extent, 43.7% rated to a low extent, 21.8% rated to a medium extent, 2.1% rated to a high extent and 0.7% rated to a very high extent. Generally, 97.2% of the total respondents rated to maximum of medium extent. This means the contribution of effective process redesign to the success of BPR implementation in MCF was minimal.

Table-12.11 shows the level of respondents' rating in percentages of key success factors for integrating BPR with other improvement approaches. Accordingly 14.8% rated to a very low extent, 40.1% rated to a low extent, 32.4% rated to a medium extent and 12.7% rated to a high extent. Generally, 87.3% of the total respondents rated to maximum of medium extent. This means the contribution of integrating BPR with other improvement approaches to the success of BPR implementation in MCF was minimal.

Table-12.12 shows the level of respondents' rating in percentages of key success factors for adequate identification of BPR values. Accordingly 2.8% rated to a very low extent, 24.6% rated to a low extent, 59.9% rated to a medium extent, 12% rated to a high extent and 0.7% rated a to very high extent. Generally, 87.3% of the total respondents rated to maximum of medium extent. This means the contribution of adequate identification of BPR values to the success of BPR implementation in MCF was minimal.

- Table-12 contained twelve success factors related to BPR Project and showed that 92% of the total respondents rated to a maximum of medium extent. From this the researcher understood that the extent to which BPR Project contributed to BPR implementation in MCF was also negligible.

Table 13 Success Factors Related to Information Technology (IT)

No	To which extent did the following variables contribute to BPR implementation in MCF?	Measurement	Responses in Lickert Scale					Total
			Very Low	Low	Medium	High	Very High	
1	Adequate Alignment of IT Infrastructure and BPR Strategy	Frequency	13	50	73	6	0	142
		Percent	9.2	35.2	51.4	4.2	0	100
		Cum Percent	9.2	44.4	95.8	100	-	-
2	Building an Effective IT Infrastructure	Frequency	4	55	66	17	0	142
		Percent	2.8	38.7	46.5	12.0	0	100
		Cum Percent	2.8	41.5	88.0	100	-	-
3	Adequate IT Investment and Sourcing Decisions	Frequency	12	47	73	10	0	142
		Percent	8.5	33.1	51.4	7.0	0	100
		Cum Percent	8.5	41.5	93.0	100	-	-
4	Adequate Measurement of IT Infrastructure Effectiveness	Frequency	1	58	74	9	0	100
		Percent	0.7	40.8	52.1	6.3	0	142
		Cum Percent	0.7	41.5	93.7	100	-	-
5	Proper Information System Integration	Frequency	4	55	65	18	0	142
		Percent	2.8	38.7	45.8	12.7	0	100
		Cum Percent	2.8	41.5	87.3	100	-	-
6	Effective Reengineering of Legacy Information System	Frequency	6	55	73	8	0	142
		Percent	4.2	38.7	51.4	5.6	0	100
		Cum Percent	4.2	43.0	94.4	100	-	-
7	Increasing IT Function Competency	Frequency	4	55	76	7	0	142
		Percent	2.8	38.7	53.5	4.9	0	100
		Cum Percent	2.8	41.5	95.1	100	-	-
8	Effective Use of Software Tools	Frequency	9	45	81		0	142
		Percent	6.3	31.7	57.0	4.9	0	100
		Cum Percent	6.3	38.0	95.1	100	-	-
Overall Percent			**4.7**	**37**	**51.1**	**7.2**	**0**	**100**

Scale: 1=Very Low, 2=Low. 3 =Medium, 4=High, and 5=Very Low

Table-13.1 shows the level of respondents' rating in percentages of key success factors for adequate alignment of IT infrastructure and BPR strategy. Accordingly 9.2% rated to a very low extent, 35.2% rated to a low extent, 51.4% rated to a medium extent and 4.2% rated to a high extent. Generally, 95.8% of the total respondents rated to maximum of medium extent. This means the contribution of adequate alignment of IT infrastructure and BPR strategy to the success of BPR implementation in MCF was minimal.

Table-13.2 shows the level of respondents' rating in percentages of key success factors for building an effective IT infrastructure. Accordingly 2.8% rated to a very low extent, 38.7% rated to a low extent, 46.5% rated to a medium extent and 12% rated to a high extent. Generally, 88% of the total respondents rated to maximum of medium extent. This means the contribution of building an effective IT infrastructure to the success of BPR implementation in MCF was minimal.

Table-13.3 shows the level of respondents' rating in percentages of key success for adequate IT investment and sourcing decisions. Accordingly 8.5% rated to a very low extent, 33.1% rated to a low extent, 51.4% rated to a medium extent and 7% rated to a high extent. Generally, 93% of the total respondents rated to maximum of medium extent. This means the contribution of adequate IT investment and sourcing decisions to the success of BPR implementation in MCF was minimal.

Table-13.4 shows the level of respondents' rating in percentages of key success factors for adequate measurement of IT infrastructure effectiveness on BPR. Accordingly 0.7% rated to a very low extent, 40.8% rated to a low extent, 52.1% rated to a medium extent and 6.3% rated to a high extent. Generally, 93.7% of the total respondents rated to maximum of medium extent. This means the contribution of adequate measurement of IT infrastructure effectiveness to the success of BPR implementation in MCF was minimal.

Table-13.5 shows the level of respondents' rating in percentages of key success factors for proper IS integration. Accordingly 2.8% rated to a very low extent, 38.7% rated to a low extent, 45.8% rated to a medium extent and 12.7% rated to a high extent. Generally, 87.3% of the total respondents rated to maximum of medium extent. This means the contribution of proper IS integration to the success of BPR implementation in MCF was minimal.

Table-13.6 shows the level of respondents' rating in percentages of key success factors and hence for the effective re-engineering of legacy IS. Accordingly 4.2% rated to a very low extent, 38.7% rated to a low extent, 51.4% rated to a medium extent and 5.6% rated to a high extent. Generally, 94.4% of the total respondents rated to maximum of medium extent. This means the contribution of the effective re-engineering of legacy IS to the success of BPR implementation in MCF was less than 6%.

Table-13.7 shows the level of respondents' rating in percentages of key success factors and hence for increasing the IT function competency. Accordingly 2.8% rated to a very low extent, 38.7% rated to a low extent, 53.5% rated to a medium extent and 4.9% rated to a high extent. Generally, 95.1% of the total respondents rated to maximum of medium extent. This means the contribution of increasing the IT function competency to the success of BPR implementation in MCF was minimal.

Table-13.8 shows the level of respondents' rating in percentages of key success factors for effective use of software tools. Accordingly 6.3% rated to a very low extent, 31.7% rated to a low extent, 57% rated to a medium extent and 4.9% rated to a high extent. Generally, 95.1% of the total respondents rated to maximum of medium extent. This means the contribution effective use of software tools in MCF was minimal.

- Table-13 contained eight success factors related to IT and showed that 92.8% of the total respondents rated to a maximum of medium extent. From this the researcher understood that the extent to which IT contributed to BPR implementation in MCF was also insignificant.

