

**OPERATIONS MANAGEMENT AS A PATH TO WORLD-CLASS
STATUS FIRM: A STUDY OF KENYAN ENERGY SECTOR**

BY

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DECLARATION

This research project is my original work and has not been presented for award of any degree in any university.

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This project has been submitted for examination with my approval as university of Nairobi supervisor.

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ABSTRACT

A study was conducted in Kenya's energy sector, with three objectives; the first being to determine characteristics of world class status firms that were present in this sector, and how deeply entrenched they were. The second being, to determine the prevalence of programs that can turn the sector into world class status, and the third objective was formulated to address the apparent disagreement between different research on the number and nature of programs to turn a firm into a world class one. The research design employed was a multiple case study on four firms in the Electricity Supplies industries. The instrument used for data collection was a structured questionnaire which was administered using the drop and pick later method. Average scores were used to analyse the first objective, with responses on the open ended questions being analysed thematically using content analysis. Chi-square analysis was employed to determine if the results of objective one might have been due to chance, while exploratory factor analysis was employed to determine the latent variables present, to be able to address objective three. Two results from this research were confounding; KENGEN had more world class characteristics than companies with a vision to be world class i.e. KPLC and MSC. REA which performed poorly on most of the world class characteristics had the best operational focus on customers, which was lacking in the other three firms. The traditional view employed to gauge world class organizations was confirmed, since the three firms which had a high number of characteristics, were also found to employ an order winner, order qualifier model. The study established that there were nine latent variables and not eight as some of the previous research had advocated for. Customer focus was the only company wide program that respondents mentioned in KPLC and REA as being practiced, though there was evidence to suggest the existence of employee empowerment, quality focus, operations flexibility, global competitiveness and technology in most of these firms. Management within these firms should be informed of the elusive nature of these best practices, they need to approach the world class objective by employing the framework of nine companywide programs advocated for by this research, which has over 250 other activities nested under the different programs. The difficult nature of this task can be seen immediately, considering the planning, leadership, organizing, directing, and controls needed to have in place a strategic plan or operational strategy, which are some of the 252 activities which can lead to world class performance in organizations.

CHAPTER ONE

INTRODUCTION

1.1 Introduction

In the recent past, there has been a barrage of advertisements from major firms in the country highlighting to their customers, how world class their products and services are, such claims are not only constrained to their offerings only, but also to their vision statements, and strategy structures. This research intends to determine the existence, approach used and extent of application of such practices in key decision areas in operations management, within the energy sector of Kenya.

1.2 Background

World class organizations represent a group of elite companies, their operations function ensures that best practices are employed in every aspect of their business, achieving world class status has been found to be an elusive task (Kasul and Motwani,1995). Generally being a world class company means that the company can compete successfully and make profits on quality products in an international economy, not only now but also in the future (Owusu,1999). This study intends to determine the prevalence of best practices within firms in the energy sector, some of which fortunately, have set a vision of being world class.

Some of these best practices in operations that lead to world class status include, customer focus, the need to view the other functions of the firm as an internal customer, re-organizing the workplace to be focused, which may involve having a blurred matrix structure, whereby representatives of all main functions of the firm are

organized into cells, the need to use non-financial data for performance management to compliment the role of cost (Dixon, Nanni, and Vollmann,1990). Ensuring that employees get involved in continuous improvement in order to have an agile management system, dealing with waste at all levels of the firms, maintaining minimum or zero inventory, the need for not only organizing employees into inter disciplinary teams, but for management to share power with the teams and ensure that they are self-managing ,the need to have few changes with product or service design, and the need to ensure that employees learn and teach each other, a process referred to as cross training (Schonberger 1990; Shrednick, Shutt, and Weiss 1992).

Gilgeous, and Gilgeous (1999, 2001) goes further, to cite other facets of world class operation management focus such as: customer focus, commitment to quality, belief in the organization, and empowerment as the four most "very effective" programs that operations managers can focus on to make improvements in their operations and business strategy. Motorola for example, relied on a self-managing team together with unique technologies of the day, when they came up with the world's first hand held cellular phone, which indicates that firms committed to achieve world class status are ready to change the rules of the game and beat their competitors. Motorola also came up with Six Sigma, which leads to fewer process defects (Farley 2005, and Schonberger,1990).

