ST. MARY'S UNIVERSITY COLLEGE
FACULTY OF BUSINESS
DEPARTMENT

CHALLENGES AND PROSPECTS OF BUSINESS PROCESS RE-ENGINEERING IMPLIMENTATION IN ADDIS ABABA TRANSPORT BRANCH OFFICE

The case of Eastern Zone

BY
MELIS ZEBER

JUNE 2010
SMUC
ADDIS ABABA

CHALLENGES AND PROSPECTS OF BUSINESS PROCESS RE-ENGINEERING IMPLIMENTATION IN ADDIS ABABA TRANSPORT BRANCH OFFICE

In the case of Eastern Zone

BY
MELIS ZEBER

A SENIOR ESSAY SUBMITTED TO
FACULTY OF BUSINESS
THE DEPARTMENT OF MANAGEMENT
ST. MARY'S UNIVERSITY COLLEGE

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF BACHELOR OF ARTS
IN MANAGEMENT

JUNE 2010
SMUC
ADDIS ABABA

ST. MARY'S UNIVERSITY COLLEGE

CHALLENGES AND PROSPECTS OF BUSINESS PROCESS RE-ENGINEERING IMPLIMENTATION IN ADDIS ABABA TRANSPORT BRANCH OFFICE
The Case Of Eastern Zone

BY
MELIS ZEBER

FACULTY OF BUSINESS
DEPARTMENT OF MANAGEMENT

Approved by the Committee of Examiners

_____	_____
Department Head	Signature
_____	_____
Advisor	Signature

_____	_____
Internal Examiner	Signature
_____	_____
External Examiner	Signature

ACKNOWLEDGEMENT

First of all I would like to thank my God for helping me to finish this paper. I would also like to express my gratitude to my advisor Ato Goitom Abraham for his advisory support.

I would also like to thank my friends (UNI-STAR) and all who have directly or indirectly contributed for the completion of this paper.

TABLE OF CONTENTS

Page

LIST OF TABLES

Page

TABLE OF CONTENTS

PAGE

CHAPTER ONE

INTRODUCTION

Background of the research

Today, globalization along with the key driving forces of change such as fundamental change in the future of customer, competition and change has created tough environments for organization that has been working in philosophies and principles of mass production that helped their business successes yesterday which does not fit the new world of work. The new world requires organizations to build working system that can make them responsive, flexible, & customer focus. And the existed mass production era don't fit to these requirements. These new feature of organization achieved in new perspective shift the approach from task based to process based thinking and this causes for the introduction of BPR (Reengineering the organization working manual, ministry of capacity building, 2007).

Business process reengineering (BPR) is a management approach that examines aspects of a business and its interactions, and attempt to dramatically improve the efficiency of the underlying process. BPR was first introduced by Michael Hummer in 1990 in Harvard Business Review article. His attempt was to bring fundamental and dramatic changes by eliminating unnecessary work flow and increases the quality and decreasing service speed and costs. (http://WWW.doc.ic.ac.uk/nd/surprise-95/journal/vol2/tmk1/article2. htm1)

It is almost after a century, from introduction of scientific management theory by Adam Smith. Michael Hammer in the book "Reengineering the Corporation" written jointly with James champy, intended to bring radical change in big companies of America. After decades Ethiopia tried to implement this new theory and get improvement in the service delivering practice in many governmental organizations.

The study tried to find out some of the problems/challenges and come up with possible solutions that are needed for to deliver better service in Addis Ababa Transport Branch Office East Branch.

Background of the Organization

Prior to the establishment of the bereau it was under the road transport authority with the status of drivers and vehicles affair department. In accordance with proclamation number 41/1993 to define the powers and duties of the central and regional government of Ethiopia Region 14 Transport and communication bereua was established being accountable to the exclusive committee of region 14 administration. After wards the bureau continued to render various services till 2003. But, after 2003, the bereau organized as Authority by Addis Ababa administration charter decree no. 2/2003, article 13(1), article 66(2) and article 44 Negarit Gazeta proclamation number 41/1993.

Then the authority readjusted itself and started to render service on the overall department's scheme. It also tried to score a better achievement based on its objective and responsibilities offered by 2003 proclamation.

Now the bereau has one general manager three departments five branch offices and discharging its responsibility above 360 employees. According to proclamation no. 468/2005 organized as branch office of the transport authority. (Manual of the office 1999)

Among the office total employees 72 are working in east zone which means one of the five branch offices (zone).

Statement of the Problem

According to the theoretical aspect implementing BPR can change the organization dramatically and radically and also improve their service. Due to poor customer service in most of governmental service giving organization in Ethiopia are running to reengineer their service.

Even if it tried to implement BPR the Addis Ababa Transport Branch Office is confronted with many problems to successfully implement due to certain challenges. One of the major problems. One of the is the lack of clarity of the concept to the stakeholders (managers, and employees) on the concept of BPR and the time length needed to aware all concerned about the concept:

In implementation of BPR the office didn't follow the theoretical principles required. The office also had problems on putting bench marking. Even so, BPR improve its service and avoids unnecessary work processes.

Prior to assessing BPR implementation problem in the western branch office of the Addis Ababa transport authority the following questions should be addressed.

Basic Research Questions

The basic research questions that this study tries to address are the following:

1. What measures did the organization take to create favorable environment to implement BPR?
2. How to select and train the re-engineering team?
3. What measures did the organization take to create awareness?
4. How the office implements the BPR in accordance to the theoretical principles?
5. What pre-conditions the organization consider before re-engineer?
6. How to identify the work process?

Objective of the Study

General objective

- To show the problem of implementing BPR in the office
- To identify the attitude of employees towards the change

Specific objective

- To show what problems are faced;
- To show the causes of problems;
- To show how employees react to change;
- To indicate alternative suggestions to avoided the problem;
- To identify the improvement /processes.

Significance of the Study

Since the research tries to identify the problems in implementing the BPR, it may have great contribution to Addis Ababa Transport Branch Office East Zone to achieve its goal.

The research may give clue to Addis Ababa Transport Branch Office Management to fulfill adequate infrastructure, human resource & training programs. Furthermore the research is believed to motivate other researchers to look deep into the implementation problem for further studies.

Delimitation /Scope of the Study

Among the five Branches of Addis Ababa Transport Authority, the study is conducted only on East Branch, due to time and cost constraints. Hence the scope of the study is limit to assess the problem of BPR implementation in the East Branch Office. Thus, the study mainly focuses on Addis Ababa Transport East Branch BPR implementation practice.