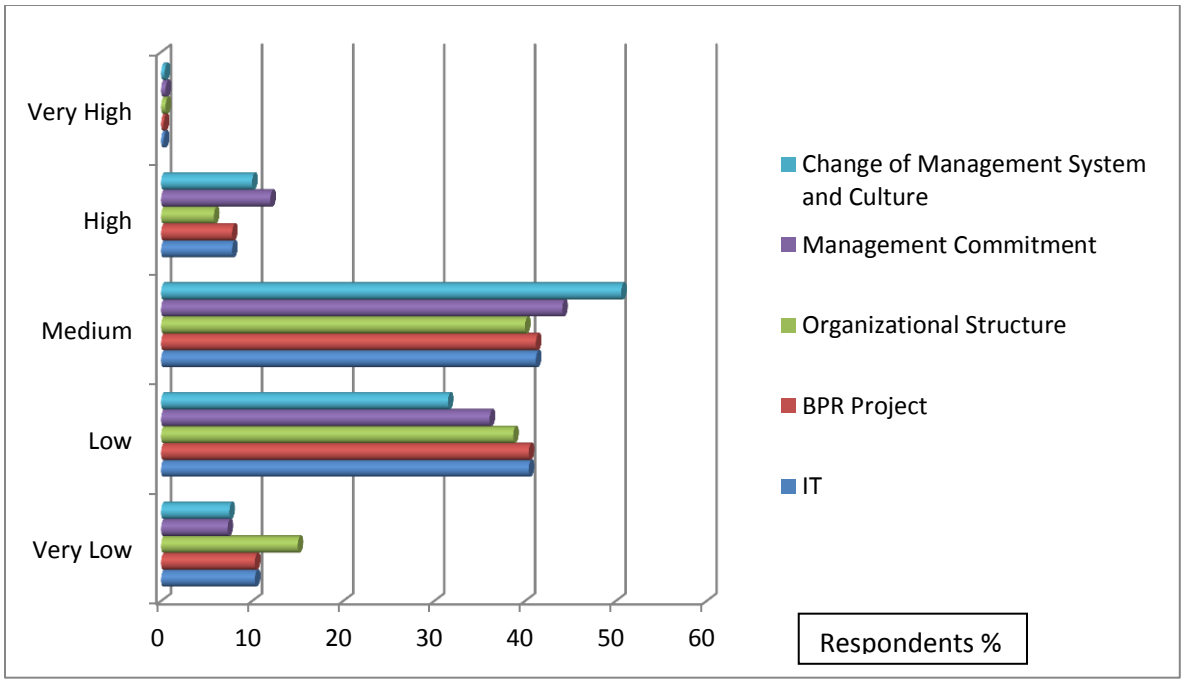


Figure 5 Bar Chart showing Level of Contribution by Success factors to BPR in MCF

- The above Bar chart (Fig.5) summarized all success factors which are seen in previous tables under this section. BPR success factors rated by all respondents showed that the contribution of the success factors in question were below 3 (Mean Overall is 2.55, or deviated left on the likert scale), that means the extent to which success factors in questions contributed to BPR implementation in MCF was in lower range. From this the researcher deduced BPR implementation in MCF was not success full in this regard.

The remaining variables related to failure factors and BPR drivers might help to identify where the source of the problem is otherwise they did not change this results. Because more than 80% success factors of BPR were below maximum of medium on the chart shown in fig 5.

4.5 Result and Discussion for Failure Factors

Table- 14 Failure Factors influence to BPR implementation in MCF			
No	**Failure Factors**	**Mean**	**SD**
1	Lack of Communication	3.58	0.737
2	Organizational resistance	3.70	0.732
3	Lack of organizational readiness for change	3.58	0.775
4	Problems related to creating a culture for change	3.41	0.800
5	Lack of training and education	3.56	0.942
6	Lack of commitment, support, and leadership	3.88	0.748
7	Lack of protecting BPR Implementation from any Impact?	3.92	0.817
8	Ineffective BPR teams	3.76	0.753
9	Lack of integration mechanism, jobs' definition, and responsibilities	3.92	0.699
10	Problems related to planning and project management	3.54	0.731
11	Problems related to goals and measures	3.47	0.778
12	Inadequate focus & objectives	3.54	0.880
13	Ineffective process redesign	3.68	0.870
14	Problems related to BPR resources	3.36	0.708
15	Unrealistic expectations	3.50	0.692
16	Ineffective use of consultants	3.47	0.681
17	Problems related to IT investment and sourcing decisions	3.44	0.786
18	Improper IS integration	3.55	0.795
19	Inadequate IS development	3.37	0.709
20	Lack of Proper IS Integration	3.35	0.696
Over all		**3.58**	

Table 14 showed the average effect of failure factors to BPR implementation in MCF. In likert scale rating it was greater than even minimum of medium from this the researcher deduced that the effect of failure factors to BPR implementation in MCF were large which indicated that the BPR program was in state of failure; because the failure rate effect was large.

Table 15: Problem related to Change management system and culture								
No	To which extent did the following variables influence to BPR implementation in MCF?	**Measurement**	**Responses In Likert Scale**					**Total**
			Very Low	**Low**	**Medium**	**High**	**Very High**	
1	Lack of Communication	Frequency	1	4	63	60	14	142
		Percent	0.7	2.8	44.4	42.3	9.9	100
		Cum Percent	0.7	3.5	47.9	90.1	100	
2	Organizational resistance	Frequency	1	6	41	80	14	142
		Percent	0.7	4.2	28.9	56.3	9.9	100
		Cum Percent	0.7	4.9	33.8	90.1	100	-
3	Lack of organizational readiness for change	Frequency	0	6	67	50	19	142
		Percent	0	4.2	47.2	35.2	13.4	100
		Cum Percent	-	4.2	51.4	86.6	100	-
4	Problems related to creating a culture for change	Frequency	3	15	49	71	4	142
		Percent	2.1	10.6	34.5	50	2.8	100
		Cum Percent	2.1	12.7	47.2	97.2	100	-
5	Lack of training and education	Frequency	2	12	60	41	27	142
		Percent	1.4	8.5	42.3	28.9	19.0	100
		Cum Percent	1.4	9.9	52.1	81.0	100	-
Overall Percent			**1.0**	**6.0**	**39.5**	**42.5**	**11**	**100.0**
Scale: 1=Very Low, 2=Low. 3 =Medium, 4=High, and 5=Very Low								

The failure factors mentioned in the Table-15 are key failure factors related to Problems on change management system and culture. The respondents were asked to rate the extent to which each failure factors was being an impact to BPR implementation in MCF. Each of the questions was rated in a 5– point Likert scale ranging from very low (1) to vey high (5).

Accordingly, from the total respondents of the question on luck of communication 0.7% rated to a very low extent, 2.8% rated to a low extent, 44.4% rated to a medium extent, 42.3% rated to a high extent and 9.9% rated to a very high extent. From total respondents of organizational resistance 0.7% rated to a very low extent, 4.2% rated to a low extent, 28.9% rated to a medium extent, 56.3% rated to a high extent and 9.9% rated to a very high extent. From total respondents of organizational readiness 4.2% rated to a very low extent, 47.2% rated to a low extent, and 35.2% rated to a medium extent and 13.4% rated to a high extent. In the case of problems related

to creating a culture for change 2.1% rated to a very low extent, 10.6% rated to a low extent, 34.5% rated to a medium extent, 50.5% rated to a high extent and 2.8% rated to a very high extent. Regarding problems related to lack of training and education from the total respondents 1.4% rated to a very low extent, 8.5% rated to a low extent, 42.3% rated to a medium extent, 50.5% rated to a high extent and 2.8% rated to a very high extent.

- Problems related to change management system and culture shown in Table-15; showed that more than 53.5% of the total respondents were rated to the minimum of high extent. From this the researcher deduced that problems related to change management system and culture were influenced BPR implementation in MCF to high extent.

Table 16: Problems related to Top manager commitment and support

No	To which extent did the following variables influence to BPR implementation in MCF?	Measurement	Responses In Lickert Scale					Total
			Very Low	Low	Medium	High	Very High	
1	Lack of commitment, support, and leadership	Frequency	0	7	28	82	25	142
		Percent	0	4.9	19.7	57.7	17.6	100
		Cum Percent	-	4.9	24.6	82.4	100	-
2	Lack of protecting BPR Implementation from any Impact?	Frequency	1	4	35	67	35	142
		Percent	0.7	2.8	24.6	47.2	24.6	100
		Cum Percent	0.7	3.5	28.2	75.4	100	-
Overall Percent			**0.4**	**3.8**	**22.1**	**52.5**	**21.2**	**100**

Scale: 1=Very Low, 2=Low. 3 =Medium, 4=High, and 5=Very Low

The failure factors mentioned in the Table-16 are key failure factors related to Problems in to top manager commitment and support. The respondents were asked to rate the extent to which each failure factors was being an impact to BPR implementation in MCF. Each of the questions was rated in a 5– point Likert scale ranging from very low (1) to vey high (5).

For the question on Lack of commitment, support, and leadership, from 142 total respondents no one rated to a very low extent, 4.9% rated to a low extent, 19.7% rated to a medium extent,

57.7% rated to a high extent and 17.6% rated to a very high extent. For lack of protecting BPR implementation, from 142 total respondents 0.7% rated to a very low extent 2.8% rated to a low extent, 24.6% rated to a medium extent, 47.2% rated to a high extent and 24.6% rated to a very high extent.

- Problems related to top management commitment and support shown in Table-16, showed that 73.7% of the total respondents were rated to the minimum of high extent. From this the researcher deduced that problems related to top management commitment and support were influenced BPR implementation in MCF to large extent.

