

**THE EFFECT OF BUSINESS PROCESS RE-
ENGINEERING ON PRODUCTIVITY: A CASE OF
KENYA TEA DEVELOPMENT AGENCY**

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DECLARATION

This research Project is my original work and has not been presented for a degree in this or any other University.

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This project has been submitted for examination with my approval as the University Supervisor

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DEDICATION

This Project is dedicated to my late Mum; Mrs. Leah Cherono Bii. I was richly blessed and guided by what I learnt at your knees.

ACKNOWLEDGEMENTS

Firstly I thank God for giving me good health and guiding me through the entire course and the sufficient grace he accorded to me in abundance.

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God bless you all

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LIST OF ABBREVIATIONS

BSC -	Balance Scorecard
BPR -	Business Process Reengineering
COMESA -	Common Market for Eastern and Southern Africa
EU -	European Union
EAC -	East African Community
GDP -	Gross Domestic Product
IT -	Information Technology
MIS -	Management Information System
KIDA -	Kenya Tea Development Agency
KR -	Kenya Railways
RVRC -	Rift Valley Railways Consortium
TVPA -	Tea Value Adding Project
OT -	Organizational Transformation
SCDA -	Special Crops Development Authority
SMS -	Short Service Message
TQM -	Total Quality Management

ABSTRACT

The idea of designing businesses has been around for a long time and structured methods for doing this emerged in the 1990's. With the relentless pressure on quality performance which continues to prevail, there is a growing interest in business process redesign or reengineering.

Organizations have realized that to maintain their market share and have an edge over their competitors, they have to change and improve their processes. The competitive climate and the pace of change within and without the firm has encouraged a more coordinated and fundamental approach to planning and design of business activities hence change in the process.

Business Process Reengineering is one of the arms of management which is used to ensure firms remain competitive in its industry. It plays a key role in efficiently allocating and utilizing resources at the disposal of the management of an organization.

The primary objectives of this study are to establish the impact of BPR on productivity and also establish the challenges and the effects of BPR. To facilitate the study a case study of Kenya Tea Development Agency is used as one of the firms that have embraced BPR.

The results show a positive effect of BPR on productivity. The results should however be interpreted with the limitations of the study.

CHAPTER ONE: INTRODUCTION

1.1 Background

Business Process Reengineering (BPR) is hailed as one of the current major drivers of change within organizations, helping them to survive in the more competitive, customer-oriented commercial environment of today. BPR refers to the radical redesign of a business processes to gain dramatic improvements in performance measures such as cost, quality, service, and speed (Alavi and Yoo, 1995). BPR by definition radically departs from other popular business practices like total quality management, lean production, downsizing, or continuous improvement.

As a completely new approach that enabled companies to operate in the 1990s and beyond, Business Process Re-engineering (BPR) was first introduced by Hammer (1990) and Davenport and Short (1990). In their articles, the authors outlined a blueprint for BPR and claimed that BPR was producing radical improvements in organizational performance. Since then, BPR has become one of the most popular subjects in business management and information systems, and has aroused exceptional interest of thousands of business managers, information technology experts and researchers worldwide.

Since the early 1990's Information Technology has profoundly changed the way we do business. Business Process Re-engineering (BPR) offers one method for managing this change while at the same time making it possible to achieve dramatic gains in business performance. However, not all BPR projects have been successful in achieving dramatic performance gains (Hammer and Champy, 1993).

The emergence of BPR is essentially dependent on the fast development of information technology and driven by increasingly intensive global competition among firms. Hundreds of companies all over the world have ventured to reengineer their processes to be able to compete in today's global market place. Alavi and Yoo, (1995) in their study on BPR reported that, many companies have claimed that they have been able to completely change their way of doing business and have achieved quantum levels of improvement. Some of

the benefits of BPR (Chan and Peel, 1998) include improved technology/automation, increased efficiency, reduced costs, better defined strategic focus, improved customer service/quality, quicker responses to competition, more compliance with regulations, quicker adaptation to changing market.

In their study Kettinger et al. (1997) concluded that despite the benefits achieved from BPR its continuing demand for business process improvements has resulted in a proliferation of consultants, methodologies, techniques, and tools for conducting BPR projects.

1.1.2 Concept of Business Process Reengineering

Davenport & Short (1990) define business process as "a set of logically related tasks performed to achieve a defined business outcome." A process is "a structured, measured set of activities designed to produce a specified output for a particular customer or market. It implies a strong emphasis on how work is done within an organization" (Davenport 1993). In the view of Davenport & Short (1990), processes have two important characteristics:

- (a) Processes have customers (internal or external),
- (b) Processes are cross-organizational boundaries, i.e., they occur across or between organizational subunits.

Organizations have realized that to maintain their market share and have a competitive edge over their competitors, they have to change and improve their processes. The competitive climate and the pace of change within and without the firm has encouraged a more coordinated and fundamental approach to planning and design of business activities hence the change in process.

As organizations seek to obtain strategic advantages by redesigning the way they do business, they are finding the process fraught with uncertainty. Put simply change is difficult. A consensus is emerging that successful organizations of the years to come are those that embrace change as a business paradigm. Such organizations will be able both to adapt to changes in the market in the directions optimal to organizations goals by

continually adapting their product processes and internal structures to changes in business environment.

Business Process Re-engineering (BPR) efforts, represent an organization's commitment of millions of shillings for redesigning internal organizational processes, changing fundamental product delivery and customer service procedures, and often re-examining and repositioning corporate strategy (Vonderembse et al., 1997; Cypress, 1994; Grover, 1995).

The possible benefits derived from adopting BPR include improved productivity increase in product quality, cut delivery lead time and lower cost (Hammer and Champy, 1993). The driving forces behind reengineering can therefore be well summarized as 3C's being customer, competition and change.

1.1.3 Productivity

At a basic level, the concept of 'productivity' is a function relatively easy to define. It is the ratio of output to input for a specific production situation. Rising productivity implies either more output is produced with the same amount of inputs, or that fewer inputs are required to produce the same level of output. In either case, it is not difficult to understand the importance of productivity changes for the general welfare including environmental concerns. The concept of productivity is linked closely with efficiency. If a firm is efficient it is said to be operating on the production frontier (i.e. it is achieving 'best practice'). Where the production frontier is defined at some point of reference to a particular set of firms. Rising efficiency would therefore imply rising productivity. Equally, the shift outwards of a production frontier also implies productivity growth (Nasar, 1992).

Productivity studies analyze technical processes and engineering relationships such as how much of an output can be produced in a specified period of time. Business process reengineering involves a radical change in the way firms carry out their processes in order to achieve quantum levels in cost reduction and increase in profit margins. A decrease in costs would imply that the level of inputs used have been reduced or a higher input level has been used to achieve a higher output. BPR and productivity are therefore directly proportionally related.

Productivity can be measured by a ratio of output quantity to quantity of input used to produce the output. It can also be measured by analyzing the ratios of labour utilized (such as total hours worked) in comparison with the level of output produced.

In his study, Carter, P (1995) noted that BPR is the main way in which organizations increase their productivity and modernize.

1.1.4 Kenya Tea Development Agency

To promote the cultivation of cash crops the Special Crops Development Authority (SCDA) was formed under the Agriculture Act in 1960. This body was replaced by Kenya Tea Development Authority in 1964 when Kenya Tea Development Order 1964 was promulgated. At the time of independence in December 1963, the estates and the small-scale farms had 21,448 hectares of planted tea. The area planted has increased over the years to stand at about 115,000 hectares by 2006 (Marketing Trends on the Tea Industry June-July 2006).

According to Sessional Paper No. 2 of 1999 on the liberalization and restructuring of the tea industry, it recognized that Kenya continued to increase its share price of the world tea market which then stood at 22% compared to Sri-Lanka's 21% and India's 14%. According to the Daily Nation 5 August 2008, Kenya exported 43 million kilograms of tea to Egypt, 32 million kilograms to Britain, 27 million kilograms to Pakistan, 13 million to Sudan and 8 million to United Arab Emirates in the first six months of this year (2008). These five markets accounted for 70% of the total tea exports and this is a gradual increase compared to the exports made in 2007. To ensure that market dominance is maintained the Tea Board of Kenya has to play a key role in the tea market promotion by providing the necessary leadership in the market by laying emphasis on marketing and promotion of tea without compromising on production and quality.