Research Design and Methodology

1.9.1. Research Design

Since the study is mainly concerned with analyzing, identifying and describing the BPR implementation problems of the organization descriptive method is employed. This paper organized in four chapters. Chapter one contains introduction, background of the study, statement, objective & significance of the study. Chapter two presents about review of related literature. Third chapter is data presentation analysis and the last chapter is summery, conclusion & recommendations.

1.9.2. Population and sampling technique

The total population of the study is 72 employees. While conducting this research the sampling technique used was stratified random sampling to collect relevant data. A Total of 22 (30%) of the total population selected as a sample out of the total population of (72). To get more reliable data the research divides in to three deferent strata's (managers, employees & Re-engineering team). Because variations among them on training understanding the concept & change

1.7.3. Types of Data Collected and Used

To conduct this study, the primary and secondary sources of data are used. The primary data were collected from the respondent, and secondary data are collected from different documents.

1.7.6 Methods of Data Collection

While conducting the study, the primary data collected through the distribution of questionnaire consisting of open and closed ended questions. Secondary sources such as different documents of the offices research team and reform teams, brochure and other related materials were referred and analyzed.

The researcher uses questionnaire due to scarce resource & to protect privacy of the participants. Closed ended questionnaire to reduce difficulties during analysis, and to get more information usages some open ended questioners. This helps to save both researchers and respondents time. But due to their number and having more data the researcher uses structured interview questions to reengineering team.

1.7.7 Method of Data Analysis

The collected data was analyzed, summarized and interpreted using descriptive method. Thus, the data collected was tabulated and analyzed using frequency count and percentage.

1.7.8 Organization of the Study

The paper organized in four chapters. The first chapter deals with introduction of the study including background of the study and organization, statement of the problem, basic research questions, objectives of the study, significance of the study, scope of the study and research design and methodology. The second chapter presents the review of related literature. The third chapter deals with data presentation and analysis. And the last chapter presents summary conclusions and recommendations of the study.

Chapter Two

Review of Related Literature

Today, globalization a long with the key driving forces of change, such as fundamental change in the feature of customer computation and change. During the industrial age of mass production, organizations and companies were built around Adam Smiths brilliant discovery of work should be broken down in to the simplest components and be assigned to specialists (the notion of division of labor and specialization). The few world requires organizations to build working system that can make them responsive, flexible and customer focus. The fragmentation and traditional bureaucratic organization of mass product era don't fit to this requirements. (Transport & Communication Training manual:2007)

The new feature of organization (responsiveness, flexibility of customer focus) achieved in new perspective: shift the approach of work from task based to process based thinking. So too for organization today unless they shift their approach to process perspective, even if there existed efficiently of task with best employees, managers, best rules and efficient working procedures in the organization, that all are nothing because the future of the organization can't allow them to provide seamless service. The problem lied not on task efficiency, but on the business process, i.e. process structure, in other words how work was organized and done. (Ibid)

The key issue raised here is then the way to transform to seamless government and process centering. There are two tools called Re-engineering and TQM that could help organizations more lead to process centering. However, it is critical to understand the different results the tools provide and the timing they are appropriate. The two have some important common features: process orientation and begin with

customer. However, the two have fundamental differences in essence. TQM is about modifying the process to solve the problem in which it is based on a problem solving entered and the result is incremental change. (Working manual ministry of capacity building July 2007)

Reengineering in contrast, is about beginning again from scratch. Starting over entirely considering how to jobs in the process put together. It in tails the fundamental and radical redesign of the business process and replace the old process with the new superior one, with pursuing new direction, philosophies and perspectives to work and organization. (Ibid)

BPR has arise during the early 1990's as an approximately developed by practitioners. It gained prominence in the work of writers such as Daven Port and Short (1996) Hammer (1990), Hammer and Champy (1993), and Harrington (1991). The concept is currently very topical in many organizational, management and information technology literature.

2.1. Definition of BPR

Deferent definitions can be found. This section contains the definition providing on the notable publications in the field. The term "reengineering" was 1st introduced in 1990 in a Harvard business review article: the articles author was Michael Hammer, a former computer science professor at the Massachusetts institute of technology. Hammer then went on to develops the concept further in a book: reengineering the corporation, written jointly with Champy. They provide the following definition.

"Reengineering is the fundamental rethinking and radical redesign of business process to achieve dramatic improvements in critical, contemporary measures of performance, such as cost, quality, service and speed".

This definition comprises four key words: fundamental, radical dramatic and process.

1) **Fundamental:** Understanding the fundamental operations of business is the first step prior to reengineering. Business people must ask the most basic questions about their companies and how they operate: why do we do? What we do? And why do we do it the way use do? Asking these basic questions lead people to understand the fundamental operations and to think why the old rules and assumptions exist. often, these rules and assumptions are in appropriate and obsolete, erroneous, or in appropriate.

2) **Radical**

   The 2nd key work in the definition is radical, which is derived from the Latin word "radox", meaning root. Radical redesign means getting to the root of things: not making superficial changes or fiddling with what is already in place, but throwing away the old. In Re-engineering, radical redesign means disregarding all existing structures and procedures and inventing completely new ways of accomplishing work. Re-engineering is about business reinvention-not business improvement, business enhancement or business modification.

3) **Dramatic**

   The third key word is dramatic. Re-engineering is not above making marginal or incremental improvement but about achieving quantum leaps in performance.

There are three kinds of companies that undertake re-engineering in general.

i) Companies that find themselves in deep trouble. They have not choice. If companies costs are an order of magnitude higher than the competitions or than its business model will allow, if its customer service is so abysmal that customers openly rail against it:

ii) Companies that are not yet in trouble but whose management has the foresight to see trouble coming.

iii) Companies that are in the peak condition. They see re-engineering as a chance to further their lead over their competitors.

4) Process

Process is most important concept in reengineering most business people are not "process-oriented", they are focused on tasks, on jobs, on people, on structure, but not on process.

Business process is a collection of activities that takes one or more kinds of input and creates an output that is of value to customer. (Hammer & Champy, 1993:32-35).

- According to Jake P. Laudon, Laudan (2005:383) BPR is the radical redesign of business processes, combining steps to cut waste and eliminating repetitive paper – intensive tasks in order to improve cost, quality and service and to maximize the benefit of information technology.
- W.S Jawadekar explains Michael Hammer's BPR definition in more prices way.