Table 17: Problem related to Organizational structure

	To which extent did the following variables influence to BPR implementation in MCF?	Measurement	Responses In Likert Scale					Total
			Very Low	Low	Medium	High	Very High	
1	Ineffective BPR teams	Frequency	1	8	31	86	16	142
		Percent	0.7	5.6	21.8	60.6	11.3	100
		Cum Percent	0.7	6.3	28.2	88.7	100	-
2	Lack of integration mechanism, jobs' definition, and responsibilities	Frequency	0	6	23	90	23	142
		Percent	0	4.2	16.2	63.4	16.2	100
		Cum Percent	-	4.2	20.4	83.8	100	-
Overall Percent			**0.4**	**4.9**	**19**	**62**	**13.7**	**100**

Scale: 1=Very Low, 2=Low. 3 =Medium, 4=High, and 5=Very Low

The failure factors mentioned in the Table-17 are key failure factors related to problems in organizational structure. The respondents were asked to rate the extent to which each failure factors was being an impact to BPR implementation in MCF. Each of the questions was rated in a 5– point Likert scale ranging from very low (1) to vey high (5).

For the question on Ineffective BPR Teams, from 142 total respondents 0.7% rated to a very low extent, 5.6% rated to a low extent, 21.8% rated to a medium extent, 60.6% rated to a high extent and 11.3% rated to a very high extent. For the question on Lack of integration mechanism, jobs' definition, and responsibilities, from 142 total respondents no ones rated to a very low extent

4.2% rated to a low extent, 16.2% rated to a medium extent, 63.4% rated to a high extent and 16.2% rated to a very high extent.

- Problems related to organizational structure as shown in Table 17 were add up to 75.7% of the total respondents to the minimum of high extent. From this the researcher deduced that problems related to organizational structure influenced BPR implementation in MCF were to large extent and needs further investigation to dig out the reality in the other source of this thesis.

Table 18 Problem related to BPR project management

1	To which extent did the following variables influence to BPR implementation in MCF?	Measurement	Responses In Likert Scale					Total
			Very Low	Low	Medium	High	Very High	
2	Problems related to planning and project management	Frequency	0	7	65	57	13	142
		Percent	0	4.9	45.8	40.1	9.2	100
		Cum Percent	0	4.9	50.7	90.8	100	0
3	Problems related to goals and measures	Frequency	0	14	58	59	11	142
		Percent	0	9.9	40.8	41.5	7.7	100
		Cum Percent	0	9.9	50.7	92.3	100	0
4	Inadequate focus & objectives	Frequency	1	8	72	35	26	100
		Percent	0.7	5.6	50.7	24.6	18.3	100
		Cum Percent	0.7	6.3	57.0	81.7	100	0
5	Ineffective process redesign	Frequency	1.4	4.9	35.2	40.8	17.6	100
		Percent	1.4	4.9	35.2	40.8	17.6	100
		Cum Percent	1.4	6.3	41.5	82.4	100	0
6	Problems related to BPR resources	Frequency	2	13	59	68	0	142
		Percent	1.4	9.2	41.5	47.9	0	100
		Cum Percent	1.4	10.6	52.1	100	0	0
7	Unrealistic expectations	Frequency	1	6	63	65	7	142
		Percent	0.7	4.2	44.4	45.8	4.9	100
		Cum Percent	0.7	4.9	49.3	95.1	100	-
8	Ineffective use of consultants	Frequency	1	6	66	63	6	142
		Percent	0.7	4.2	46.5	44.4	4.2	100
		Cum Percent	0.7	4.9	51.4	95.8	100	-
Overall Percent			**0.7**	**6.1**	**43.6**	**40.7**	**8.9**	**100**

Scale: 1=Very Low, 2=Low. 3 =Medium, 4=High, and 5=Very Low

The failure factors mentioned in the Table-18 are key failure factors related to Problems in project management. The respondents were asked to rate the extent to which each failure factors was being an impact to BPR implementation in MCF. Each of the questions was rated in a 5– point Likert scale ranging from very low (1) to vey high (5).

For the question on Problems related to planning and project management, from 142 total respondents no one rated to a very low extent, 4.9% rated to a low extent, 45.8% rated to a medium extent, 40.1% rated to a high extent and 9.2% rated to a very high extent.

For the question related to goals and measures, from 142 total respondents no one rated to a very low extent 9.9% rated to a low extent, 40.8% rated to a medium extent, 41.5% rated to a high extent and 7.7% rated to a very high extent.

For the question related to inadequate focus and objectives, from 142 total respondents 0.7% rated to a very low extent 5.6% rated to a low extent, 50.7% rated to a medium extent, 24.6 % rated to a high extent and 18.3% rated to a very high extent.

For the question related to ineffective process redesign, from 142 total respondents 1.4% rated to a very low extent 4.9% rated to a low extent, 35.2% rated to a medium extent, 40.8% rated to a high extent and 17.6% rated to a very high extent.

For the question related to lack of BPR resources, from 142 total respondents 1.4% rated to a very low extent 9.2% rated to a low extent, 41.5% rated to a medium extent, 47.9% rated to a high extent and none of them rated to a very high extent.

For the question related to unrealistic expectation, from 142 total respondents 0.7% rated to a very low extent 4.2% rated to a low extent, 44.4% rated to a medium extent, 45.8% rated to a high extent and 4.9% rated to a very high extent.

For the question related to ineffective use of consultants, from 142 total respondents 0.7 rated to a very low extent 4.2% rated to a low extent, 46.5% rated to a medium extent, 44.4% rated to a high extent and 4.2% rated to a very high extent.

- Feedbacks from key failure factors related to BPR project management as shown in Table-18 were, 49.6% of the total respondents were rated to the minimum of high extent. From this the researcher deduced that there were problems related to BPR project management which influenced BPR implementation in MCF to a medium extent but it was tolerable as compared.

	Table 19: Problem related to IT							
No	To which extent did the following variables influence to BPR implementation in MCF?	**Measurement**	**Responses In Likert Scale**					**Total**
			Very Low	**Low**	**Medium**	**High**	**Very High**	
1	Problems related to IT investment and sourcing decisions	Frequency	2	7	72	48	13	142
		Percent	1.4	4.9	50.7	33.8	9.2	100
		Cum Percent	1.4	6.3	57	90.8	100	-
2	Improper IS integration	Frequency	4	2	61	62	13	142
		Percent	2.8	1.4	43.3	43.7	9.2	100
		Cum Percent	2.8	4.2	47.2	90.8	100	-
3	Inadequate IS development	Frequency	4	3	76	55	4	142
		Percent	2.8	2.1	53.5	38.7	2.8	100
		Cum Percent	2.8	4.9	58.5	97.2	100	-
4	Lack of Proper IS Integration	Frequency	5	0	80	54	3	142
		Percent	3.5	0	56.3	38.0	2.1	100
		Cum Percent	3.5	3.5	59.9	97.9	100	-
	Overall Percent		**2.6**	**2.1**	**51**	**38.5**	**5.8**	**100**
	Scale: 1=Very Low, 2=Low. 3 =Medium, 4=High, and 5=Very Low							

The failure factors mentioned in the Table-19 are key failure factors related to information technology (IT). The respondents were asked to rate the extent to which each failure factors was being an impact to BPR implementation in MCF. Each of the questions was rated in a 5– point Likert scale ranging from very low (1) to vey high (5). For the question on Problems related to IT investment and sourcing decisions, from 142 total respondents 1.4 rated to a very low extent, 4.9% rated to a low extent, 50.7% rated to a medium extent, 33.8% rated to a high extent and 9.2% rated to a very high extent. For the question related to improper IS integration, from 142 total respondents 2.8% rated to a very low extent 1.4% rated to a low extent, 43.3% rated to a

medium extent, 43.7% rated to a high extent and 9.2% rated to a very high extent. For the question related to inadequate IS development, from 142 total respondents 2.8% rated to a very low extent 2.1% rated to a low extent, 53.5% rated to a medium extent, 38.7 % rated to a high extent and 2.8% rated to a very high extent. For the question related to lack of proper IS integration, from 142 total respondents 3.5% rated to a very low extent, none rated to a low extent, 56.3% rated to a medium extent, 38% rated to a high extent and 2.1% rated to a very high extent.

- Feedbacks on key failure factors related to IT as shown in Table-19 implied, 44.3% of the total respondents were rated to the minimum of high extent. From this the researcher deduced that problems related to IT were also influenced BPR implementation in MCF to a medium extent which can be tolerable as that of BPR project discussed before.