Kenya Tea Development Authority was established under section 191 of the Agricultural Act, by Legal Notice 42/1964, as a government parastatal soon after Kenya became a republic. In 1998/99, the Authority embarked on liberalization of the smallholder tea-sub-sector. This placed the ownership of the Authority in the hands of about 420,000 smallholder tea farmers (KITA, 1998). Kenya Tea Development Authority was replaced with an

agency by the same acronym (KTDA). The Kenya Tea Development Agency (KTDA) became operational after the then Minister for Agriculture issued a Gazette Notice to revoke the Authority's existence. Then, the tea farmers thought the government controlled organization (KTDA) had become rapacious and mean to the core. The new company; Kenya Tea Development Agency succeeded Kenya Tea Development Authority. All rights, duties, obligations, assets and liabilities were transferred to Kenya Tea Development Agency Ltd including all its employees. At ago the government lost its previous stranglehold on the sector. KTDA, was mandated the responsibility to manage all its factories (Now 54) on behalf of its more than 420,000 small-scale tea farmers across the country.

There are 54 factories which are independent private sector companies, procuring management services and expertise from the agency for which it charges a fee, currently at 2.5% of total sales proceeds. In addition to processing and marketing producers tea, the KTDA also offers other services such as extension and provision of inputs. Farmers are paid 2 prices for their tea. A quantity price paid monthly and a quality price paid at the end of the financial year. The quality price is calculated as a balance remaining from the total proceeds from the sale of black Tea processed after transportation, processing, handling and marketing costs have been deducted. The size of the quality repayment is determined by the price received at the Tea auction and efficiency of Factory and KTDA Ltd.

1.1.5 KTDA and Business Process Reengineering.

KTDA Ltd's challenges in the competitive global order put immense pressure on it to critically re-examine its past business practices and strategies. This was intended to bring it in tandem with the prevailing global realities. It undertook measures that would align their strategic objectives in a bid to continue being relevant at the same time be in a vantage position to address the ever changing customer preferences and needs.

The major radical changes that KTDA Ltd undertook included launching a new corporate logo that intended to give a repositioned image into their business operations. Besides, it also established a Tea Value Adding Project (TVAP) at one of its factories: Kangaita Tea Factory, which would make them more competitive in markets where they had serious trade

inquiries of special grades; Orthodox teas (Chai News, 2004). KTDA also, in response to the market forces and pressure from their valued shareholders who continuously demanded for greater returns, established a subsidiary company, KTDA Mombasa Ltd with the objective of venturing into tea trading at the Mombasa Auction.

To compete in today's global marketplace, products and services of firms must be on target the first time, every time (Hammer and Champy, 1993). KTDA, in its effort to survive from the cutthroat competition from industry players worldwide, embarked on the above radical changes and current business practices such as Total Quality Management, Quality management - ISO certification, Corporate governance and the Balance Scorecard (BSC) in order to survive in the environment. This has also resulted to better defined strategic focus and improved customer service for the firm.

1.2 Statement of the Problem

Recent surveys have shown that BPR can help an aggressive company to stay on top or transform an organization on the verge of bankruptcy into an effective competitor. Some organizations have put forth extensive BPR efforts only to achieve marginal or even negligible benefits. Others have succeeded only in destroying the morale and momentum built up over the lifetime of the organizations. These failures indicate that reengineering involves a great deal of risk. Even so, many companies internationally are willing to take that risk because the rewards can be astounding.

Business process reengineering (BPR) can potentially impact every aspect of how we conduct business today. Change on this scale can cause results ranging from enviable success to complete failure. Successful BPR can result in enormous reductions in cost or cycle time. It can also potentially create substantial improvements in quality, customer service, or other business objectives. (Michael, 2003)

Ford Motor Company is an American Multinational Corporation and the world's third largest automaker based on worldwide vehicle sale. The automaker was founded by Henry Ford and incorporated on June 16, 1903. Ford reengineered their business and manufacturing process from just manufacturing cars to, manufacturing 'quality cars' as

number one goal. This helped Ford save millions on recalls and warranty repairs. Ford has accomplished this goal by incorporating barcodes on their parts and scanners to scan for any missing parts in a completed car coming off of the assembly line. This helped them guarantee a safe and quality car. They have also implemented Voice –Over-IP (VOIP) to reduce the cost of having meetings between branches. This has resulted to huge returns for the company and has enabled it to effectively compete in the auto motor industry. (The Harvard Weekly Review July, 2006)

Rift valley Railways Consortium (RVRC) is an example of a company locally that embraced BPR and has not been very successful. RVRC took over operations from the defunct Kenya Railways (KR) after it won the concession to run The Kenya Railways (KR) and Uganda Railways Corporation. The KR had suffered from inefficient management, a bloated workforce and had run into deficit operations inspite of its potential. Since RVR took over operations on 1st August 2006, its aim has been to reengineer the operations at the rail company by reducing the workforce and upgrade the country's rail system. (The East African, June 2008).

According to a research done by Kilonzo (2005), on the requirements for the implementation of business process re-engineering and if there were adhered to by Kenyan companies dealing with gemstones, it was expected that BPR would improve profitability for the firms which adopted it ,but the study revealed they were not doing better than they were before the change. Some reasons for failure according to the study were attributed to poor leadership, poor style of implementation and unpreparedness for change.

Munyiri (2000) conducted a survey to study BPR experience in the pharmaceutical industry and concluded that the process changes involved were for small processes whose initiatives could not be described as truly radical. However, she found the reasons for the pharmaceutical industry to undertake BPR, to be generally similar to those indicated by Jukka et.al (1995) as follows: internal inefficiencies of company operations resulting in high costs and low quality; changes in consumer demands due to more awareness; changes in the legal environment; and high degree of competition among players.

KTDA having adopted radical changes in its operations, its effects, success and failures would be of great importance to study. Has the adoption of BPR at KTDA led to improvement in productivity?

1.3 Objectives of the Research

The objectives of the research were:

1. To establish the impact of Business Process Reengineering on KTDA productivity.
2. To establish the effects and challenges faced in the implementation of BPR.

1.4 Importance of the Research

The study was considered significant for several reasons:

- a) The research findings will be of value to the tea industry players and those in academics as a basis for future empirical and conceptual research, which will be helpful in refining and validating findings especially due to the current restructuring efforts being carried out in the Tea sector.
- b) The information can also be a reference point to research on the application BPR to other industries.
- c) Tea being one of Kenya's leading foreign exchange earner accounting for close to 20% of the GDP, this study will be of great importance to economic analysts and planners in assessing its likely impact on the Kenyan economy.

CHAPTER TWO: LITERATURE REVIEW

2.1 History and Myths of Business Process Reengineering

The concept of Reengineering traces its origins back to management theories in early 19th Century. According to William Taylor (1880's), the managers could optimize productivity by identifying the best processes for performing work. During this period specialization was the state-of the-art of improving efficiency given the technology at the time. Henry Fayol (1916), originated the concept of reengineering which according to him, the firm could derive optimum advantage by using all available resources

The management literature has created more myth than practical methodology re-engineering. The concept of BPR has been with us since about 1990, however it is widely misunderstood and has been equated to downsizing, client/server computing, quality, ABC, and several other management nostrums of the past several years. Based on interviews and conversations with more than 200 companies, and 35 Reengineering initiatives, Davenport & Stoddard (1994) identified six Reengineering myths.

- a) The Myth of Reengineering Novelty: Reengineering, although about familiar concepts, is new, in that these concepts are combined in a new synthesis.
- b) The Myth of the Clean Slate: Regardless of Hammer's (1990) exhortation: "Don't automate, obliterate!" clean slate change is rarely found in practice. Or, as Davenport and Stoddard (1994) state: A "blank sheet of paper" used in design usually requires a "blank check" for implementation. Hence, a more affordable approach for most companies is to use Clean Slate Design which entails a detailed vision for a process without concern for the existing environment. However, the implementation is done over several phased projects. Also supported by preliminary findings of Stoddard & Jarvenpaa 1995: their findings ran contrary to Hammer (1990): "although Reengineering can deliver radical designs, it does not necessarily promise a revolutionary approach to change. Moreover, a revolutionary change process might not be feasible given the risk and cost of revolutionary tactics."