"The definition of re-engineering is loaded with a number of important concepts and its understanding is necessary for successful re-engineering of business. The first and the fore most is fundamental rethinking.

- The fundamental rethinking calls for questioning every thing that is being followed practiced and found acceptable for centuries. In rejects old legacies and 'proven' practices.

- In general, starting all over again rejecting the past. It requires a vision, an innovation and an imagination.

- The second important concept is radical redesign. The radical redesign calls for trimming and chopping of these designs so that the cost is reduced, service is improved and the customer gets higher value at a higher speed. The redesign call for a change in the technology, tools and techniques. It calls for pushing down decision making to the lowest level by enlightening and empowering the people.

The radical redesign calls for off-loading the activity outside the business organization if it contributes to the cost and not to the customer designed value. It begin with the objective of activity elimination, then improvisation and finally outsourcing.

The 'fundamental rethinking and radical redesign' mentioned in the definition is that exercise which produces dramatic improvements. Any re-engineering exercise, if it produces only marginal improvements is then not a result of rethinking and a radical redesign.
(W.S Jawadekar: MIS, 2000, 425-426)

2.2. BPR VS TQM

Many modern scholars advise to reform the business on the axis of customer (customer focus). To archive this goal, they show two alternatives tools (TQM and BPR). But they have their own differences.

No		TQM	BPR
1	Case for action	- Assume to be necessary	Compelling
2	Goals	- Small scale, cumulative improvements in many places	Outrageous
3	Scope & focus	- Attention to tasks, steps & process across the board	Select but broad business processes.
4	Degree of change	- Incremental & continual	Order of magnitude & periodic
5	Senior management	- Important up front	Intensive throughout

	involvement		
6	Role of IT	- Incidental	Corner stone

(Samuel C. Certo. 2000:445-446)

2.3. Principles of Reengineering

To reengineer the business the reengineering team should know basic principles. According to C.Certo. 2000:517-518.

1. **Organize around outcomes, not tasks** – Traditionally, work has been organized around different tasks, such as sawing, typing, assembling, and supervising. This first principle of reengineering would, instead, have open person or team performing all the steps in an identified process. The person or team would be responsible for the outcome of the total process.
2. **Have those who use the output of the process perform the process** – for example, a production department may do its own purchasing, and even its own cost accounting. This principle would require a broader range of expertise from individuals and teams, and a greater integration of activities.
3. **Subsume information-process work into the real work that produces the information-** Modern computer technology now makes it possible for work process to process information simultaneously. For example, scanners at checkout counters in grocery stores both process customer purchases and update accounting and inventory records at the same time.
4. **Treat geographically dispersed resources as through they were centralized** – Hammer uses. Hawlett-packard as an example of how this principle works. Each of the company's 50 manufacturing units had its own purchasing department, which prevented the company from achieving the benefits of scale discounts. Rather than centralize purchasing, which would have reduced responsiveness to local

manufacturing needs, Hewlett Packard introduced a corporate unit to coordinate local purchases, so that scale discounts could be achieved. That way, local purchasing units retained their decentralized authority and preserved their local responsiveness.

5. **Link parallel activities instead of integrating their results –** Several processes are often required to produce products and services. Too often, though, companies segregate these processes so that the product comes together only at the final stage. Meanwhile, problems may occur in one or more processes, and those problems may not become apparent until too late, at the final step. It is better, Hammer says, to coordinate the various processes so that each problems are avoided.

6. **Put the decision point where the work is performed end build control into the process**-Traditional bureaucracies separate decision authority from the work. This principle suggests that the people doing the work are the ones who should make the decision about that work. The salesperson should have the authority and responsibility to approve credit, for example. This principle saves time and allows the organization to respond more effectively and efficiently to customer needs.

   Some managers worry that this principle will reduce control over the process. However, control can be built into the process. In the example cited, criteria for credit approval can be built into a computer program, so the salesperson has guidance for every credit decision.

7. **Capture information once and at the source** – Computerized on-line databases help make this principle achievable. It is now easy to collect information when it originates, store it, and send it to those who need it.

Conceptual Framework of BPR

- BPR is relatively new concept (90^s) expressed in various terms
- Refer to large and small process changes.
- The centerpiece of BPR is challenging the statuesque and registering dramatic improvements, radical change.
- Focus on outcomes rather than tasks.
- Among many terminologies the term business process reengineering and organizational reengineering are used inter changeably.
- BPR drives changes in other aspects of the organization that support and controls the process interconnection.
- BPR demands ambition- the target is not 20% fix, rather it is 80% solution even 100% change.
- DPR is rule –breaking- its goal is shaking up the status quo or old traditions.
- It begins with no assumptions and no givens. It first determines what the company must do then how to do it. It takes nothing for granted. It ignores what is and concentrates on what should be.

(Ministry of transport & Communication training manual, 2000:206)

2.4. Function Vs process approach

BPR is process oriented not function oriented: organizations re-engineer only organizational process not the administrative organization that has evolved to accomplish them.

Functional approach: Based on a set of related activities that is part of a process, often known as a sub process with in a process. Organizations often divide themselves in to functional units, such as purchasing, product development, order fulfillment etc.

Process approach: Based on a set of activities that produce products and services for customers. It is a chain of operations that need efficiency and effectiveness all along the chain.

Functional approach	Process Approach
Communication barriers, blames, grievances, adversarial relationship	- Better communication /eliminate barrier
Non-value adding /inefficiency adding) activities exist	- Relational activities
Hierarchical	- Alignment based on value adding sequences
Resource are not properly allocated & utilized (weak link)	- Resources are better utilized
No responsibility for the whole range of the process	- One manager for the whole range of process
Inspection & fire fighting	- Preventive
Stability seeking	- Continual improvement

/BPR Training and Implementation Manual Transport & Communication Minister 2007/

2.5. What BPR Not

- BPR is not down sizing (doing less with less) rather doing more with less. "Down sizing – attempts to increase productivity by doing the same with less people. Basically reducing the number of employee (Cast Baril, Thompsm, 1997:263).
    - **BPR** is not restructuring or some other organizational or departmental fix; rather it is reinventing the process.
    - **BPR** is not the same as automation & rationalization of procedure. "automation means using the computer to speed up the performance of existing tasks. And rationalization of procedure the

streamlining of standard operating procedures, eliminating obvious bottle necks, so that automation makes operating procedures more efficient. (C. Baril & Thompson, 1997:263)

2.6 Bell Atlantic Company's Experience

Bell Atlantic Corp., the Philadelphia-based, $12 billion communications company that services the Mid-Atlantic States, used to operate in a monopolistic world, free from competition. Accordingly, it responded to customers' requests according to its own timetable and without excessive regard for the quality of service it provided. Then Bell Atlantic's world changed. Now the company is changing, too-and at a breathtaking pace.