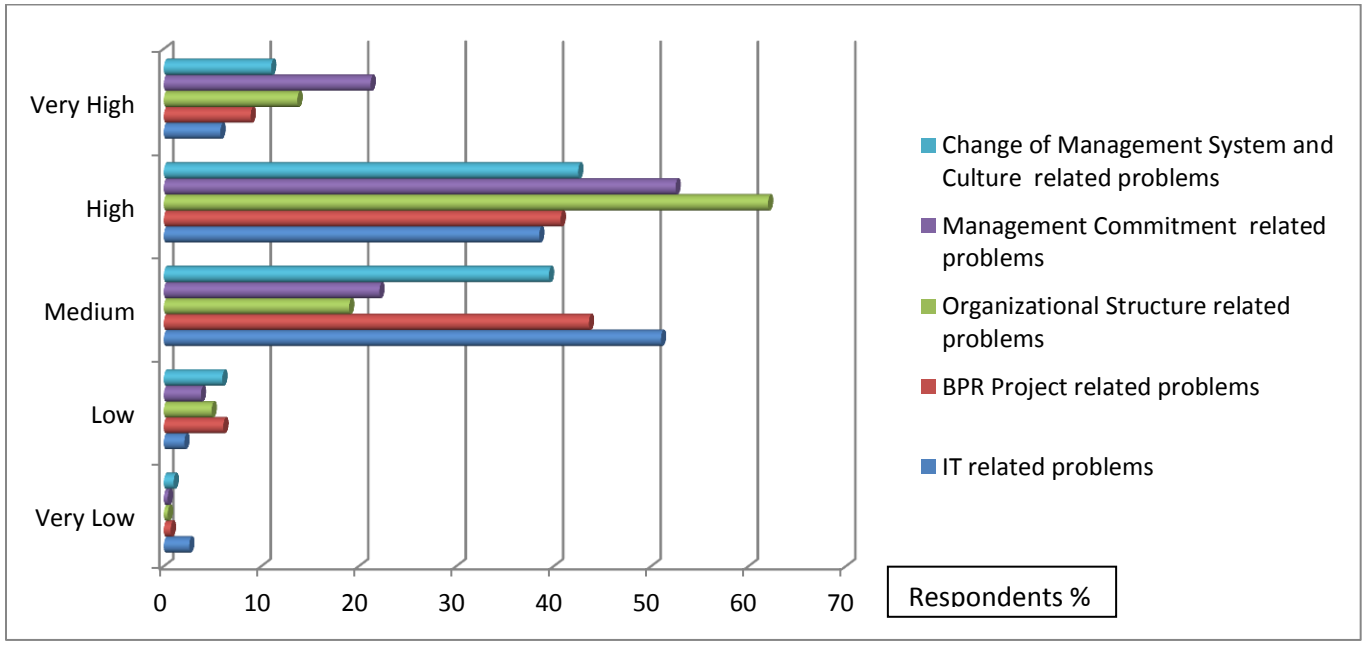


Figure 6 Bar Chart showing Level of Effects by five Failure factors to BPR in MCF

- Fig.6 showed that the effects of failure on BPR implementation in MCF were at high stage in general and particularly organizational structure, change of management system and culture and management commitment were sources of BPR implementation problems from top three.

4.6 Result and Discussion for BPR Drivers

Table 20 BPR Drivers influence BPR implementation in MCF			
No	**BPR Drivers**	**Mean**	**SD**
1	Customer Service Quality Improvement	3.33	0.778
2	Market Competition	3.57	0.623
3	Political Pressure	3.72	0.698
4	The Need to Use Automated Technology	3.78	0.884
5	The Need to Change in Organizational Structures	4.23	0.626
6	The Need to Change Business Strategies	3.80	0.888
7	The Need to Revise Salary Scale	4.06	0.877
Over all		**3.78**	
No	**Table-21 BPR Internal Drivers**	**Mean**	**SD**
4	The Need to Use Automated Technology	3.78	0.884
5	The Need to Change in Organizational Structures	4.23	0.626
6	The Need to Change Business Strategies	3.80	0.888
7	The Need to Revise Salary Scale	4.06	0.877
Over all		**3.97**	

- Table 20 and 21 showed the average impacts of Drivers on BPR implementation in MCF. In likert scale rating, it showed the average which is near to high. From this the researcher deduced that the impacts of Drivers on BPR implementation in MCF were extremely large which indicated that the BPR program was initiated and run absolutely by BPR drivers especially by internal BPR Drivers like the need to change organizational structure and salary scale revision not customer service improvement. And hence this researcher concluded that the major causes BPR implementation failure discussed previously was majorly emanated from such BPR Driving factors not centralized customer service and market competition.

Table 22: BPR External Drivers Influence BPR implementation in MCF								
No	To which extent did the following variables influence to BPR implementation in MCF?	**Measurement**	**Responses In Lickert Scale**					**Total**
			Very Low	**Low**	**Medium**	**High**	**Very High**	
1	Customer Service Quality Improvement	Frequency	2	14	68	51	7	142
		Percent	1.4	9.9	47.9	35.9	4.9	100
		Cum Percent	1.4	11.3	59.2	95.1	100	-
2	Market Competition	Frequency	1	4	53	81	3	142
		Percent	0.7	2.8	37.3	57.0	2.1	100
		Cum Percent	0.7	3.5	40.8	97.9	100	
3	Political Pressure	Frequency	2	3	39	87	11	142
		Percent	1.4	2.1	27.5	61.3	7.7	100
		Cum Percent	1.4	3.5	31.0	92.3	100	
Overall Percent			**1.2**	**4.9**	**37.6**	**51.4**	**4.9**	**100**
Table –23: BPR Internal Drivers Influence BPR implementation in MCF								
1	The Need to Use Automated Technology	Frequency	1	6	50	51	34	142
		Percent	0.7	4.2	35.2	35.9	23.9	100
		Cum Percent	0.7	4.9	40.1	76.1	100	-
2	The Need to Change in Organizational Structures	Frequency	0	0	15	79	48	142
		Percent	0	0	10.6	55.6	33.8	100
		Cum Percent	0	0	10.6	66.2	100	-
3	The Need to Change Business Strategies	Frequency	1	7	46	54	34	142
		Percent	0.7	4.9	32.4	38.0	23.9	100
		Cum Percent	0.7	5.6	38.0	76.1	100.0	-
4	The Need to Revise Salary Scale	Frequency	0	11	17	66	48	142
		Percent	0	7.7	12.0	46.5	33.8	100.0
		Cum Percent	0	7.7	19.7	66.2	100.0	-
Overall Percent			**0.4**	**4.2**	**22.6**	**44**	**28.8**	**100**
Scale: 1=Very Low, 2=Low. 3 =Medium, 4=High, and 5=Very Low								

BPR Drivers mentioned in the Table-22 & 23 are key driving factors related to external and internal factors respectively. The respondents were asked to rate the extent to which each driving factors was being an impact to BPR implementation in MCF. Each of the questions was rated in a 5– point Likert scale ranging from very low (1) to vey high (5).

On these bases, 22.1 shows external BPR driving factor related to customer service quality improvement. From 142 total respondents 1.4% rated to a very low extent, 9.9% rated to a low extent, 47.9% rated to a medium extent, 35.9% rated to a high extent and 4.9% rated to a very high extent. Table-22.2 shows market competition. From 142 total respondents 0.7% rated to a very low extent 2.8% rated to a low extent, 37.3% rated to a medium extent, 57% rated to a high extent and 2.1% rated to a very high extent. Table-22.3 shows political pressure. From 142 total respondents 1.4% rated to a very low extent 2.1% rated to a low extent, 27.5% rated to a medium extent, 61.3% rated to a high extent and 7.7% rated to a very high extent.

On the other hand regarding internal drivers, Table-23.1 shows the need to use automated technology. From 142 total respondents 0.7% rated to a very low extent, 4.2% rated to a low extent, 35.2% rated to a medium extent, 35.9% rated to a high extent and 23.9% rated to a very high extent. For the need to change business strategy, from 142 total respondents 0.7% rated to a very low extent 4.9% rated to a low extent, 32.4% rated to a medium extent, 38.0% rated to a high extent and 33.823.9% rated to a very high extent. For the need to change organizational structure , from 142 total respondents none rated to a very low extent and low extent, 10.6% rated to a medium extent, 55.6% rated to a high extent and 33.8% rated to a very high extent. For the need to revise salary scale , from 142 total respondents none rated to a very low extent 7.7% rated to a low extent, 12.0% rated to a medium extent, 46.5% rated to a high extent and 33.8% rated to a very high extent.