- c) **The Myth of Reengineering vs. Quality:** Unlike Hammer & Champy's (1993) call for all out "radical change," most companies have a portfolio of approaches to organizational change including Reengineering, continuous improvement, incremental approaches, and restructuring techniques.
- d) **The Myth of Top-Down Design:** The implementation and execution of the redesigned processes depends upon those who do the work. Hence, the participation, and more importantly, acceptance and ownership, at the grass roots level is essential for successful BPR.
- e) **The Myth of Reengineering vs. Transformation:** BPR is a process that contributes to organizational transformation (OT), however it is not synonymous with transformation. OT is defined as, "Profound, fundamental changes in thought and actions, which create an irreversible discontinuity in the experience of a system" (Adams 1984). OT is generally about the emergence of a new belief system and necessarily involves reframing, which is a discontinuous change in the organizations or group's shared meaning or culture. It also involves broad changes in other organizational dimensions besides the work processes: such as organizational structure, strategy, and business capabilities.
- f) **The Myth of Reengineering's Permanence:** Davenport & Stoddard (1994) speculate that Reengineering has peaked in the US in 1994 and would probably become integrated with much broader organizational phenomena: such as another synthesis of ideas that includes the precepts of Reengineering; its integration into existing change methods; or its combination with quality and other process-oriented improvement approaches into an integrated process management approach.

2.2 Reasons for Business Process Reengineering

The driving forces behind Business Process Reengineering (BPR) are the 3C's i.e. Customer, Competition and Change.

(a) Customers

Customers are more demanding and sophisticated. They expect more alternatives, customized services and personal attention. Customers are becoming less brand loyal than

in the past and are simply demanding better quality and better prices. Firms therefore have to ensure that the strategies put in place have their products and services on target the first time, every time.

(b) Competition

Due to globalization, global economy offers more customers and alternatives than ever before. Competition is cutthroat. There is tough competition for the market by both local and international firms. Strategies adopted by firms should be strategic enough to enable them thrive in the competitive world.

(c) Change

There are geopolitical realignments like European Union (EU), Common Market for Eastern and Southern Africa (COMESA), East African Community (EAC), technology, customer preferences e.g. use of Visa cards, getting news and shopping on the internet and via short service message (sms). There are priorities from traditional focus on planning, control and managed growth to emphasize speed, innovation, flexibility, quality cost and service. Only those firms that are ready to confront and master change will thrive.

This is not to say that BPR is a cure for all ills. The basic symptom which suggests that reengineering may be called for is the existence of a large competitiveness gap or an equally large strategic opportunity.

2.3 Business Process Reengineering Methodology/Process.

Davenport and short (1990) prescribe a seven step approach to BPR.

a) Develop the Business Vision and Process Objectives.

BPR is driven by a business vision which implies specific business objectives such as cost reduction, time reduction and output quality improvement, learning/empowerment of employees (Nonaka 1991). To develop the vision, people must put aside their old ways of doing things. As a result, they will be able to set a course to make the dramatic changes and improvements necessary for the future.

b) Assess Existing Business Strategy for Process Directions.

Assessing the existing business strategies gives a good guide on what direction to take. The focus of this is on the operating procedures and the bottom-line results that are generated by them. The purpose of this performing the analysis described below is to determine whether dramatic change by doing BPR is really necessary. It may be that only marginal change (the result of Continuous Process Improvements, IQM and other similar programs) is needed – which would expose the change initiative and organisation to much less risk

c) Identify the Processes to be Reengineered

Firms need to identify what processes need to be redesigned. Processes should be identified and prioritized and redesigned in order of urgency. In many cases, seeing the company from the customers point of view can help identify these processes.

(d) Explain the Need for Change

Because BPR can potentially require significant changes throughout an organisation, it must begin with communications campaign to educate all those who will be impacted by the change. Communication to all levels of personnel must remain active from start to finish to keep everyone involved and working towards a common goal. Without a common understanding about what is happening, confusion and uncertainty about the future can result in resistance strong enough to stop any reengineering effort. BPR is most effective when everyone understands the need for change, and works together to tear down old business systems and build new ones.

In order for change to be embraced, everyone must understand where the organization is today, why the organisation needs to change, and where the organisation needs to be in order to survive.

e) Build the Reengineering Organisation

An infrastructure must be established to support reengineering efforts. Although this phase consists of only a few tasks, it has a tremendous impact on the success of a BPR endeavour.

Who are the people that will be chartered to reengineer the business? What will their responsibilities be? Who will they report to? These are the questions that must be answered

as the reengineering staff is gathered together to communicate, motivate, persuade, educate, destroy, create, rebuild and implement.

One of the most important members of the reengineering effort is the executive leaders. Without the commitment of substantial time and effort from the executive level management, most BPR projects cannot overcome the internal forces against them and will never reach implementation. The team dedicated to the reengineering of a specific process should be made up of current insiders, who perform the current process and are aware of its strength and weaknesses, along with outsiders who can provide objective to spark creative ideas for redesign. The team should be composed of a reasonable size. Since they will be the ones who diagnose the existing process, and oversee the redesign and implementation, they should be credible in their respective areas. This qualification plays an important role in reducing the resistance by company personnel to the new process.

f) Design and Build a Prototype of the New Process

The actual design should not be viewed as the end of the BPR process. Rather it should be viewed as a prototype with successive iterations. The metaphor of prototype aligns the BPR approach with quick delivery of results, and the involvement and satisfaction of customers.

The process steps would therefore be:

- 1) Brainstorm on alternatives
- 2) Assess feasibility risk and benefit
- 3) Prototype the new process design
- 4) Develop migration strategy
- 5) Implement new organization structures and system

Modelling the current process is an important part of this phase. It not only helps us better understand the existing process, but also helps with planning the migration from the old to the new process and executing the physical transformation of personnel, organizational structures, information requirements, and how technology is used. Information that should be included in the models are process inputs (such as task times, data requirements,

resources and demand) and process outputs (such as data outputs, costs, throughput, cycles time and bottlenecks).

g) Reengineer the Process

During this phase the actual "reengineering" begins. The act of reengineering a process may require evaluation of the organizational model and the management strategy. Throughout this phase, the team must consider the impact on external processes that interact with the reengineered process. Reengineering cannot be performed in a vacuum. However, it cannot be performed on all processes simultaneously either.

2.4 The Requirements for Success in Business Process Reengineering

The requirements for success in BPR include a strong executive leadership, breakthrough ideas about process design, an understanding of the process, identification of core players in the organization, recognizing the unique strategic nature of BPR, and a test of management ideas about re-engineering.

(a) Strong Executive Leadership

Executive sponsorship & commitment and constant reinforcement of that commitment, is key ingredient in any successful BPR project, particularly enterprise wide ventures.

Managers have the tendency to define solutions in the context of their span of control so tasks tend to be defined at departmental level. To achieve dramatic change, one has to look at a process as it crosses organizational boundaries (Hershey, 1998).

Proceeding to re-engineer without leadership is therefore making a fatal mistake. If leadership is nominal rather than than serious and isn't prepared to make the required commitment, the efforts are doomed to failure (Burnes, 1999).

(b) Breakthrough Ideas about Process Design

Re-engineering requires radical breakthrough ideas about process design. Re-engineering leaders must help people to 'think out of the box'. To this end leadership must reward creative thinking and be willing to consider any new idea (Hunt, 1998).

(c) An Understanding of the Process

As business change processes change and most of that change is done in logistics and production standpoint. Understanding your processes is an essential first step in re-engineering, but an analysis of the processes is a destructive waste of time. Strict limits must be placed on the amount of time taken to develop this understanding and the length of description to be created (Hammer, 1995).