One of Bell Atlantic's principal businesses, making up 20 percent of its revenues and nearly half its corporate profits, involves providing Carrier Access Services (CAS). CAS is simply the link between Bell Atlantic's customers residential and business and their selected long-distance carriers, such as AT and T, Sprint, and MCI. Each of Bell Atlantic's seven regional operating companies had its own procedures for handling a carrier access request, but processing a request and hooking up the service typically took Bell Atlantic about fifteen days and as much as thirty days for corporate customers needing a link for their high speed data and video communications. As a monopoly provider, Bell Atlantic didn't have to care how long this process took.

Suddenly, Bell Atlantic discovered it needed to compete but couldn't. Newcomers to the business built fiber–optic cables a technology Bell Atlantic didn't yet have in metropolitan areas where the Baby Bell had large corporate customers with heavy demands for voice, high-speed data and video communications.

The new companies could not only provide these customers with access service that was more reliable and less expensive than Bell Atlantic's,

they could process service orders in a quarter of the time it took Bell Atlantic. It didn't take long for Bell Atlantic's biggest and most lucrative accounts to begin deserting for the competition.

We had no time to waste, but we couldn't antagonize customers, so when we made a change we had to get it right. This wasn't something we could afford to do again and again to correct mistakes. So, we actually set up two different kinds of reengineering teams, one to come up with the ideas and the other to test and refine them in the real world.

The first team we called the core team. To head it, we selected a manager who had all the prerequisites I was looking for. She was respected by her peer group, and she was a good communicator, teacher, and role model. She could and would inspire others.

The core team leader's first job was to assemble a team of experts from among all the disciplines involved in the fragmented CAS process, being sure that they were competent in their skill areas and that they, too, were respected by their peers and were good communicators. The core team's job was to brainstorm, to redesign, and to blueprint the new process in detail. We gave them a goal. They were to find a way for Bell Atlantic to provide access services to customers in virtually zero cycle time.

We made their goal ambitious for three reasons: First, it's what our customers said they wanted in the long term. Second, meeting it would force a substantive change in the existing process, not just a fix. Third, we figured that zero cycle time was a level of performance that our competitors could never beat.

Frankly, the core team members were apprehensive. At first, they thought their task was impossible, and it took more than a little encouragement to get them to sign on, but they did. They began their

work in mid-July of 1991, and within a month, they had designed a new process that physically pulled together under common supervision in one location all of the functions of the old process that had been geographically dispersed, separately managed, and spread among different departments.

As soon as we had a process design, we put the second team, which we called the lab team, to work. Their job was to test the core team's blueprinted design by using it to process real CAS orders. They would try the new process, change it however they liked, and then feedback their results to the core team. Thus, our reengineering process itself was iterative. The lab team became, in effect a proto type for the case team concept that our core team created.

The lab team was empowered to make whatever changes in work methods and procedures that were necessary to cut the process time, reduce expense, and produce a defect-free output. They were to discard all of the existing functional and departmental measurements and management objectives under which they used to work in their separate departments. Their only concern was figuring our how they could reduce cycle time, cut expense, and improve the quality of the output concurrently.

The lab team took over operational responsibility for servicing customers in a part of central Pennsylvania. Within several months the team was working with cycle times measured in days instead of weeks. In some cases they had reduce them to hours. The quality of the service improved dramatically, too. Before the lab team begin servicing that group of customers, we had four people working full time whose job was to track CAS orders that were not being completed successfully. We have eliminated that group and saved more than $1 million a year on reworks in just that one location.

Currently we are extending the case team concept to all of Bell Atlantic's operating subsidiaries. The teams we are installing use the same process and process management systems that were used in the lab team's pilot. We have also identified the culture changes, the new job skills and the revamped information systems that we'll need.

Bell Atlantic's management systems are being changed as well. We have been and are a hierarchical company that closely supervises individuals and measures their performance by internal criteria. We are moving toward self-managed and cross-functional work teams that are internally motivate to meet customer requirements, and to continuously improve cycle time, cut costs, and improve quality. Even as we implement the case team concept, though, the core team is already working on the next iteration of reengineering, in which we will replace the case teams with one case worker and some new technology. Essentially, one person will be able to do what a team of people with different specialties does now. Instead of using a team to transcribe the elements, of a customer order manually for each of our various systems, we have technology that will allow one person to take a customer's call and use his or her terminal to make electronically all the connections required to set up the service requested. When we reach this iteration, we will essentially be changing the order in which we respond to customer requests. We'll be setting up the service first and then taking the time to figure out how to bill and keep the records we need.

Bell Atlantic's experience illustrates is the usefulness of staged reengineering. The core team envisioned an ultimate objective of self-provisioning with no cycle time. That is the company would give customers the ability to dial up the service they wanted instantaneously, much like any telephone user gets a long distance line now. We dial "2" and it happens. But the Bell Atlantic team realized that they shouldn't try to reach this goal in a single leap. Doing so would take too long and

require too great a capital investment. They decided instead to make the change in three steps, moving first to the case team, then to the case workers. And finally to self-provisioning. Each step yields a major improvement over the previous one, and each step sets the stage for the next one. In other words, Bell Atlantic achieved dramatic improvements fast, without compromising its ultimate goal.

It is also interesting to see how they attained those dramatic results. Bell Atlantic's first stage, when it moved to a case team, required little or no capital investment. The company used existing tools and mechanisms and even most of the existing people, but it broke down the organizational boundaries and organized the people around the process. Stage 1 required less capital investment and employee training than stage 2, which required a new computer system and people trained as case workers.

Finally, Bell Atlantic's second stage illustrates an interesting redesign technique: changing the order in which tasks are done. Traditional, the company wouldn't connect a customer's service until it had collected all the information it needed or might need to perform all the task associated with providing the service including billing. But in the second stage version of the reengineered process, case workers initiate service as soon as they have the information they need to do so. Billing information, which takes longer to collect, can be dealt with later. When the order of tasks is rearranged, as the Bell Atlantic case shows, customer waiting time can be cut substantially.