- Problems related to external and internal drives shown in Table-22 and 23, are, 56.3% and 72.8% of the total respondents were rated to the minimum of high extent respectively. That is the extent to which internal drivers imposed to initiate BPR was much greater than external drivers for BPR implementation in MCF as compared. On the result table above the need to improve customer satisfaction was rated much lower than It was clearlFrom this it can be seen that customer needs (Basic Objective of BPR) was not made the priority; that means there was much more internal focus (change in organization structure and salary scale revision) than enough of an eye on the customer satisfaction and market competition.

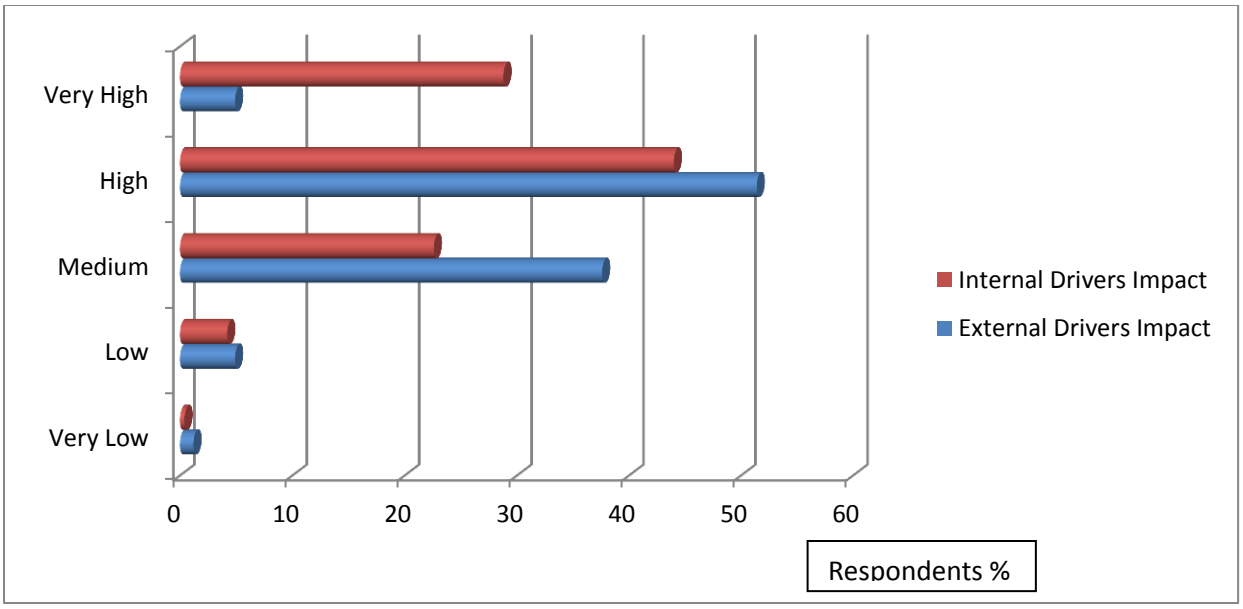
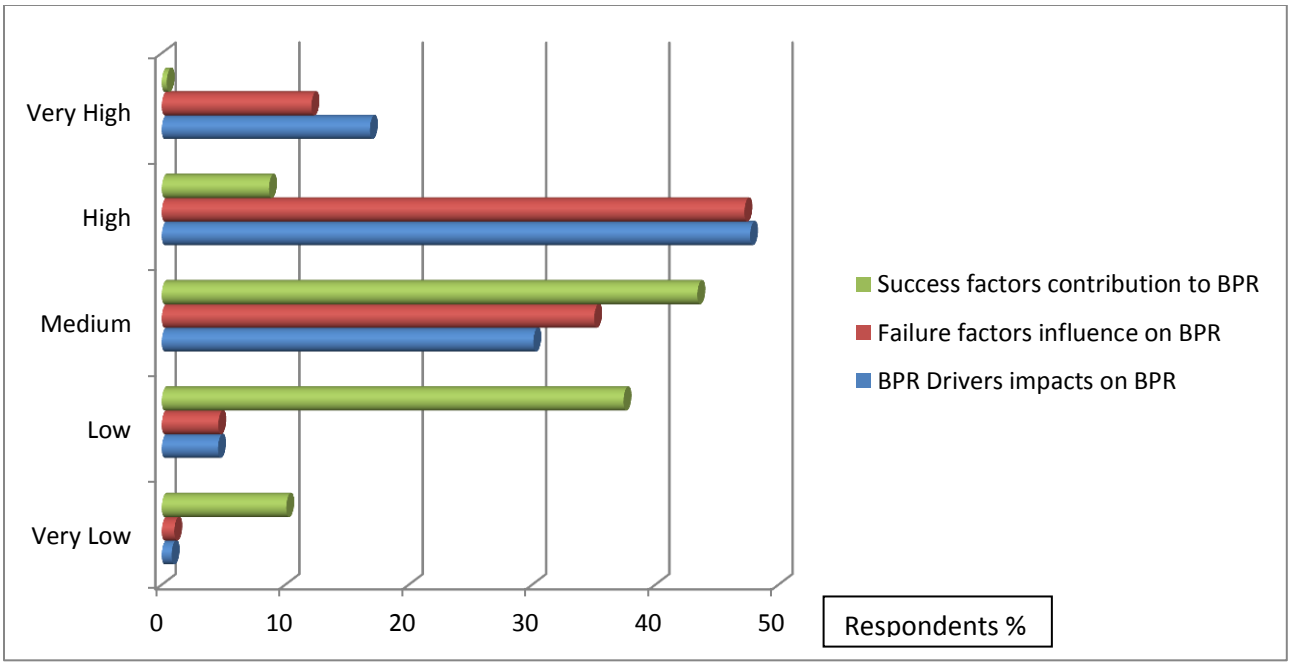


Figure 7 Bar Chart showing Level of Internal and External Drivers Influenced BPR in MCF

- The above figure Fig.7 showed that the impacts of the BPR Drivers in question were very long at the stage of high. That means the extent to which BPR Drivers in questions affected BPR implementation in MCF was in higher range and therefore strengthened the previous two analysis results. From this fact the researcher deduced that BPR implementation in MCF has not been effective which was proved in the past portion of this chapter.



Scale: 1=Very Low, 2=Low. 3 =Medium, 4=High, and 5=Very Low

Figure 8 Bar Chart showing the extent to which factors affecting BPR in MCF

- To sum up as seen clearly from the above generalized bar chart, the contribution of success factors to BPR implementation was medium while the negative effect of failure factors and BPR drivers were high. But as described by Herzog Herzog, Polajnar, and Tonchia (2007), successfully achievement of organizational goals and fulfillment of expectations from BPR was unthinkable. More specifically, BPR does not guarantee profits unless the Key success factors were dominated over the failure factors and negative impacts of internal and external drivers of BPR project. Therefore there was no ground to BPR implementation in MCF to achieve its goals and objectives in these cases

4.7 Result and discussion on Qualitative data

When most of the then management members interviewed why did BPR preferred over the other quality improvement tools like TQM, ISO, BSC, KAIZEN, etc. to MCF, they respond in one way or another same. When their answers generalized, the government initiated BPR in MCF for three main reasons:

1. To create transparency against corruption within the organization,
2. To break the long year built family hood networks within the organization so as the new management run the business suitably and
3. To resolve the employees' salary grievance

Here the fact that other basic BPR values, goals and objectives missed by respondents puzzled this researcher and hence different BPR documents reviewed. Despite the fact that some process designing problem was observed, the document prepared by BPR teams and consultants contained detail basic BPR pillars like cycle time, cost, quality (customer), productivity (quantity), formats, office layout and different business activities. The critics from many management members and employees interviewed here is that the BPR document and even the BPR team and the consultant himself was a cover-up (mask). According to these people's argument, there were pre determined goals and objectives to be achieved by some authorized body within the strong shield of help of BPR project.

The main stake holders in MCF are the owner (government), the management, employee, supplier, customer, neighboring society, etc. Accordingly the researcher made site observation to hear the evaluation of cement buyers; accordingly, large scale cement buyers said there is a big progress than before while small scale cement buyers said there is no different due to BPR. This researcher could not gate government representative for interview due to they were busy. But I have interviewed the general directorate director and the two other deputy directors at chemical industry corporation at their individual office. According to these respondents, no stake holders were currently benefited because of BPR project in MCF was not success full yet.