(d) Recognizing the Unique Strategic nature of Business Process Re-engineering

One cannot reengineer a process in isolation. Everything must be on the table. Any attempt to set limits, to preserve a piece of old system will doom your efforts to failure (Hammer, 1995).

(e) A Test of the Managers Business Process Re-engineering ideas

Before implementing a process in the real world, one should do a prototype version in order to see whether the idea works. You will inevitably discover shortcomings and mistakes in the design, which can be repaired. Proceeding directly from an idea to real-world implementation is a recipe for disaster (Hunt, 1998).

2.5 Business Process Re-engineering and Information Technology (IT)

Hammer (1990) considered IT as the key enabler of BPR, which he considered as "radical change." He prescribes the use of IT to challenge the assumptions inherent in the work processes that have existed since long before the advent of modern computer and communications technology. He argues that at the heart of reengineering is the notion of "discontinuous thinking" or recognizing and breaking away from the outdated rules and fundamental assumptions underlying operations. These rules of work design are based on assumptions about technology, people, and organizational goals that no longer hold." He suggested the following "principles of Reengineering":

- (a) Organize around outcomes, not tasks;
- (b) Have those who use the output of the process perform the process;
- (c) Subsume information processing work into the real work that produces the information;
- (d) Treat geographically dispersed resources as though they were centralized;
- (e) Link parallel activities instead of integrating their results;

- (f) Put the decision point where the work is performed, and build control into the process; and
- (g) Capture information once and at the source.

2.6 Impact of Business Process Reengineering

The application of BPR is intended to have a positive impact in the business or organization and cause it to have quantum leaps in turnover. However there are other by-products that are inevitable. Below are changes expected in an entity that applies BPR appropriately (Davidson, 1993).

- a) Several jobs are combined into one.
- b) Employees become more involved in decision making (i.e. empowerment)
- c) Steps in the business process are performed in a natural order, and several jobs get done simultaneously.
- d) Process has multiple versions, which enables the economies of scale that result from mass production, yet allows customization of products and services.
- e) Work is performed where it makes the most sense, including at the customers' or suppliers' sites; thus work is shifted across organizational and international boundaries.
- f) Controls and checks and other non-value added work are minimized.
- g) Reconciliation is minimized by cutting back the number of external contact points and by creating business alliance; and
- h) A hybrid centralized/decentralized operation is used.

Other studies carried out on BPR include that of Settle & Robson (1996) who observed that incremental improvements provided by automation, computerization, method improvements, incentive programs, and other productivity and quality programs that were very useful in the past have proven to be, in the 1990s and beyond, only a temporary relief in many cases. Once the improvements have been executed, additional environmental changes result in new problems. So the only solution may be to reengineer the organization.

Over the last few years, the reengineering concept has evolved from a "radical change" to account for the contextual realism (Caron et. al 1994, Earl 2003), and to reconcile with more incremental process change methods such as TQM, towards a broader, yet more comprehensive process management concept (Davenport 1995)

Based upon a theoretical analysis and survey of literature relevant to reengineering, Kettinger & Grover (1995) outline some propositions to guide future inquiry into the phenomenon of BPR. Their propositions centre around the concepts of knowledge management, employee empowerment, adoption of new ITs, and a shared vision. Earl et al (2003), have proposed a "process alignment model" that comprises four lenses of enquiry: process, strategy, MIS, and change management and control, and used it for developing an inductive taxonomy of BPR strategies. Malhotra (1996), has developed the key emphasis on these issues based primarily on an integrative synthesis of the recent literature from organization theory, organization control, strategy, and MIS.

Hammer and Champy (1993), also recognize the importance of the human resource when they state "companies are not asset portfolios, but people working together to invent, sell and provide service." However, they fail to demonstrate how to reengineer the human resource in conjunction with reengineering processes. Of the four cases presented in reengineering the Corporation, only the case of Capital Holding addresses this area. Capital Holding performed a "cultural audit" which revealed that the unwritten code of conduct encouraged information hoarding and barely acknowledged the customer. In order to combat these tendencies, senior management provided a constant flow of information throughout the company regarding reengineering expectations and successes, and revised the performance appraisal system to emphasize the new values of teamwork and cooperation.

Although Hammer and Champy (1993), provide a long list of why reengineering fails, nowhere do they include the prerequisite that no reengineering effort will succeed without first reeducating and retraining the people who will ultimately work with the new process. According to Meg Wheatley, "If you're going to move information and responsibility down

to the local level, then the key question is how can you be sure that people will behave appropriately? You need to make sure that everyone is playing by the same rule book."

Peng S.Chan et al (1998) looked at Thirty-seven companies that have reengineered. A content analysis approach was used whereby information was first gleaned from over 20,000 journals and reports that had reported reengineering in one way or another. The search was narrowed by selecting only those articles that referred to specific companies that had undergone reengineering or were in the process. It was assumed that companies that described their efforts, as reengineering understood what reengineering involved. On the other hand, companies that obviously did not reengineer in the same manner as contemplated by Hammer and Champy were eliminated from the search, such as an engineering department that "reengineered" a product rather than a process.

His research showed that reengineering is caused not only by external factors (customer, competition, and change) but also by internal factors (technology, efficiency, cost, and strategic focus). In fact, the results revealed, that both these factors are equally important in driving organizations to reengineer. By not accounting for the internal factors, Hammer and Champy have therefore overlooked a significant cause of Reengineering.

Hammer and Champy (1993) also failed to provide any documentation or empirical evidence regarding the impact of reengineering. All they offered was the broad unfounded speculation that 50-70 percent of reengineering attempts fail, which many naturally question. Rather than addressing directly the elusive concepts of success and failure, the study attempted to provide documentation to support or reject hitherto broad speculations or assumptions about the causes and results of reengineering. This evidence has also been weighed to show which were the more important causes and results. The findings suggested, that the primary reasons for reengineering seemed to increase efficiency (internal factor) and improve customer service (external factor) while the most significant results of reengineering were improved technology (internal factor) and improved customer service (external factor). This approach, (Peng S.Chan et al, 1998), observed, is a more realistic contribution than one which attempts to cast reengineering as either a success or

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failure: after all, whether an effort is successful or not has to be measured against the objective which it was originally designed to achieve.

Indeed, much of the challenge in constructing a BPR program is to select the type of BPR approach that is best suited to a specific situation, taking into account the organization's objectives, capabilities, and competitive or economic environment.

2.7 Measures of Productivity

Productivity is defined as the ratio of output to input for a specific production situation. Productivity changes can either be caused by either movements in the 'best practice' technology, or changes in the level of efficiency. Some of the basic measures of productivity are outlined below.

a) Output

Output can be defined as the real output produced in a set time limit. The sales or revenue figure normally reported in accounts can be used as a measure in comparison with previous years or others firms in the industry. This can be defined as a ratio of a measure of output quantity to the quantity of a single input used

b) Labour

Labour is an input put into a production process. Labour quantity is normally measured in terms of the number of employees. In theory labour could be split into various separate inputs depending on skill, education or other classifications. Productivity can be measured by analyzing the ratios of labour utilized (such as total hours worked) in comparison with the level of output produced.

c) Capital

The measurement of capital is, perhaps the most problematic of inputs to measure (Morrison, 1993) This is also referred to as total factor productivity which is defined as the ratio of a measure of total output quantity to a measure of the quantity of total input.

2.8 BPR and Productivity

Becker (1996) asserts that in the past, success in corporations was based on efficiency and economies of scale (largeness). However, he further states that the BPR management philosophy of the early 1990s suggested, companies radically redesign their business processes to achieve breakthrough improvements in productivity.

Reengineering is a powerful arm of productivity. To compete in the rapidly changing economic environment characterized by globalization, deregulation of markets, changing customer and investor demands and the ever-increasing product variety, firms have to continuously improve their performance by reducing costs, innovating products and processes and improving quality and productivity in the market (Barlow and Mail, 2000).

CHAPTER THREE: RESEARCH METHODOLOGY

This chapter outlines the procedures and methods that were used in collecting and analyzing data. It served to minimize the danger of collecting haphazard data, and ensured that the data collected met the research objectives, and above all fulfilled the intended purpose.