2.7. The Need for BPR

BPR is important for the following three C's

- **Customer:** Today know what they want, what they want willing to pay and how to get products and services on their own terms.

- **Competition:** is continuously increasing with respect to price, quality, selection, service, and promptness of delivery.
- **Change:** continues to occur. Markets products, service, technology, the business environment, and people keep changing frequently in an unpredictable and significant manner.

Which organization undertake re-engineering

From our experience, we have identified three kinds of companies that undertake reengineering. First are companies that find themselves in deep trouble. They have no choice. If a company's costs are an order of magnitude higher than the competition's or than its business model will allow, if its customer service is so abysmal that customers openly rail against it, if its product failure rate is twice, three times, or five times as great as the computations, if, in other words, it needs order-of-magnitude improvement, that company clearly needs business reengineering. Ford Motor Company in the early 1980s is a case in point.

Second are companies that are not yet in trouble but whose management has the foresight to see trouble coming. Aetna life & Casualty in the last half of the 1980s is an example. For the time being, financial results may appear satisfactory, but looming in the distance are storm clouds – new competitors, changing customer requirements or characteristics, an altered regulatory or economic environment – that threaten to sweep away the foundations of the company's success. These companies have the vision to begin reengineering in advance of running into adversity.

The third type of company undertaking reengineering is those that are in peak condition. They have no discernible difficulties, there now or on the horizon, but their managements are ambitious and aggressive. Examples include Hallmark and Wal-Mart. Companies in this third category see reengineering as an opportunity to further their lead over their competitors. By enhancing their performance, they seek to raise the

competitive bar even higher and make life even tougher for everyone else. Clearly, reengineering from a position of strength is hard to do. Why rewrite the rules when you're already winning the game? It has been said that the Hallmark of the truly successful company is a willingness to abandon what has long been successful. A truly great company is never satisfied with its current performance. A truly great company willing abandons practices that have long worked well in the hope and expectation of coming up with something better (Hammer and Champy. 1993:34).

In short the transport & communication training manual synchronies in the following way:

- An organization with customer service is so abysmal that customers openly rail against it, it needs an order of magnitude improvement.
- An organization that is not yet in trouble but whose management has the foresight to see trouble coming.
- An organization that is in peak condition. It has no discernible difficulties, either now or in the horizon, but their management is ambitious and aggressive.

2.8. Who Will Reengineering

Companies don't reengineer process; people do. Before we delve more deeply into the "what" of the reengineering process, we need to attend to the "who." How companies select and organize the people who actually do the reengineering is key to the success of the endeavor.

We have seen the following roles emerge, either distinictly or in various combinations, 'during our work with companies that are success of the endeavor.

We have seen the following roles emerge, either distinctly or in various combinations, 'during our work with companies that are implementing reengineering.

- **Leader** – A senior executive who authorizes and motivates the overall reengineering effort.
- **Process Owner** – A manager with responsibility for a specific process and the reengineering effort focused on it.
- **Reengineering Team** – a group of individuals dedicated to the reengineering of a particular process, who diagnose the existing process and oversee its redesign and implementation.
- **Steering Committee** – A policy-making body of senior manages who develop the organization's overall reengineering strategy and monitor its progress.
- **Reengineering Czar** – an individual responsible for developing reengineering techniques and tools within the company and for achieving synergy across the company's separate reengineering projects.

In an ideal world, the relationship among these is as follows: The leader appoints the process owner, who convenes a reengineering team to reengineer the process, with the assistance from the czar and under the auspices of the steering committee. Let's examining these roles and the people who play them in more detail. (Hammer & Champy. 1993:102-103)

2.9. Reason for BPR Failure

- Trying to fix a process instead of change it
- Not focusing on business processes
- Ignoring every thing except process redesign (e.g. Reorganization reward system, labor relationship, redefinition of responsibility and authority)

- Neglecting people's values and beliefs (need to reward behavior that exhibits new values and behavior).
- Be willing to settle for minor results
- Quitting too early
- Placing prior constraints on the deferent of problem and the scope for re-engineering effort.
- Allowing existing organizational cultures and management attitude to prevent re-engineering from getting started.
- Trying to make re-engineering happen from the bottom up
- Assigning some one who doesn't understand re-engineering to lead the effort.
- Attempting to re-engineer when the chief executive officer is two years from retirement.
- Failing to distinguish re-engineering from other bus.
- Concentrating exclusively on design/for getting implementation).
- Trying to make reengineering happen without making any one unhappy.
- Pulling back when people resist making reengineering changes.
- Dragging the effort out.
  (BPR design and implementation training manual, ministry of transport and communication).

2.10. BPR and Management Philosophy

BPR requires a major change in the mind – get. In the present world bus. Performance is measured in terms of order book, turn over, inventory, receivables etc. it is analyzed on the basis of cost, over heads, customer complaints and quarries. These measures and methods, though not wrong, are not meaningful in the present competitive business world.

The reengineering of bus calls for a change in management philosophy. The bus strategy should be competitive rather than protective to maintain leadership and growth.

Another change in the management philosophy should be from delegation to empowerment down the line. The relationship should be based on trust and not own command control principle.

Once the bus has been reengineered the management thinking would be oriented towards customer satisfaction. The focus should shift from the management of the company to the management of corporate relations between the management, the suppliers and the customer. These relations would be of bus partner, much more than just contractual and legal. The relations should be should be such that they support the mission and the goals of the organization.

(W.S Jawadekar, p. 427-428).

2.11. The Role of Information Technology

Information technology (IT) plays a crucial role in bus reengineering and is an essential enabler. However, most people misuse the technology. They look at the technology through the lens of existing tasks.

Early BPR literature identified several so called distributive technologies that were supposed to challenge traditional wisdom about how work should be performed:

- Shared data bases, making information available at many place
- Expert system, allowing generalists to perform specialist task
- Telecommunication networks, allowing organization to be centralized and decentralized at the same time.
- Decision support tools allowing decision making to be part of every bodies job.
- Wireless data communication & portable computers, allowing field personnel to work office independent.

- Interactive video disk, to get in immediate contract with potential buyer.
- Automatic identification and tracking, allowing things to tell where they are, instead of requiring to be found.
- High performance computing, allowing on-the-fly planning and revision. (C. Baril & Yhompson, 1997:285)

2.12. MIS & BPR

Any exercise towards building design of the management information system will be preceded by an exercise of business process re-engineering. Building the MIS is a long-term project. It is, therefore, essential to have a retook at the organization where the mission and goals of the organization are likely to be replaced. The business itself would undergo a qualitative change in terms of the business focus, work culture and style and the value system. This would change the platform of business calling for a different MIS.