Middle management members and most long years working employees believed that salary of many workers increased more than 100%, IT infrastructure installed, several employees upgrade their level of education and office layouts more or less corrected. However they aggressively told to the researcher that the system put the senior and the junior, the star and the indolent personnel in one and the same bucket and hence nick-named "Andargachew!" than BPR. As a result, they said many dissatisfy skilled man powers resigned and joined to the newly coming cement industries, the brand of the organization shrink, efficiency and productivity lowered and the market share declined due to malfunctioning of BPR. According to these group no one stake holder is said to be benefited rather; BPR damaged unpredictable resource of MCF like vehicles. Machin-

eries, spare parts, raw and processed materials, work etc. due to both untrained and offended groups. This researcher wanted to incorporate the amount of damage in cash and in kind, but for there is not any audit of the BPR project the researcher could not find data.

As regard to market share status, this research referred different documents to cross check and found the data shown in the next table (Table-24). As showed clearly in figure 11 below, this researcher proved that the leading cement factory MCF was turned back from head to be tail both in production performance and market competition due to unsuccessful performance of BPR implementation in MCF.

Table-24 Market share analysis in Ethiopian Cement industries.

Name of the company	Established Year/ EC	Capacity in millions ton	Performance		Market share		
			2008	2009	Production Capacity	2008 EFY	2009, 1/2EFY
Dangote Cement Factory	2007	2.50	1.85	0.96	15.15	24.48	24.84
Derba Cement Factory	2004	2.30	1.36	0.82	13.94	17.93	21.22
Mesobo Cement Factory	1992	2.26	1.72	0.80	13.70	22.77	20.70
Mugher Cement Factory	1976, 1982 &2004	2.26	0.67	0.43	13.70	8.90	11.13
…14 small others							

- As seen the brand of the organization shrink, efficiency and productivity lowered and the market share declined.

4.8 Summary of findings and the Way forward

4.8.1 Summary of findings

Even if good documentation was prepared by BPR teams and consultants, due to misunderstanding and misapplication, BPR project in MCF was remaining unsuccessful. It is proved that, many dissatisfy skilled man powers resigned and joined to the newly coming competent cement industries, the brand of the organization shrink, efficiency and productivity lowered and the market share declined. But on the other hand installation of IT infrastructure, upgrading of academic capacity (training) and office layouts based on the existing work process are promising fruits of BPR project that might drive MCF to the success position if properly handled.

The other critical issue reflected both in failure factors and BPR drivers in this research is the problems related to BPR organizational structure. The vague process design of organizational structure by BPR teams was also misused both by management and employees due to their personal conflict of interest. The grade of managements fixed by the consultants was violated by managements themselves first, the maintenance and quality departments reversed back to the previous functional system one after another and some others especially attendants of kilns and facility workers are complaining yet to come back to their previous functional structure system.

KAIZEN and BSC are the newly existing quality improvement programs by sharing little space (attention) left from such unstable organizational structure of BPR in MCF. This is a big threat that challenges the infant KAIZEN and BSC programs in near future unless and otherwise treated soon.

Generally the following are major findings of this research:

- ✓ Organizational structure of BPR project was not adapted with the existing human resources and work process.
- ✓ BPR project teams and consultants were misused.
- ✓ Even if well IT infrastructure was installed, due to skill and knowledge gap, the contribution of the system to BPR implementation was negligible.
- ✓ Commitment of the management to realize the project was poor.
- ✓ Termination of young viable continuous improvement tool “ISO 9000 “
- ✓ Many distrusted employees have been created,
- ✓ Dissatisfied skilled man powers resigned,

- ✓ The brand of the organization shrink,
- ✓ Efficiency and Productivity lowered,
- ✓ The market share declined.

The so called "Process based organizational structure" reversed back to its original functional system and hence technically BPR implementation in MCF was aborted.

4.8.2 The Way Forward

According to the results of this research, implementation of BPR in MCF was not effective. However, Installation of IT infrastructure as enabler to BPR, Upgrading of employees academic capacity (training) and Office layouts based on the existing work process are golden gifts of BPR project that might accelerate the currently slow moving quality and productivity programs "KAIZEN and BSC" to the success position if properly managed but a threat if not.

To explain the steps in brief:

1) Process based organizational structure shall be revised considering smart gifts of BPR like IT infrastructure, trained employee and office layout arranged near to works.
2) Families of ISO (ISO2600 for social responsibility, ISO 36000 to minimize risk, ISO 9000 to satisfy customer and ISO 14000 to live with the environment friendly) discussed in the literature shall incorporated to the system.
3) KAIZEN and BSC shall deep root on this ISO family base to address major stake holders the customer, the society, the owner and people of Ethiopia at large.
4) The PDCA cycle shall strongly used.

CHAPTER FIVE: CONCLUSION AND RECOMENDATION

5.1 Conclusion

Even if good documentation was prepared by BPR teams and consultants, due to misunderstanding and misapplication, BPR project in MCF was remaining unsuccessful. It is proved that, many dissatisfy skilled man powers resigned and joined to the newly coming competent cement industries, the brand of the organization shrink, efficiency and productivity lowered and the market share declined. Organizational structure, BPR project planning and management commitment are the top three critical failure factors those led implementation of BPR in MCF to be failed. However IT infrastructure, capacity building of the employees, and suitable office lay out are fruits of BPR project which had not been exhaustively used yet. Therefore MCF should focus on such opportunities for quality and productivity improvement.

5.2 Recommendation:

To improve quality and productivity in Mugher Cement Factory the following activities shall be conducted:

- ✓ MCF should revise such argumentative organizational structure.
- ✓ MCF should work on change attitude and culture to develop commitment of both management and employees towards quality and productivity improvement.
- ✓ Skill and knowledge gap is also proved a source of resistance in this research; therefore to give frequent training to workers on IT system is crucial.
- ✓ To synchronize the smart gifts of BPR project with other quality and productivity systems (KAIZEN, BSC, ISO families) is crucial to minimize cost in MCF.

REFERENCES

Al-Mashari, M. and Zairi, M. (2000) 'Revisiting BPR: A Holistic Review of Practice and

Development' *Business Process Management Journal* Vol.6 No.1

Al-Mashari, M. and Zairi, M. (1999) 'BPR Implementation Process: An Analysis of Key Success and Failure Factors' *Business Process Management Journal* Vol.5 No.1

Alter, A. (1990), ``The corporate make-over", CIO, Vol. 4 No. 3, December.

Alter, A. (1994), ``Re-engineering tops list again", Computerworld, Vol. 28 No. 5.

Assefa, B. (2009), *Business Process Re-engineering in Ethiopia*

Andrews, D. and Stalik, S. (1994), ``Business reengineering: the survival guide", Yourdon Press, Englewood Cliffs, NJ.

Arendt, C., Landis, R. and Meister, T. (1995), ``The human side of change ± part 4".

Attaran, M.,(2000). Information technology and business-process redesign. *Business Process Management Journal*, Vol.9(No.4),

Barrett, J. (1994), ``Process visualization: getting the vision right is key", Information Systems Management.

Bashein, B., Markus, M. and Riley, P. (1994), ``Precondition for BPR success and how to prevent failures", Information Systems Management.

Benjamin and Levinson (1993), ``A framework for managing IT-enabled change", Sloan Management Review, Summer.

Berihu Assefa (2010), Comparative analysis of some Western versus Japanese management techniques in the context of Ethiopia.

Berrington, C. and Oblich, R. (1995), ``Translating reengineering into bottom-line results", Industrial Engineering, January.

Boyle, R. (1995), ``Avoiding common pitfalls of reengineering", Management Accounting, Vol. 77 No. 4.

Broadbent, M. and Weill, P. (1997), ``Management by Maxim: how business and IT managers can create IT infrastructures", Sloan Management Review, Spring.

Bruss, L. and Roos, H. (1993), ``Operations, readiness and culture: don't reengineer without considering them", Inform, April.

Buday, R. (1993), ``Reengineering one firm's product development and another's service delivery", Planning Review, Vol. 21 No. 2.

Cao, G., Clarke, S., & Lehaney, B. (2001). A Critique of BPR from a holistic perspective. [Rsearch Paper]. Business Process Management Journal, 7(4), 332-339.

Caron, J., Jarvenpaa, S. and Stoddard, D. (1994), ``Business reengineering at CIGNA corporation: experiences and lessons from the first five years", MIS Quarterly, Vol. 18 No. 3.

Carr, D. (1993), ``Managing for effective business process redesign", Cost Management, Fall.