3.1 Research Design

This research took a case study of KTDA as a representation of those companies which have embraced the reengineering technique. This enabled the researcher to probe and make in-depth understanding and make conclusions.

3.2 Target Population and Sample of Study

The population of study consisted of the eight departments of KTDA. The head of departments and three other members of staff in each department were the respondents, as the researcher considered them to have the necessary knowledge in obtaining information required. This also formed a representative sample of the population being studied. The major variables in the study were to be derived from the financial statements and production records, specifically over the period of this study.

3.3 Data Collection Method

Two sources of data were used. Primary data: A structured questionnaire was used to collect data in line with the objectives of the study. A drop-and-pick-later method was used in administering the questionnaire. This method was found to be appropriate as it provided detailed information including other supplementary information through probing, which gave the respondents a chance to give other information that they considered relevant. It also gave respondents liberty in expressing their definition of a situation that is presented to them. This tool used for collecting data is as detailed in Appendix 1

A number of questions were based on a five point Likert Scale to generate the required information relevant to the objectives.

Secondary data: The sources of the data were from articles written on Tea and KTDA in the past. Production records and statistics were also used. Further materials were obtained from their website. The scope of study was the periods between 2003 – 2006. 2003 and 2004 are the years before implementation of BPR while 2005 and 2006 are the years after KTDA implemented BPR.

3.4 Data Analysis

Data was collected and analyzed as per set objectives. This was mainly descriptive and was done using Excel packages. Content Analysis was also used. Content Analysis is the systematic qualitative description of the composition of the objects or materials of the study.

CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND DISCUSSIONS

4.1 Introduction

This section deals with the findings of the study based on the analysis and interpretation of both primary and secondary data. The data is analyzed and presented in the form of percentages, tables and graphs. These findings were discussed in detail giving the researcher's opinion and discussion on the findings with a view to understanding the subject matter. The findings were also discussed with reference to the information collected in the literature review found in Chapter two. The objectives of this study were to establish the impact of implementation of BPR on KTDA productivity as well as effects and challenges faced in the implementation of BPR.

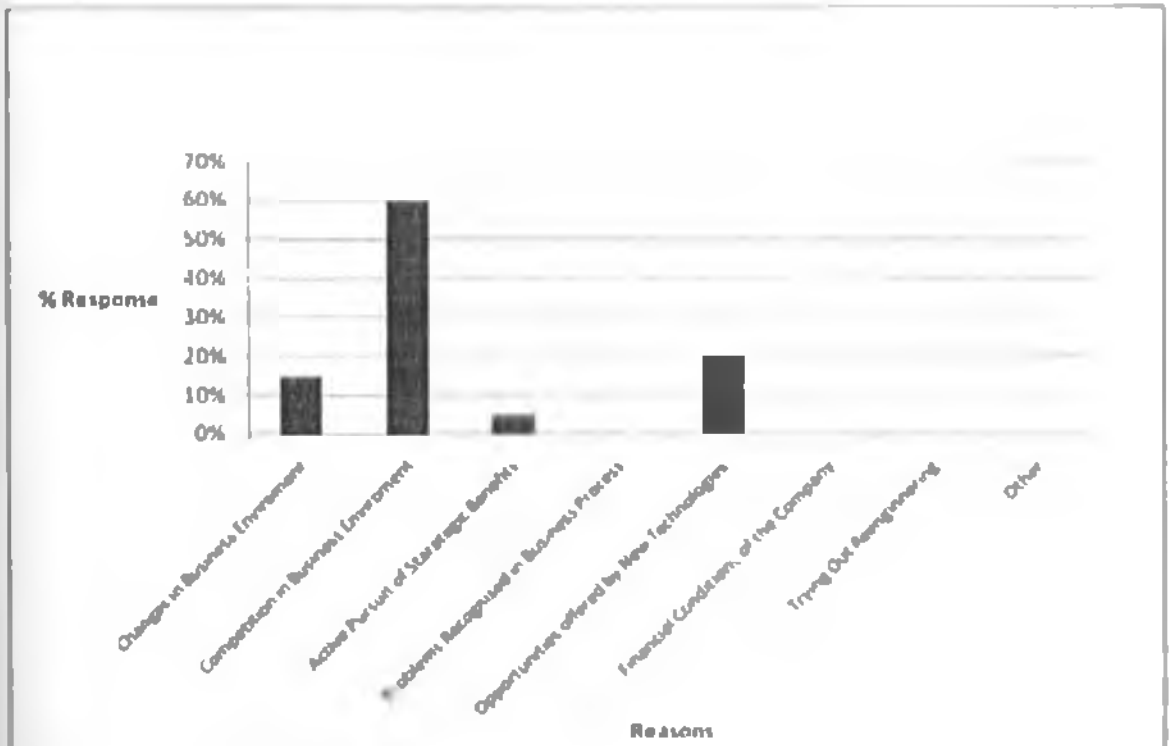
The findings of the study were classified under the following themes, reasons for the implementation of BPR, general performance improvements realized, positive and negative effects of BPR, challenges experienced in the implementation of BPR, target realization and the impact of BPR on productivity at KTDA. The researcher found it necessary to discuss the BPR drivers at KTDA so that the reader can better appreciate the challenges as well as effects of BPR. The effective response rate of the questionnaires was 70% after having administered 24 questionnaires.

4.2 Reasons for the Implementation of BPR at KTDA

Table 4.2.1 : Reasons For Implementing BPR

Reasons	% Response
Changes in Business Environment	15%
Competition in Business Environment	60%
Active Pursuit of Strategic Benefits	5%
Problems Recognised in Business Process	0%
Opportunities offered by New Technologies	20%
Financial Conditions of the Company	0%
Lying Out Reengineering	0%
Other	0%

Figure 4.1: Reasons for BPR Implementation at KTDA



BPR is defined by Hammer (1990), as the fundamental rethinking and radical redesign of business processes in order to achieve dramatic improvements in critical contemporary measures of performance such as cost, quality, service and speed. He further asserts that the driving forces behind BPR are the 3C's i.e Customer, Competition and Change.

The findings, as per Table 4.2.1 and Figure 4.1 indicate that 60% of the respondents indicated that the reasons why KTDA implemented BPR was because of competition in the business environment. Tea production and consumption were facing increased competition from other beverages and changes in the consumer preferences as well as emerging low-cost Tea producer countries. Hence the need for change at KTDA, in order to be in tandem with the prevailing market environment.

On the other hand, 15% of the respondents said that changes in the business environment prompted KTDA to implement BPR while 20% of the respondents indicated that opportunities offered by new technologies resulted to the implementation of BPR at KTDA.

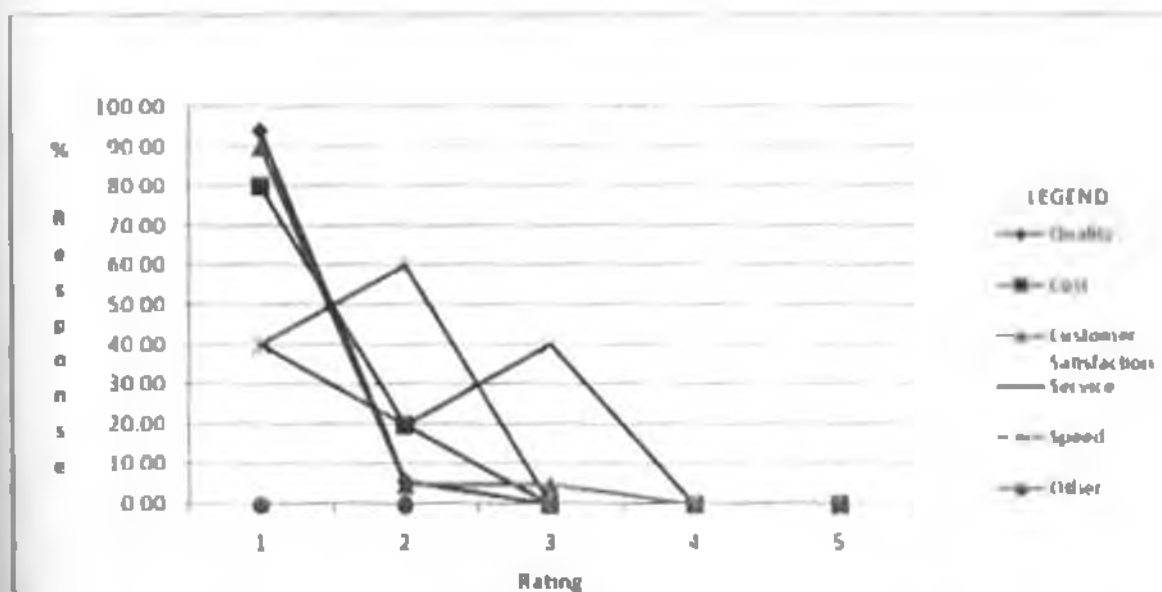
According Webb (1998), Information Technology has been recognized as a major force in reengineering. It is typically identified as an enabler of the changes required.