The MIS will concentrate more on the performance parameter evaluation which is different in the re-engineered organization. The data capture, processing, analysis and reporting would be process central and performance efficiency would be evaluated in relation to the value generated by the processes.

The decision support systems will be integrated in the business process itself, where triggers are used to move the process. The triggers could be business rules and stored procedures, enabling the process to become automotive in its execution.

The MIS in the re-engineered organization would be more of a performance monitoring tool to start with and then a control for the performance.

The traditional MIS is function-centered like finance, production, material, etc. The Management Information System in a re-engineered organization would be processed centered, evaluating customer satisfaction, expectations and perceptions.

The role of Management Information System will be raised to a level where the following activities would be viewed for the management action:

- Control of process cycle time.
- Work group efficiency.
- Customer satisfaction index.
- Process efficiency and effectiveness.
- Effectiveness of the Management in enterprise management and not in enterprise resource.
- The strength of the organization in terms of knowledge, learning and strategic effectiveness. The traditional role of the MIS as a decision supporter will continue, however. (WS. J. Jawadeskar. 2000:441-442)

2.14. Limitation of Re-engineering

Some scholars raises many criticisms on reengineering among them koonth & Weihrick put their own suggestion as follows. (Koonth & Weihrich, 2004: 135-137).

The re-engineering effort, to be effective, should not only focus on the operational system, but also on the human resources system, the technology system, and the interrelations among the various managerial functions. Here are some examples of reengineering limitations:

1. Re-engineering is an important tool. But it is only a tool and not comprehensive system. Re-engineering focuses on internal business processes with a goal of making the enterprise more efficient but not

necessarily more effective. The focus is on doing things right, but not necessarily doing the right things. Re-engineering ignores strategy because of its operational orientation. Companies may be very efficient in doing the wrong things, thus moving the company in the wrong direction. The company must have a strategy to achieve the overall aims of the enterprise before making its operations efficient. Any organization can identify numerous processes that can benefit from re-engineering. The problem lies in determining which efforts will produce the best overall long-term results. By focusing on the wrong processes, firms can actually create problems far greater than those the re-engineering effort attempts to resolve.

2. Re-engineering does not require an understanding of various systems and their interactions in an enterprise. But the focus of managers should be on the total system consisting of:
    - The operational system (the focus of re-engineering).
    - The technological system with an emphasis on information technology which facilitates re-engineering.
    - The human system (e.g., the impact of a redesigned structure on the people), and
    - The managerial system, which includes strategy formulation.
3. Another limitation of re-engineering is the inability to integrate the total managerial system. Which includes:

- Strategy formulation.
- The original structure, culture, beliefs, values, and behavior.
- The selection and training of the work force.
- The reward system.
- The leadership inclinations and its interaction with followers, and

- The control/information system. Too often re-engineering failures are the result of a narrow, technical focus. Successful leaders are systems thinkers: they see the "big picture" and are capable of identifying the real problem that needs to be addressed, not just its symptoms. Whenever one treats technical and behavioral issues separately, problems will encountered since content and process are intertwined.

4. Although it is said, that re-engineering does not mean downsizing or restructuring. The result of re-engineering efforts is often related to layoffs. While short term positive financial results may be accomplished, the long-term health of the organization may suffer. Thus, shareholders may benefit in the short-run, but other stakeholders (such as employees or customers) may suffer.
5. Another reason for the failure of re-engineering efforts is because the re-engineering champion may not be a top manager, but a person without power. A related mistake is to delegate the task of transforming the organization to a consultant, rather than letting top managers lead the organizational change. Top management leadership is essential for success, but re-engineering must be implemented in both a top-down and bottom-up fashion.
6. Still another failure is to have unrealistic expectations. Expecting dramatic results may be followed by dramatic failures as illustrated by the high non-success rate. Successful consultant recognize the importance of managing both the scope of an effort and the customers expectations. These are equally important in reengineering.
7. Unless managers change, re-engineering will not work. However, this presupposes that managers see a need for change and that their re-engineering efforts will not jeopardize their job. People do not

want to re-engineer themselves out of a job. But with the right culture, it is possible that individuals can be encouraged to employ re-engineering in a generative fashion, making not only products and processes obsolete but even replacing their current jobs with a new one with different responsibilities.

8. Assuming that re-engineering is a one-time task is a grave misconception. First, it takes a long time to redesign and implement business processes. Second, re-engineering demands continuous attention. External environments and customers' needs change and adaptation to these changes is a never-ending task. Initiating enthusiasm for change is difficult; sustaining it may be an even more challenging task.

Based on the above discussion, the need for a new paradigm is evident. Despite the limitations, however, re-engineering can be a powerful tool, but it is still only a tool. We suggest integrating re-engineering with other systems through a new systems model called "Managing by Processes" (MBP) to overcome some of the weaknesses of the narrowly focused reengineering approach.

2.14. Goals of BPR

- Increasing productivity.
- Optimizing value to share holders.
- Increase employee interest.
- Internal corporation communication team work, understanding of need.
- Improved matching of employee's skill & empowerment responsibility & process.

- Achieving quantum results more than 50% consolidating functions reengineering seeks to create an organization that is learn, flatter, and faster.
- Eliminating unnecessary level and work reengineering constructively challenges organization hierarchy and activities in term of value purpose & content. (BPR design & implementation training manual, ministry of transport & comm.)

CHAPTER THREE

DATE PRESENTATION AND ANALYSIS

In this chapter the data gathered from primary and secondary sources are analyzed in the way that they address issues raised in both research question and objectives. Out of 22 selected samples 19 were completed and returned 12 close ended and three open ended questions distributed to them. And 8 interview questions to selected 3 managers and 3 reengineering team members.

3.1. Characteristics of Respondents

There are three categories of respondents included in the study. These categories are Employees, managements, and reengineering team members. These helps to assess the BPR implementation problem in Addis Ababa Transport Branch Office East Zone.

Table1. Age level of respondents

Type of respondent	**Age range**					
	18-30		**31-45**		**Above 45**	
	No	**%**	**No**	**%**	**No**	**%**
Employee	4	21	10	52.7	5	26.3
Manager Reengineering team			3 3	100 100		
Total	**4**		**16**		**5**	

Source:

As indicated in table 1 above, 4(21%) of the employee respondents are between the age of 18-30, 10(52.7%) are ages between 31-45, and 5(26.3%) are above the age of 45. Hence, they are matured and assumed to give sufficient and reliable information.