Carr, D. and Johansson (1995), Best Practices in Reengineering: What Works and What Doesn't in the Reengineering Process, McGraw-Hill, New York, NY.

Chan, P.S. and Peel, D (1998) 'Causes and impact of reengineering' *Business process management* Vol. 4 No. 1

Champy,J. (1995), Reengineering Management ± the Mandate for New Leadership, Harper Business, London.

Clemmer, J. (1994), ``Process re-engineering and process improvement ± not an either/or choice", CMA Magazine.

Clemons, E. (1995), ``Using scenario analysis to manage the strategic risks of reengineering", Sloan Management Review, Vol. 36 No. 4.

Cole, C., Clark, M. and Nemec, C. (1993), ``Reengineering information systems at Cincinnati Milacron", Planning Review, Vol. 21 No. 3.

Cooper, R. and Markus, M. (1995), ``Human Reengineering", Sloan Management Review, Summer.

Coulson, T. C. (1997) *Business Process Re-engineering: Myth and Reality* Kogan Page UK

CSC Index (1994), State of Reengineering Report, North America and Europe, CSC Index, Inc. London.

Davenport,T. (1993), Process Innovation: Reengineering Work Through Information Technology, Harvard Business School Press, Boston, MA.

Davenport, T. and Nohria, N. (1994), ``Case management and the integration of labor", Sloan Management Review, Winter.

Davenport, T. and Short, J. (1990), ``The new industrial engineering: information technology and business process redesign", Sloan Management Review, Vol. 31 No. 4.

Davenport, T. and Stoddard, D. (1994), ``Reengineering: business change of mythic proportions?", MIS Quarterly, Vol. 18 No. 2.

Davidson, W. (1993), ``Beyond re-engineering: the three phases of business transformation", IBM Systems Journal, Vol. 32 No. 1,Winter.

Dawe, R. (1996), ``Systems are people too", Transportation and Distribution, Vol. 37 No. 1

Dixon, J., Arnold, P., Heineke, J., Kim, J. and Mulligan, P. (1994), ``Business process reengineering: improving in new strategic directions", California Management Review, Summer.

Furey, T. (1993), ``A six-step guide to process reengineering", Planning Review, March/April,1993.

Feltes, P. and Karuppan, C. (1995), ``Reengineering: getting down to the business of doing business", Industrial Management, Vol. 37 No. 4, pp. 3-12.

Goodhue, D., Quillard, J. and Rockart, J. (1988), ``Managing the data resource: a contingency perspective", MIS Quarterly, Vol. 12 No. 3, September.

Gould, L. (1993), ``Measuring business reengineering is part of its success", Managing Automation.

Grover, V., Jeong, S., Kettinger, W. and Teng, J. (1995), ``The implementation of business process reengineering", Journal of Management Information Systems, Vol. 12 No. 1.

Grover, V., Teng, J. and Fiedler, K. (1993), ``Information technology enabled business process redesign: an integrated planning framework", Omega: The International Journal of Management Science, Vol. 21 No. 4.

Grugle, L. (1994), ``How effective communication can ensure your strategy and local objectives are met", in How to succeed at business process re-engineering, University of Bradford Management Centre, Bradford.

Guha, S., Kettinger, W. and Teng, T. (1993), ``Business process reengineering: building a comprehensive methodology", Information Systems Management.

Gulden, G. and Reck, R. (1992), ``Combining quality and reengineering efforts for process excellence", Information Strategy: The Executive's Journal, Vol. 10 No. 1.

Hagel, J. (1993), ``Core process redesign: keeping CPR on track", The McKinsey Quarterly, No. 1.

Hall, J., Rosenthal, J. and Wade, J. (1993), ``How to make reengineering really work", Harvard Business Review, November-December.

Hammer, M. (1990), ``Reengineering work: don't automate, obliterate", Harvard Business Review, Vol. 68 No. 4, July/August.

Hammer, M. and Champy, J. (1993), ``Reengineering the corporation: a manifesto for business revolution", Harper Business, New York, NY.

Hammer, M. and Stanton, S. (1995), ``The reengineering revolution", HarperCollins, New York, NY.

Hammer, M. and Champy, J. (2006) *''Reengineering The Corporation: A Manifesto for Business Revolution''* Harper Collins Publishers New York

Harrison, D. and Pratt, M. (1993), ``A methodology for reengineering businesses", Planning Review.

Harvey, D. (1995), ``Reengineering: the critical success factors", Management Today/Business Intelligence, London.

Has Re-engineering had its 15 Minutes of Fame?(1995), Management Today.

Henderson, J. and Venkatraman, N. (1993), ``Strategic alignment: leveraging information technology for transforming organisations", IBM Systems Journal, Vol. 32 No. 1.

Hendry, J. (1995a), ``Culture, community and networks: the hidden cost of outsourcing", European Management Journal, Vol. 13 No. 2, June.

Hendry, J. (1995b), ``Process reengineering and the dynamic balance of the organization", European Management Journal,Vol. 13 No. 1.

Hinterhuber, H. (1995), ``Business process management: the European approach", Business Change and Re-engineering,Vol. 2 No. 4.

Hoffman, Z. (1997), ``Business process re-engineering: a new strategic paradigm shift in change management", Bay Zoltan Foundation for Applied Research Institute for Logistics and Production Engineering, Internet: [http://sun.bzlogi.hu/informatics/publications/management. html]

Holland, D. and Kumar, S. (1995), ``Getting past the obstacles to successful reengineering", Business Horizons.

Janson, R. (1992), ``How reengineering transforms organizations to satisfy customers", National Productivity Review.

Johansson, H., McHugh, P., Pendlebury, J. and Wheeler, W. (1993), Business Process Reengineering: Break Point Strategies for Market Dominance, John Wiley and Sons, Chichester.

Johnston, R. and Gibson, M. (1975), ``Characteristics of information usage in technological innovation", IEEE Transaction on Engineering Management, Vol. 22 No. 1.

Katzenbach, J. and Smith, D. (1993), ``The rules for managing cross-functional reengineering teams", Planning Review, Vol. 21 No. 2, March/April.

Kennedy, C. (1994), ``Re-engineering: the human costs and benefits", Long Range Planning, Vol. 27 No. 5.

Kettinger, W., Teng, J. and Guha, S. (1997), ``Business process change: a study of methodologies, techniques, and tools", MIS Quarterly.

Klein, M. (1994), ``Reengineering methodologies and tools: a prescription for enhancing success", Information Systems Management.

Kock, N. (2005) *Business Process Improvement through E-Collaboration: Knowledge Sharing Through The Use Of Virtual Groups* Idea Group Publishing London.

Laud, R. and Theis, P. (1997), ``Great expectations: structuring IT organizations that really deliver", Business Horizons, July-August.

Liu, Z., Ballantyne, M. and Seward, L. (1996), ``An assistant for reengineering legacy systems", Internet: [http://www.spo.eds.com/edsr/papers/asstreeng.html]

Martinez, E. (1995), ``Successful reengineering demands IS/business partnerships", Sloan Management Review, Vol. 36 No. 4.

McFarlane, W. and Nolan, R. (1995), ``How to manage an IT outsourcing alliance", Sloan Management Review.

Moad, J. (1993), ``Does reengineering really work", Datamation, 1 August.

Morris, D. and Brandon, J. (1991), ``Reengineering the hospital: making change work for you", Computers in Healthcare, Vol. 12 No. 11.

Mumford, E. (1995), ``Creative chaos or constructive change: business process reengineering versus socio-technical design", in Burke, G. and Peppard, J. (Eds), Examining Business Process Re-engineering: Current Perspectives and Research Directions, Kogan Page.

Ministry of Industry, (2015), Ethiopian Cement Industry Development Strategy 2015-2025

Ostroff, F. and Smith, D.S. (1992), ``The horizontal organization", The McKinsey Quarterly, No. 1.

Ovenden, T. (1994), ``Business process re-engineering: definitely worth considering", The TQM Magazine, Vol. 6 No. 3.

Randall, A. (1993), ``Business process redesign: how to do it".

Unpublishe Rastogi, P. (1994), ``Nature, significance and rationale of business process reengineering", Productivity, Vol. 35 No. 3.

Reich, B. and Benbasat, I. (1996), ``Measuring the linkage between business and information technology objectives", MIS Quarterly.

Rigby, D. (1993), ``The secret history of process reengineering", Planning Review.

Rockart, J. and Short, J. (1989), ``IT in the 1990s: managing organizational interdependence", Sloan Management Review.