4.3 Performance Improvements Realized at KTDA

The respondents were also required to rank performance improvement measures realized from undertaking BPR at KTDA. A Likert Scale was used to derive a relative rating for each of the performance measures given. The findings are as indicated in Figure 4. 2.

The three most lauded performance improvements realized were reduction in costs, improvements in quality and customer satisfaction. The findings in Figure 4.2 show that the highest performance improvement realized was quality ranked at 94%. This was because of the quality management systems put in place by KTDA and the redefining of the corporate goals and objectives as manifested by the new Logo launched by the company. The new logo represented two leaves and a bud, a mark of quality. This encouraged farmers to pluck only two leaves and a bud thus resulting into, and promoting the quality of the tea produced and processed by KTDA.

Figure 4. 2: Performance improvements realized



(Please note 1 Very high, 2 High, 3 Neutral, 4 Improvement, while 5 No improvement)

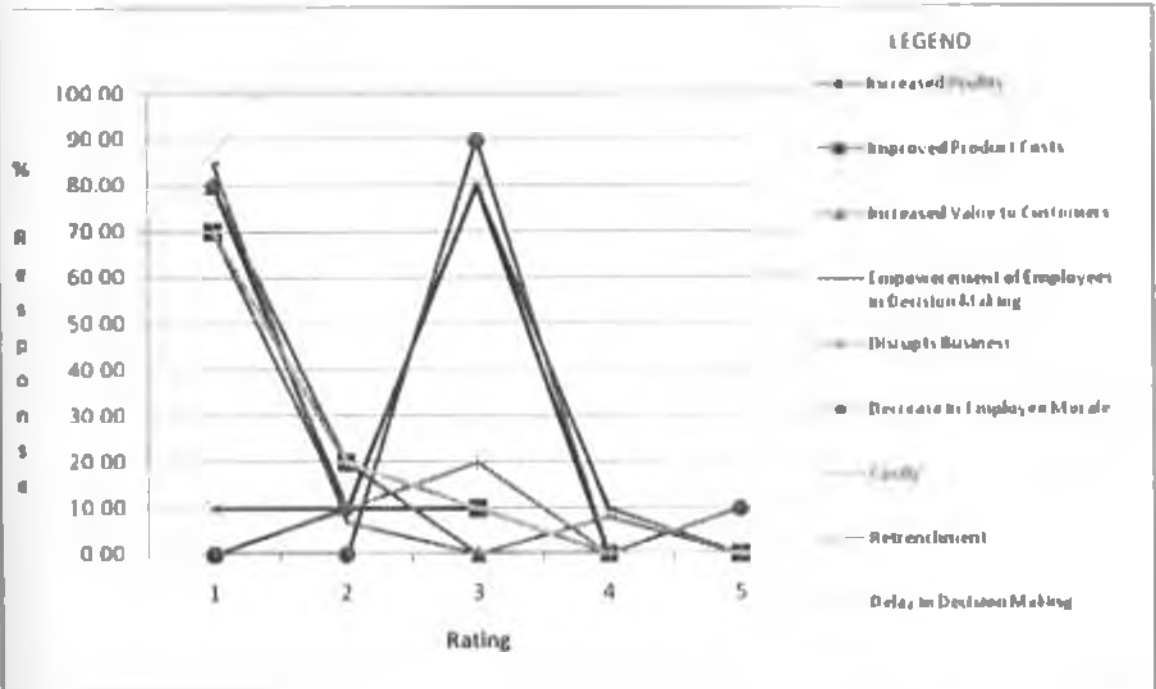
Customer Satisfaction was ranked at 90% by the respondents. Some possible reasons for this were the introduction of their new branded tea products by the name 'Jani'. The three upmarket blends of Jani teas were the Orthodox, Green and Black teas.

Improvement in Costs was rated at 80%. One expectation of BPR if applied appropriately according to Davidson (1993), is a reduction in costs.

The respondents however rated service and speed averagely as indicated in Figure 2.

4.3 Positive and Negative Effects of BPR at KTDA

Figure 4.3: Positive and Negative Effects of BPR at KTDA



(Please note 1=Very high, 2=High, 3=Neutral, 4=Improvement, while 5=No improvement)

The respondents also ranked the positive and negative effects experienced by KTDA as a result of implementing BPR. The findings are as indicated in Figure 4.3. According to the findings increased profits and increased value to customers were ranked the highest being at 80% by the respondents. However the researcher did not go into details to determine

whether increased value to the customer was actually realized and hence room for further research.

Improved product costs was also rated at 70%. The respondents however felt there was no change on the empowerment of employees in decision making. According to Hammer and Champy (1993), the application of BPR if applied appropriately changes such as employees becoming more empowered are expected. This was unlike the findings of the study, where 80% of the respondents felt there had been no change.

Further, the study found that 70% of the respondents rated BPR to be very costly. 50% of the respondents believed it had resulted to a decrease in employee morale because of the uncertainties that prevailed as a result of implementing BPR by the firm. Other negative effects mentioned and ranked highly by the respondents as indicated in Figure 3 included retrenchment of employees because of the new systems adopted by KTDA and delay in decision making process.

4.5 Challenges Experienced in the Implementation of BPR

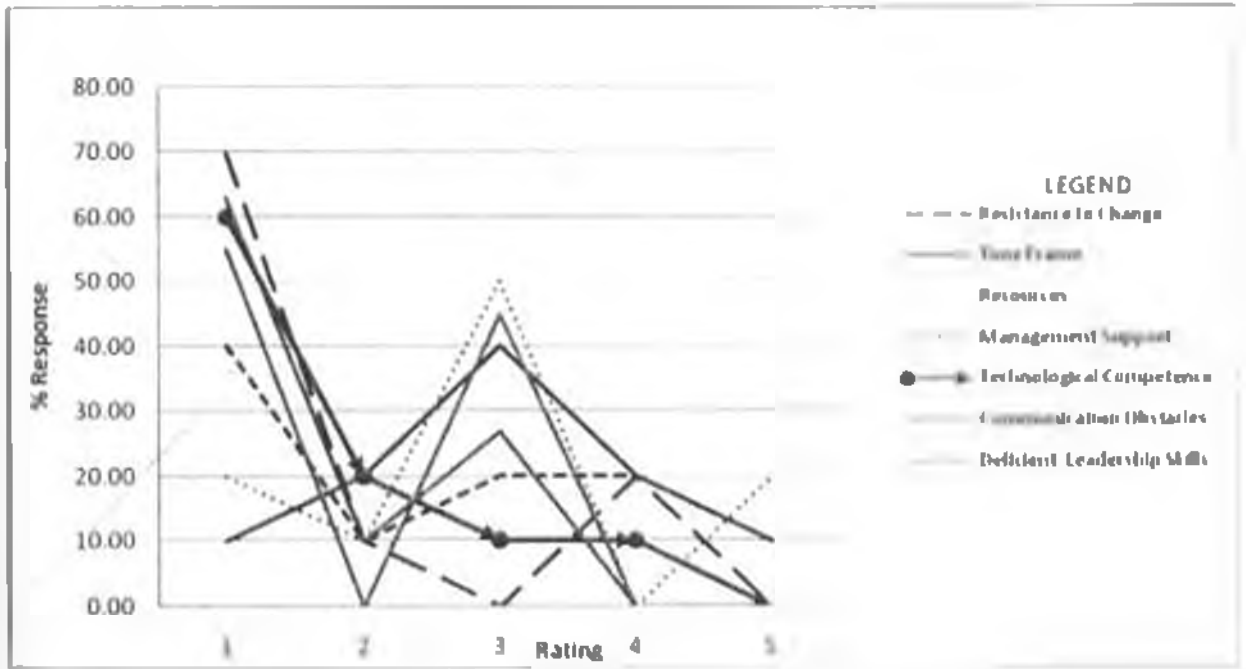
The respondents were also asked to rank challenges faced during the implantation of BPR by KTDA using a 5 Likert Scale. The researcher established that resistance to change was ranked the highest at 70% as shown on Figure 4.4. An additional comment from one respondent stated that KTDA may have changed its name and organization structures but that the culture that pervaded the industry had refused to go. Resistance to change was prevalent because of the fear of the unknown particularly as regards employment.