Six-sigma is a process employed by companies in order to result with fewer defects; this was after a realization at Motorola that most product defects were as a result of latent defects at the product design stage (Slack, and Lewis,2008). It involves a

disciplined use of data and statistical methods. Kenya's energy sector can for example employ Six -Sigma for instance to ensure that the availability of electricity stays at almost 99.9999% of all times in a year.

Other initiatives being employed by firms to enable them achieve world class status, include companywide formal trainings, and setting up of learning institutions like, Mac Donald's (Hamburger university), General Electric (GE) with its Crotonville management centre, which has to compete with private management consultants for assignments within their firm, as noted by (Bower, Dai,Chen 2012; Rothschild, 2007, and Schonberger, 1990).

Acquisition of unique technologies doesn't mean that you have achieved world class status or competitive advantage, nor does having a strong R&D department gurantee such status (Hayes, and Pisano, 1994). Its about ensuring that waiting lines are managed adequately, that everyone in the organization has the customer in mind, and making it the role of everybody within the firm to feel responsible for reflecting on any improvements that can go into improving services or products being offered by the firm. This study intends to establish the extent of adoption of these and simillar practices, programs, and any other approaches being relied on in the energy sector to achieve world class status.

1.3 Energy Sector in Kenya

In 2007 the Ministry of Planning and National Development, noted that the energy sector in Kenya is central to achievement of Vision 2030. This sector is regulated by

the Energy Regulatory Commission (ERC) which was established by the Energy Act number 12 of 2006. The energy forms that the country is currently relying on are; Electricity both hydro and geothermal, fossil fuel and wood for the rural folks. Kenya is naturally endowed with a rich variety of energy resources, its geothermal energy potential in the Rift Valley is estimated to stand at around 7000 MW to 10000MW, just recently coal deposits in the Eastern Province have been discovered, which promise some commercial significance. The current emphasis is in search of clean geothermal energy and wind power, which are intended to reduce over reliance on hydro and fossil fuel, against this backdrop, the government has initiated plans for feasibility studies for acquisition of a nuclear power plant (Gichane, 2012; Voice of America, 2011).

The sector has a number of key players notably; Geothermal Development Company (GDC) which has been mandated to carry out exploration of geothermal energy and setting up wells, which it hands over to KENGEN for power generation, recently GDC has received a lot of government support to acquire its own drilling rigs (Mureithi, 2012). KENGEN on the other hand, is a company tasked with generation of electricity in the country, it's mandated to operate and maintain all hydro plants. It has installed geothermal based power plants with a capacity of 150MW, with a number of privately owned companies topping up the output currently to 202MW. The Consumers Federation of Kenya(2012), indicates that KENGEN is also getting into exploration of geothermal energy, by acquiring its own drilling rigs.

Kenya power (KPLC) is a company tasked with distributing and retailing electricity, It has set a clear vision to pursue world class status and has also managed to secure ISO: 9001, 2008 certification. KETRACO and REA are newly formed companies charged with setting up electricity transmission infrastructure to cushion the private sector from high costs and long payback periods related to such activities.

Despite the rising demand for energy and high infrastructure development rate, certain problems are still being encountered, e.g. Blackouts, vandalism, a perception of poor service from the sector still looms, and rising costs per tariff increase (Standard Group Limited, 2012; Kamau,2013, and World bank, 2012). To overcome such challenges these firms need to upgrade to world class practices, to ensure that customers are better served. This study will therefore investigate the status of energy sector firms in their quest to become world class firms.

1.4 Research Problem

Application of best practices has been identified as one of the present day paradigms that firms are using to implement new approaches in their operations which are expected to result in world class performance (Gagnon, 1999). The traditional way of gauging if a given firm is pursuing world class status is based on the way that it addresses its competitive priorities; a world class organization doesn't trade off. Until recently research by Gilgeous and Gilgeous (1999, 2001) has been able to show the inner workings of a world class organization, by creating linkages between competitive priorities, and companywide programs which these firms are employing in their areas of operations. Though still the nature and number of these approaches

and their underlying characteristics still remain a bone of contention, the general agreement is that there is a generic path of improvement, which is common to all firms that have ever achieved world class status at one point in time.