Rohm, C. (1992/1993), ``The principal insures a better future by reengineering its individual insurance department", National Productivity Review, Vol. 12 No. 1.

Saunders, C. and Jones, W. (1992), ``Measuring performance of the information systems function", Journal of Management Information Systems, Vol. 8 No. 4.

Schnitt, D. (1993), ``Reengineering the organisation using information technology", Journal of Systems Management, January.

Stanton, T., Hammer, M. and Power, B. (1993) ``Reengineering: getting everyone on board", IT Magazine, Vol. 25 No. 4.

Stow, R. (1993), ``Re-engineering by objectives", Planning Review.

Teng, J., Grover, V. and Fiedler, K. (1994), ``Business process reengineering: charting a strategic path for the information age", California Management Review.

The Trouble with Reengineering (1995), Technology Strategies, January.

Thomas, M. (1994), ``What you need to know about: business process re-engineering", Personnel Management.

Tilley, S. (1996) ``Perspectives on legacy system reengineering", Reengineering Centre, Software Engineering Institute, Carnegie Mellon University, Internet: [http://www.sei.cmu.edu/ ~reengineering/pubs/lsysree/lsysree.html]

Towers, S. (1994), Business Process Re-engineering: a Practical Handbook for Executives, Stanley Thomas Ltd, Cheltenham.

Towers, S. (1996), ``Re-engineering: middle managers are the key asset", Management Services.

Zairi, M. and Sinclair, D. (1995), ``Business process re-engineering and process management: a survey of current practice and future trends in integrated management", Management Decision, Vol. 33 No. 3.

APPENDIX: QUESTIONNAIRE

SAINT MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES

INSTITUTE OF QUALITY AND PRODUCTIVITY MANAGEMENT(SGS/QPM)

Dear participants,

My name is Abayneh Kebede. I am graduate of St. Mary's University, at Institute of Quality and Productivity Management studies and currently working a research on title "Success and Failure of BPR implemented at Mugher Cement Factory". The purpose of the research is to investigate the successes and failures of BPR implemented in the company and transform essential elements to the best interest of the organization in particular and stake holders in general. To this end I would like to invite you to participate on the research. The information you provided will be treated confidential and would not be used other than academic purpose.

Thank you in advance for giving me your precious time

Part One:

Demographical Information: - Please put 'X' in the box provided

1.1 Sex:-

Male	Female

1.2 Age Group:

18 – 25	25-35	35-45	45-55	>55

1.3 Your Educational Status:

≤12	Diploma	1st Degree	≥2nd Degree

Other please specify _____

1.4 Your work ar-

Core Process	Support Process

ea

1.5 Which level are you belonging in your organization?

Top Mgt	Middle Mgt	Supervisor	Employee

1.6 Your service year in the organization you are working in?

0-5	5-10	10-15	15-20	>20

Part Two:

No	**Table-1 :- To what extent did the following statements contribute to the Success of BPR Implemented in MCF?** (Please circle!)	**Rating**				
2.1	Extent to Revision of Motivations and Rewards Systems	1	2	3	4	5
2.2	Extent to Effective Communication	1	2	3	4	5
2.3	Level of Empowerment of the employee	1	2	3	4	5
2.4	Degree of People Involvement in sustaining the change tool	1	2	3	4	5
2.5	Training and Education	1	2	3	4	5
2.6	Extent to Creating an Effective Culture for Organizational Change	1	2	3	4	5
2.7	Level of positive responsiveness to the Organizational Change	1	2	3	4	5
2.8	Committed and Strong Leadership in your sub process or team	1	2	3	4	5
2.9	Level of BPR Protection from internal and external impact	1	2	3	4	5
2.10	Level of Risk Assessment in BPR Implementation Program	1	2	3	4	5
2.11	Degree of Adequate Job Integration Approach	1	2	3	4	5
2.12	Extent to Effective BPR Teams	1	2	3	4	5
2.13	Allocation of Appropriate Jobs, Definition and Responsibilities	1	2	3	4	5
2.14	Alignment of BPR Strategy with Corporate Strategy	1	2	3	4	5
2.15	Level of Effective Use of Consultants	1	2	3	4	5
2.16	Effective Planning and Use of Project Management Techniques	1	2	3	4	5
2.17	Setting Performance Goals and Measures	1	2	3	4	5
2.18	Adequate Resources	1	2	3	4	5
2.19	Appropriate Use of Methodology	1	2	3	4	5
2.20	External Orientation and Learning	1	2	3	4	5
2.21	Effective Use of Consultants	1	2	3	4	5
2.22	Building a BPR Vision	1	2	3	4	5
2.23	Effective Process Redesign	1	2	3	4	5
2.24	Integrating BPR with Other Improvement Approaches	1	2	3	4	5
2.25	Adequate Identification of BPR Values to stake holders	1	2	3	4	5
2.26	Adequate Alignment of IT Infrastructure and BPR Strategy	1	2	3	4	5

2.27	Building an Effective IT Infrastructure	1	2	3	4	5
2.28	Adequate IT Investment and Sourcing Decisions	1	2	3	4	5
2.29	Adequate Measurement of IT Infrastructure Effectiveness	1	2	3	4	5
2.30	Proper Information System Integration	1	2	3	4	5
2.31	Effective Reengineering of Legacy Information System	1	2	3	4	5
2.32	Increasing IT Function Competency	1	2	3	4	5
2.33	Effective Use of Software Tools	1	2	3	4	5
No	**Table-2 :- To what extent did the following statements contribute to the Failure of BPR Implemented in MCF?** (Please circle!)	**Rating**				
2.34	Lack of communication	1	2	3	4	5
2.35	Presence of Organizational resistance	1	2	3	4	5
2.36	Lack of organizational readiness for change	1	2	3	4	5
2.37	Problems related to creating a culture for change	1	2	3	4	5
2.38	Lack of training and education	1	2	3	4	5
2.39	Lack of commitment, support, and leadership	1	2	3	4	5
2.40	Lack of protecting BPR Implementation from any Internal and External Impact?	1	2	3	4	5
2.41	Ineffective BPR teams	1	2	3	4	5
2.42	Lack of integration mechanism, jobs' definition, and responsibilities	1	2	3	4	5
2.43	Problems related to planning and project management	1	2	3	4	5
2.44	Problems related to goals and measures	1	2	3	4	5
2.45	Inadequate focus & objectives	1	2	3	4	5
2.46	Ineffective process redesign	1	2	3	4	5
2.47	Problems related to BPR resources	1	2	3	4	5
2.48	Unrealistic expectations	1	2	3	4	5
2.49	Ineffective use of consultants	1	2	3	4	5
2.50	Problems related to IT investment and sourcing decisions	1	2	3	4	5
2.51	Improper IS integration	1	2	3	4	5
2.52	Inadequate IS development	1	2	3	4	5
2.53	Lack of Proper IS Integration	1	2	3	4	5
No	**Table-3 :- To what extent did the following statements contribute to the main reasons (main drivers) for BPR Implemented in MCF?** (Please circle!)	**Rating**				
2.54	Customer Service Quality Improvement	1	2	3	4	5
2.55	Market Competition	1	2	3	4	5

2.56	Political Pressure	1	2	3	4	5
2.57	The Need to Use Automated Technology	1	2	3	4	5
2.58	The Need to Change in Organizational Structures	1	2	3	4	5
2.59	The Need to Change Business Strategies	1	2	3	4	5
2.60	The Need to Revise Salary Scale	1	2	3	4	5

The statements listed below are extracted from various articles and empirical researches on BPR implementation to investigate Success and Failure of BPR implementation in Mugher Cement Factory (MCF). For its convenience, they are arranged in to three tables (Statements related to Success factors, Failure factors and BPR Drivers) based on the nature of positive or negative influence on BPR implementation as shown below.

Please rate the extent of contribution of each statement in the tables from the view point of BPR implementation in MCF by Circling1 for very low; 2 for low; 3 for medium; 4 for high and 5 for very high in the box provided.

Part Three: -

Open End Questions

Please write what you fill about the BPR implemented in Mugher Cement Factory by reading the following questions.

1. In your opinion, what are the Successes of BPR Implementation in MCF?
   ---
2. In your opinion, what are the Failures of BPR Implementation in MCF? --
   ---
3. Among different quality and productivity improvement tools available (TQM, BPR, BSC, ISO, KAIZEN, LEAN…etc for example),which do you think the best fit for your organization (MCF)? Why?----------