All manager and reengineering team member respondents are also age between 31-45 years.

Table 2. Educational Level

Respondents	**12th**		**Certificate (10+1 ,10+2)**		**Diploma (Advance & 10+3)**		**1st Degree**		**Above 1st degree**	
	No	%	No	%	No	%	No	%	No	%
Employee	4	21	2	10.5	8	42.2	4	21.1	1	5.2
Managers							2	66.7	1	33.3
Reengineering team							1	100		

Source:

As indicated in the above table 4(21 %) of Employee respondents are 12 complete, 2(10.5%) certificate, 8(42.2%) of employee respondents are educational level of Diploma, 4(21.1%) have 1st degree and 1(5.2%) have above 1st degree.

From manager respondents 2(66.67%) of them have 1st degree and the remaining 1(3.3%) have above 1st degree.

On the other hand 3(100%) of reengineering team member respondents have educational level of 1st degree. Table 3.2 shows the educational level of respondents regardless of gender ratio.

Table 3. Work Experience

Respondents	**< 5 years**		**Between 6-10 year**		**11-15 year**		**≥ 16 year**	
	No	**%**	No	**%**	No	**%**	No	**%**
Employee	2	105	7	36.8	8	42.2	2	10.5
Managers	1	33.3	2	66.7				
team			2	66.7	1	33.3		

Source:

As it can be seen from the above table, 2(10.5%) of employee respondents have less than 5 years work experience, 7(36.8%) of them an between the age of 6-10 8(42.7%) are 11-15 years experience and the remaining 2(10.5%) of employee respondents have above 16 years work experience. Regardless of gender Ratio, among 19 employee respondents 17(89.5%) have above 6 year work experience. These long time work experience in the office helps to easily compare the changes in implementation of BPR in the office.

Among management respondents 1(33.3%) of them have $\leq$ 5 years work experience and the rest 2(66.7%) have experience between 6-10 years.

Among the reengineering team member respondents 2(66.7%) have 6-10 years work experience & the remaining 1(33.3%) has 11-15 year.

3.2. Knowledge about BPR

Knowledge has a key role for success & to have commitment. If you had committed employees, can achieve the organizations objective easily & it create a fertile land for change (avoid resistance for change). The response rate of the employees for the question about knowledge of business process reengineering (BPR) is indicated in the table 3.4.

Table 4. Knowledge about BPR

Item	**Alternative**	**Frequency of response**	
		No	**%**
How much in your knowledge about BPR	Very high	-	-
	High	1	9.1
	Moderate	10	52.7
	Low	8	42.2
	Very low		
	Total	**19**	**100**

Source:

As shown in the above table only 1(9.1%) of employee respondent have high knowledge about BPR, 10(52.7%) have moderate and the remaining 8(42.2%) of employee respondents have low knowledge about BPR. From these, one can understand that this is lack of awareness creation among employees in the office about this new management philosophy (BPR).

An employee respondents who have high knowledge about BPR replies the question for "if you have high or v. high knowledge about BPR, how did you get?" by his own reading and by training conducted by the office.

3.3. Changes by Implementing BPR

Business process reengineering (BPR) is the fundamental and radical change of business process to achieve dramatic service improvements. This new management philosophy helps the office to deliver better service to its customer.

Table 5. Knowledge about BPR

Item	**Alternative**	**Frequency of response**	
		No	**%**
How was the change by implementing BPR	Very successful	-	-
	Successful	13	68.4
	Average	6	31.6
	Undecided	-	-
	Not satisfied	-	-
	Total	**19**	**100**

Source: As indicated in the table 3.5, 13(68.4%) of employee respondents believe that BPR improve the service highly and the remaining 6(31.6%) of the are replies BPR brings moderate change in the Addis Ababa Transport Branch Office East Zone.

This shows that implementation of BPR in the office helps to deliver quality service.

Table 6. Feeling of Employee

Item	Alternative	Frequency of response	
		No	**%**
What was your expectation from the BPR process	Promotion	2	10.5
	Salary increment	4	21.7
	Demotion	7	36.5
	Loss of job	5	26.3
	No change	1	5
	Total	**19**	**100**

Source: primary source

As depicted in table 6, among employee respondents 2(10.5%) are expects promotion from re-engineering, 4(21.7%) expects salary increment, 7(36.5%) demotion, 5(26.3%) are expects a risk to loss their job and only 1(5%) expects no change.

This shows that the employees fears the new philosophy and resist to the change. Because 26.3% of employees view as a risk to loose their job & 36.8% of are view BPR a demotion tool.

3.5. Identification of work process & required resources

Before re-engineer the organization, must identify the work flow, required human, technological & financial resources.

Table 7 – Preconditions before reengineering

Item	Alternative	Precondition					
		Identify work flow		**Human resource**		**Technological resource**	
To what extent the organization given due consideration to the following preconditions of re-engineering		**No**	**%**	**No**	**%**	**No**	**%**
	To a very great extent	2	10.5	-		-	-
	To a great extent	10	52.7	12	63	-	-
	To an average	6	31.5	7	37	9	47.3
	To a low	1	5.3		-	10	52.7

	extent						
	Total	**19**	**100**	**19**	**100**	**19**	**100**

Source: As indicated in table 7 above, 2(10.5%) of employees replies the organization given consideration to a very great extent to identifying work flow, 10(52.7%) to a great extent, 6(31.5%) to an average and the remaining 1(5.3%) to a low extent, one law understand from this, the organization identifies the work flow correctly.

As shown in table 7 above, 12(63.%) of employee respondents believe that the organization considers the required human resource to a great extent, the remaining 7(37%) are on average. Hence the organization considers the required human resources, this helps to implement successfully.

As depicted in table 7 above, 9(47.3%) of respondents replies that the organization considers the required technological resource to an average extent and 10(52.7%) to low extent. This shows that the office doesn't consider the required It facility. But information technology has a key role on BPR to achieve the objective.

This shows that the office doesn't have the required IT facilities. IT has a key role on BPR to achieve the objective.