However here in Kenya no studies have been conducted in the energy sector, to establish if there exist a systematic way that these firms are following to achieve world class status, despite the high number of firms with a vision to become world class, no particular firm has ever been identified as being world class. The few studies that have been done in Kenya to gauge the extent of adoption of world class practices, show that to a large extent firms in the manufacturing sector employ total quality management (TQM), while those in the financial, investment and commercial sector have not yet taken up best practises in operations. Some associated benefits being reported are: cost reduction, improved product quality, and reduced lead times (Ngeta, 2009).

Another study in this area by, Ashika (2012) done locally established that Standard Chartered Bank relied on customer focus, leadership, processes and profits and not the full spectrum of programs advocated for by pioneering studies done else where. Studies in Egypt by Salaheldin, and Eid (2007), focusing on the manufacturing sector, report that; most of the firms have JIT production and Procurement systems in place but majority of firms involved are still in the old paradigm of production, i.e. mass customization. Therefore, this study aims at answering the following questions within the energy sector: what are some of the characteristics of world class status firms that are present in the energy sector in kenya? what company wide programs are firms in

the energy sector employing to achieve world class status? Is it possible to condense the number of these characteristics into a number of factors or programs that relate closely with what other research cites?

1.5 Research objectives

The specific objectives of this research are:

- Determine characteristics of World class status firms that are present in Kenya's energy sector.
- Determine the prevalence of programmes to turn energy sector firms to world class status.
- Undertake exploratory factor analysis to determine if the resulting number of factors relate closely to number of programs cited in other research

1.6 Value of the Study

The findings of this study will provide more knowledge for researchers and academicians who may be interested in understanding the dynamics of a world class organization. The four firms involved in the study can use the outcome of this study as a benchmark to gauge the progress they've made so far and areas they need to improve on. The Energy regulatory commission can use the outcomes of this study as a yard stick in gauging the progress that firms in the wider energy sector have made so far. Universities, schools, hospitals and the private sector can make use of the companywide programs advocated for by this research to act as discussion points and a framework in their pursuit of world class status.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Garvin (1988), Peters, and Waterman (1982), as cited in Sharma, and Kodali(2008) defined a world class company as one that is employing best practises in its area of operations. These companies employ a philosophy of incremental improvements in every aspect of their business, so that they can be the best in their fields. They believed that an incremental more organic approach to be more effective in the long term, than 'big bang' theories which claim to improve one particular aspect very quickly (Sharma, and Kodali, 2008; Gilgeous, and Gilgeous,1999). In 1990 Schonberger however, noted that the only big bang approach that a company can centre its operations on and expect immediate improvements is a focus on customers.

Greene (1991) as cited in Gilgeous, and Gilgeous (1999) identified companies which continuously seek to outperform the industry's global best practises, and which know intimately their customers and suppliers, their competitor's performance capabilities, their own strengths and weaknesses as companies that are pursuing a world class theme. Schonberger (1986) as cited in Gilgeous, and Gilgeous (1999) noted that the most surprising thing about these companies is that they all seem to follow the same path of improvement which is well defined and generic among them; however such an observation lacked any empirical backings.

Most literature on best practices cites total preventive maintenance (TPM), just in time (JIT), Total Quality management (TQM), six sigma, Business process re-engineering (BPR), Enterprise resource planning (ERP) and lately ISO 9001:2008. Companies that don't understand the potential nature of their operations function try to employ some of these practices without understanding their underlying philosophy, in other cases they try to integrate them in their organizations while employees are not fully involved and don't own processes. Some of these packages are being used by firms as substitutes for operations strategy (Slack and Lewis, 2008).