As indicated in Figure 4.4, 60% of the respondents ranked technological competence as another major challenge experienced in BPR implementation. The findings also revealed that communication obstacles, fear and anxiety among the employees regarding the changes, power sharing ratios and deficient leadership skills were among other challenges encountered in the implementation of BPR. The later was as a result of several jobs being combined to one and employees being more involved in decision making.

The communication obstacles experienced by KTDA allude to a view by Davenport and Short (1990), that since BPR process requires significant changes throughout an organization, communication campaign to educate all those who will be impacted by the change should be carried out. This buffers the confusion and uncertainty about the future

that can result in resistance strong enough to stop any reengineering effort. They further assert that BPR is most effective when everyone understands the need for change and works together to tear down old business systems and build new ones.

Figure 4.4: Challenges experienced on implementation of BPR



(Please note 1 - Very high, 2 - High, 3 - Neutral, 4 - Improvement, while 5 - No improvement)

4.6 Target Realization

Table 4.6.2 Target Realization

Target	% Response
Yes	80%
No	20%

Figure 4. 5: Target Realization

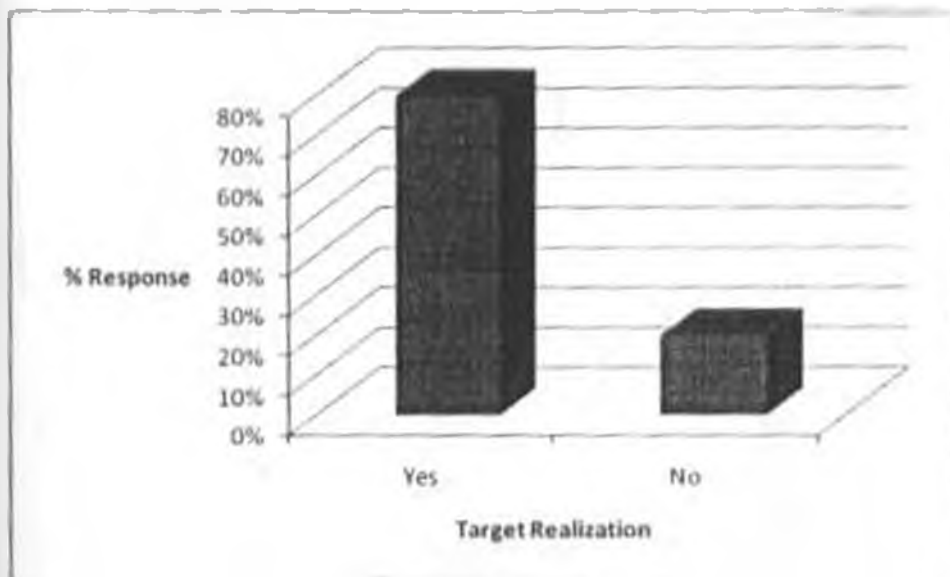


Table 4.6.2 and Figure 4.5, indicates that 80% of the respondents believed that KTDA had achieved its BPR targets while 20% believed it had not.

4.7 Effects of BPR on Productivity on KTDA

Looking at figure 4.6, the general trend of change that has taken place as relates to the gross turnover, there was a steady rise in the years 2005 and 2006 as displayed in the bar graph. There might have been other reasons that led to this steady rise in gross turnover, but for the sole purpose of the study the researcher made an assumption that this was attributed to the implementation of BPR by KTDA. Room for further research on other reasons that led to the rise in gross turnover is recommended.

The ratio of the gross turnover to costs of production is used as a measure of productivity as shown in Figure 4.7 as well as Table 4.7.3. Output can be defined as the real output produced in a set time limit. The sales or revenue figure normally reported in accounts can be used as a measure in comparison with previous years or others firms in the industry. This can be defined as a ratio of a measure of output quantity to the quantity of a single input used (Nasar, 1992). We also note an increase in productivity in years 2005 and

2006. Despite the fact that costs of production continued to rise the output in gross turnover continued to rise steadily