Table 8 Objective of BPR

	Strongly agree		**Agree**		**Neutral**		**Disagree**		**S.diagree**	
Item	**No**	**%**	**No**	**%**	**No**	**%**	**No**	**%**	**No**	**%**
It has avoided unnecessary work flow	5	26.3	11	57.6	3	15.9	-	-	-	-
It increases service quality	2	10.5	10	52.6	7	36.9	-	-	-	-
It brings fundamental re-thinking	1	5.3	7	36.9	11	57.8	-	-	-	-

As we can see from table 8, 5(26.3%) of employee respondents are strongly agree on BPR avoids unnecessary work flow, 11(57.8%) agree and the remaining 3(15.9%) are Neutral. From this one can understand that the organization avoids unnecessary work flow due to implementation of BPR.

Table 8, indicates that, 2(10.5%) of employee respondents replies that, they strongly agree on implementation of BPR increases the service quality of the organization, 10(52.6%) are agree and the remaining 7(36.9%) are Neutral to the organization service delivery.

Table 8 also shows that, 1(5.3%) of employee is strongly agree on implementation of BPR in the organization brings fundamental re-thinking, 7(36.9%) are agreed and 11(57.8%) are neutral. This shows that majority of the respondents are neutral, it indicates that the organization have lack on awareness creation among employees.

3.7. Selection of re-engineering team & other comments

All manager interviewee, 3 (100%) responds for the way of reengineering team member selection is based on the seated criteria which includes educational level, work experience and willingness to involve in the change are participated transparently. In addition to the selection tries to cover all work process workers. This helps to identify the work process correctly during reengineering.

Most employee comments on the management didn't support the employees as expected and the office not giving sufficient training.

2(66.7%) of the reengineering team members comments on diversity of team members. That is lack of system analyst and engineering professionals.

Table 9 Role of Management

Item	Alternative	Frequency of respondents	
		No	%
To what extent the management support the employees	To a very great extent	-	-
	To a great extent	-	-
	Moderate	6	31.5
	To low extent	11	57.8
	To every low extent	2	10.7
Total		**19**	**100**

Source: As indicated in tale 9 above, 6(31.5%) of employees replied that management supports to a moderate extent, 11(57.8%) are to low extent and the remaining 2(10.7%) are to a very low extent. From this one can understand that the office forgets the role of management in implementation of BPR.

CHAPTER FOUR

SUMMARY, CONCLUSION AND RECOMMENDATION

This chapter summarizes the main findings of the study on previous chapter and forwards recommendation based on the conclusion.

4.1. Summary of Finding

The study was designed to assess BPR implementation problem in Addis Ababa Transport East Branch office and also proposed to recommend possible solutions to the problem well known in order to improve its service.

To collect relevant data, the researcher distributed questioners to select respondents that are employees of the organization and structured interview to 3 management members and 3 reengineering team members. The response of the respondents have been analyzed & interpreted. Finally, on the basis of the data collected, the study has come up with the following findings:-

- As regard the employee work experience show that majority of them are between 11-15 years but their educational level is not satisfactory because about 42.2% under Diploma.
- The study show that most employee respondents agree on BPR increase service quality, avoiding unnecessary work flow, and assign the right person to the right job.
- Majority of the employee respondents doesn't agree with the office reduces cost by implementing BPR.
- Regarding the respondents the understanding level of BPR fluctuates from employee to employee because of the office doesn't give sufficient training, some employee develops the knowledge by their personal reading.

- Most employees respondents have neutral in BPR , fundamental rethinking and improvements.
- The study shows that the Addis Ababa Transport Branch Office doesn't have sufficient IT facilities.
- The office didn't create awareness among employees before reengineer its service.
- The reengineering team didn't include sufficient system analyst during re-engineering.

4.2. Conclusions

- According to respondents in the table 4 above, we can conclude that of respondents don't have enough knowledge about BPR. It implies that the office didn't get efficient benefit from BPR program.
- From the information about implementation of BPR of respondents perform the program is successful.
- Majority of respondents suspect that, BPR is going to make them loss their job and/or position.
- Not less number of respondents responded that the office has not given enough attention to IT facilities, we can conclude that the branch faces problem to run its duty from one office to the other office.
- As the office uses BPR program, most of the respondents agreed that the situation increases the quality of service provided by the office.
- The implementation of BPR by the office results avoiding unnecessary work flow because of the old style activity.
- As the office didn't work as much as possible before the implementation of BPR, creating awareness to the employees is less to bring fundamental re-thinking among them.
- According to the response of interviewees, the team which is responsible for re-engineering didn't include sufficient system analyst while it was working for re-engineering process. Because of this problem the office couldn't provide efficient service.

4.3 RECOMMENDATION

Based on the findings, the study & conclusion, the researcher has forwarded the following recommendations and possible solutions for the problems identified:-

- To get positive result in the implementation of BPR the educated manpower has big contribution. Thus to fill the gap the Addis Ababa Transport Branch Office should create convenient environment for education.
- The office should focus on the required resources and full fill IT facilities. Because IT has a vital role to achieve the objective and train the employees side by-side with IT facilities.
- The management should support the employees by creating training opportunity, transparency, accountability and supervising.
- The management should support the reform team and give quick response for their findings.
- Create employee motivation tools based on the achievement of its job based on BPR theoretical principles.
- Create a mechanism to increase the BPR knowledge of the employees.

Bibliography

1. Belete, Tsegaye, Aysheshum, Teka (2007), **Reengineering The Organization Training Manual Capacity Building.**
2. **BPR Design and Implementation** Training manual, Ministry of Transport and Communication, (2006).
3. C. Certo. (2000).**Modern Management**, 8th edition, USA: Prentec- Hall, Inc
4. Hammer Michale, & jams champy (1993), **Reengineering The Corporation.** New York Harper colling publishers.
5. Hammer Michael, & Stecen A. Santes (1995), **The Reengineering Revolution**.
6. (http://WWW.doc.ic.ac.uk/nd/surprise5/journal/vol2/tmk1/article 2. htm1.
7. http://en.wikipedia.org/wiki/Business-Process-Reenginerring 12/10/2009.
8. Kenneth C.laudon,& Jane P. London /2005/, **Management Information Systems**, 8th edition, hall of India pro. Litd New Delhi.
9. Ws Jawadekar (2005), **Management Information Systems**, Tata McGraw-Hill Publishing New Delhi.
10. San Jose Concer (1995), **Business Process Reengineering and Beyond**, Research paper by IBM researcher.
11. Ricky W.Griffin ( ), **Fundamentals of Management**, Texas A&M University.
12. **Reengineering the Organization** Working Manual, Ministry of Capacity Building, 2007