Figure 4. 6: Gross Turnover

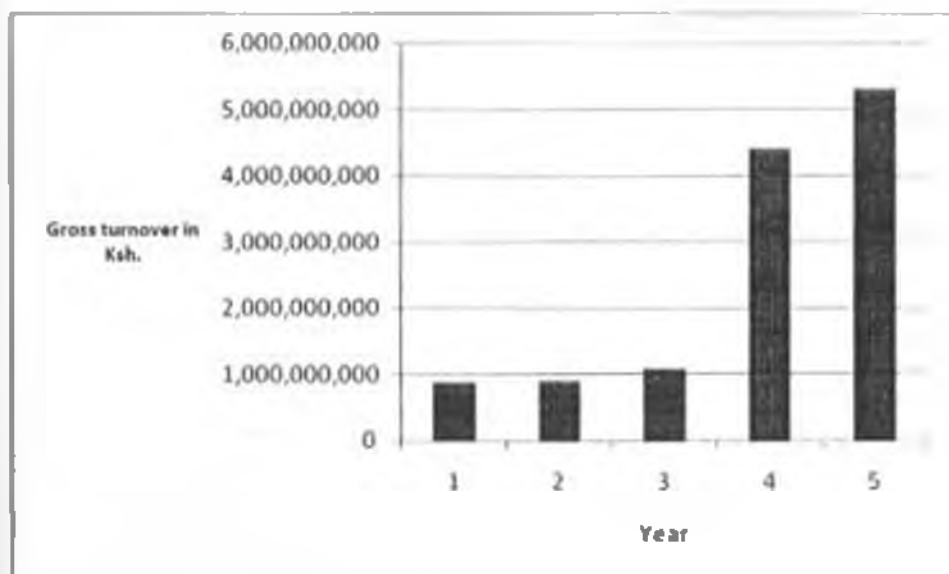


Figure 4. 7: Ratio of Gross Turnover to Production Costs

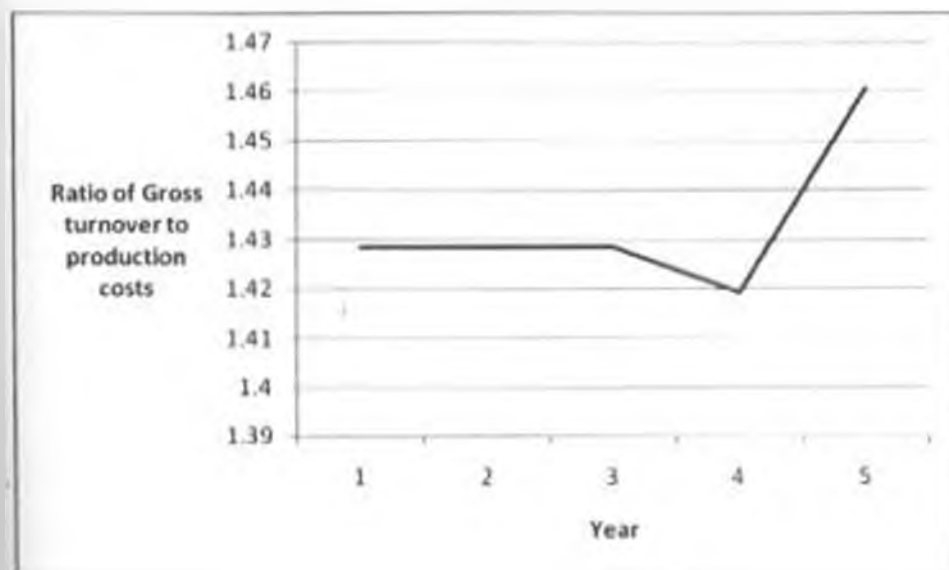


Table 4.7.3 Impact of BPR on Productivity

Year	Green Leaf Kgs	Made Tea in Kgs	Gross Turnover	Costs of Production	Ratio of Gross turnover to production Costs
2002	719,747,007	179,936,752	882,354,269	617,647,988	1.42857143
2003	692,081,577	173,020,394	894,638,830	626,247,181	1.42857143
2004	821,053,939	205,263,485	1,086,434,850	760,504,395	1.42857143
2005	753,925,730	188,481,433	4,427,077,960	3,119,062,614	1.41936168
2006	727,824,118	181,956,030	5,313,141,960	3,637,461,451	1.46067306

CHAPTER FIVE: SUMMARY AND CONCLUSION

5.1 Introduction

This chapter gives a summary of the findings, discussions conclusions and recommendations drawn.

5.2 Summary and Conclusion

In this section, the results of the study are summarized, discussed and conclusion drawn in line with the research objectives.

One of the objectives of this study was to establish the impact of BPR on productivity. The results show a positive impact on productivity. An assumption that is being made by the researcher is that though there could be other factors that could have resulted in increase to productivity, for the sole purpose of the study implementation of BPR by KITDA majorly contributed this increase.

The period 2003-2004 is the period during which implementation of BPR took place and from the data analysis we note a steady increase in productivity. The periods 2005-2006 is the period after implementation of BPR and we note an increase in productivity compared to the years 2003-2004. This can be largely attributed to improved operational efficiencies resulting from the implementation of BPR.

According to Hammer (1990) organization seeking to reengineer their operations should be bold enough not to be satisfied with modest improvement target instead of aiming at small improvements in one performance measure, they should set their sights on dramatic improvements in cycle times, production costs, quality of products or services and operational efficiency simultaneously.

The other objective of the study was to establish the effects and challenges faced in the implementation of BPR. The research findings reveal that one major challenge faced by KITDA was the high costs required for implementing BPR.

As asserted by Vanderemrse et al (1997), BPR efforts represents an organization commitment of million of shillings for redesigning internal organization processes, changing fundamental product delivery and customer service procedures and often re-examining and repositioning corporate strategy.

KTDA, in responding to market forces and pressure from their valued shareholders who continuously demand for great returns, undertook to relaunch its new corporate logo that was intended to give an image into its business operations among stakeholders. It also established a fully owned subsidizing company, KTDA Mombasa Limited (now Chai Trading Company) to venture into tea trading. It also diversified into other business portfolios such as, the establishment of Jani project which specialized in the production and branding of the company's tea

All these radical changes involved sinking in huge sums of financial resources including training of human resource on the new systems implemented. Other challenges faced included decrease in employee morale and delayed decision making process. Conclusively, the multiplier effect of BPR provides an impetus to companies in the current global market where competition is very stiff

5.3 Limitations of the Study

The study was conducted efficiently apart from certain set backs and hiccups. Many respondents were unwilling to divulge information for fear of reprisals incase of disclosure. Furthermore the beaureacratc and lengthy process of obtaining information provided a bottleneck which delayed the project considerably

The data collection also incurred very high costs of telephone calls, emails, stationery and transport costs as well as time taken.

This study was also limited in that it focused on the consolidated group results and questionnaires were only administered to staff members at the head office in Nairobi, thereby introducing an element of geographic bias. It was not possible to take a larger sample of respondents due to time and financial constraints.

5.4 Suggested Areas for Further Research

The research centered mainly on the effect of BPR on productivity as well as the effects and challenges faced in its implementation. There are many other firms currently that have reengineered their processes but have not been successful, an example of one such firm is the Rift valley Railways Consortium (RVRC). These firms need to be studied and appropriate recommendations given.

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DATE 7TH OCTOBER 2008

TO WHOM IT MAY CONCERN

The bearer of this letter JANE C BII

Registration No. DBI/P/8365/03

is a Master of Business Administration (MBA) student of the University of Nairobi.

He/she is required to submit as part of his/her coursework assessment a research project report on a management problem. We would like the students to do their projects on real problems affecting firms in Kenya. We would, therefore, appreciate if you assist him/her by allowing him/her to collect data in your organization for the research.

The results of the report will be used solely for academic purposes and a copy of the same will be availed to the interviewed organizations on request.

Thank you

UNIVERSITY OF NAIROBI
SCHOOL OF BUSINESS
MBA OFFICE
P. O. Box 30197
NAIROBI

DR. W.N. IRAKI
CO-ORDINATOR, MBA PROGRAM

APPENDIX 2

Questionnaire

Please spare a little of your time to fill in this questionnaire. Your answers will remain anonymous and in no incidence will your name be mentioned in this report

1) What were the reasons for the implementation of Business Process Reengineering?

	Yes	No
a) Changes in business environment	<input type="checkbox"/>	<input type="checkbox"/>
b) Competition in business environment	<input type="checkbox"/>	<input type="checkbox"/>
c) Active pursuit of strategic benefits	<input type="checkbox"/>	<input type="checkbox"/>
d) Problems recognized in business process	<input type="checkbox"/>	<input type="checkbox"/>
e) Opportunities offered by new technologies	<input type="checkbox"/>	<input type="checkbox"/>
f) Financial condition of the company	<input type="checkbox"/>	<input type="checkbox"/>
g) Trying out reengineering	<input type="checkbox"/>	<input type="checkbox"/>
h) Other	<input type="checkbox"/>	<input type="checkbox"/> please specify

2) To what extent were the following performance improvements realized from the BPR implemented?

(Please note 1=Very high, 2=High, 3=Neutral, 4 Improvement, while 5=No improvement)

Performance Improvement	1	2	3	4	5
Reduction in cost within the company					
Reduction in throughput time					
Improvement in quality					
Customer satisfaction					
Reduction in cost supplies					
Other (Please specify)					

3) What type of processes did KTDA focus on in reengineering?

- a) Core []
- b) Secondary []
- c) Support []

4) What were the substantial changes experienced by KTDA on implementation of BPR.

(Please note 1-Very high, 2-High, 3-Neutral, 4-Improvement, while 5-No improvement)

Performance Improvement	1	2	3	4	5
Clear measures and incentives					
Clear roles and responsibilities					
Enhanced skills and value of workers					
Improved management style					
Improved organization working methods					
Other (Please specify)					
i)					
ii)					

5) To what extent were the following risks or implementation problems experienced.

(Please note 1-Very high, 2-High, 3-Neutral, 4-Improvement, while 5-No improvement)

Performance Improvement	1	2	3	4	5
Change management					
Time Frame					
Resources					

Management support					
Technological competence					
Other (Please specify)					
i)					
ii)					

6) Were your targets for BPR realized in KTDA?

- a) Yes | |
- b) No | |

7) What are effects of BPR in KTDA?

(Please note 1-Very high, 2-High, 3-Neutral, 4-Improvement, while 5-No improvement)

	1	2	3	4	5
Performance Improvement					
Increased profits					
Improved product costs					
Increased value to customers					
Empowerment of employees in decision making					
Disrupts business					
Decrease employee morale					
Costly					
Other (Please specify)					
i)					
ii)					

8) Is BPR necessary for a company's survival?

- a) Yes | |
- b) No | |
- c) Do not know []

9) Questions here may not be all embracing and comprehensive. They may not have afforded you opportunity to say some things you want to say about the effect of BPR. Please make any additional comments in the space provided.

I sincerely thank you for your time and cooperation in filling this questionnaire. Please, check to make sure that you have not inadvertently skipped any questions.

I thank you.