Slack and Lewis (2008) notes a disturbing trend with ERP systems, a number of companies have tried to implement it, and the outcome has been discouraging, their budgets have grown by almost 200-300%, the projects have been completed late and generally they have been forced to revert to their old ways of doing things. Research shows that firms in service industry have been found to implement ISO 9001:2008 and TQM without referencing ISO 9004-2 which acts as a framework for implementation of best practices in service organizations (Chan, Neailey, and Ip,1998).

The big mistake that organizations that are stuck in the middle fail to understand is that these operational best practices are part of wider programmes that the best performing organizations employ over a given time, and which are implemented through a strong operations strategy base.

Gilgeous, and Gilgeous(1999), Sharma, and Kodali (2008) work outline a number of models that an operations managers can invoke in their attempts to convert their companies from average to high performers. Kasul, and Motwani (1995) proposed a framework that an operations manager can use to assess the progress that the organization has made in the quest for world class status shown in appendix B.

Out of the nine initiatives discussed below, there is evidence that most firms that are pursuing a world class theme have employed them and were found to be effective in improving the competitive position of these firms (Gilgeous, and M.Gilgeous,2001). Sharma, and Kodali(2008) research work is comprehensive in coverage of enablers or activities; it highlights 252 enablers which can help an organization achieve world class status. The nine programs or initiatives follow with a brief description.

2.2 Company Wide Programs or Initiatives firms can employ to achieve world class status

2.2.1 Employee Empowerment/management commitment

Operations management defines empowerment as involvement in everything that is important to the customer, the one at the next process, as well as the final one Schonberger (1990). Empowerment doesn't happen without first-class leadership these are two sides of the same coin Smith (1995). It fosters confidence, enabling individuals to step forward and handle situations effectively without hesitancy or need for approval, the idea is to match employee abilities with organization needs and achieve more with less (Nykodym, Ariss, Simonetti and Plotner,1995).

For any improvement to be achieved, it must be supported by employees, and should receive commitment from management. Owusu (1999) elucidates that the key to establishing an agile management system and to ensure that employees are involved is by, clear, and open communication of objectives of any intended changes, development of a strong foundation of cooperative relationships, group (team) problem solving and decision making through participative management approaches. In Operations management a new paradigm is taking shape, the need for firms to hire employees not only for their strength/spines, but also their brains, a concept being referred to as, “the whole person concept” by (Dixon, Nanni, and Vollmann,1990). The new tendency in world class operations is to group activities as basic, applied or specific and train employees on both the basic and applied skills, like inspection of quality, to ensure its achieved the first time and if not achieved the employee has the freedom to stop the process and ensure that the desired level of quality is achieved before proceeding (Schonberger,1990).

For a company committed to achieve world class status, training, cross training and retraining needs are emphasised a lot (Bower et al.,2012, and Owusu,1999). Such companies are making the training programs multifaceted i.e., having elements of some literature, online tutorials and a visit to other companies where the same approaches are being applied, the idea is to ensure that training sticks in the mind of the employees (Schonberger,1990).

2.2.2 Operations Flexibility/First rate management team/Belief in the Organization

Organizational teams can be organized in two major ways: Firstly, as functional teams which are permanent for a given department, and tasked to continuously improve working conditions within the department. Secondly project teams which are, multi-disciplinary and with members being draw from almost all levels of the company, with the duty to undertake specific projects e.g. product development or sales generation (Nykodym et al.,1995, and Owusu,1999).

The lifeline of these teams is dependent on the communication that top management can fostered within them, this element is identified as a learned art, developing the ability and knowledge of communication skills for the entire workforce is at the centre of continuous improvement (Owusu, 1999). In world class companies teams are being formed to the extent of replacing the numerous layers in the hierarchy of authority, they are also not being managed from outside, they are self managing. Such an arrangement can only be condoned at a company that the supervisors are willing to let go old habits of wanting to control everything, and adopt new advisory roles that these teams bring (Nykodym et al.,1995; Shrednick et al., 1992, and Smith,1995).

World class firms have a habit of identifying what their core competencies are and doing business that leverages a lot on these. Training is instituted around these competencies. A growing tendency among the world class institutions is to identify future growth areas that represent significant returns and tailoring their products to

meet them. They usually employ customization and its many varied forms to meet demands from a single individual to the general mass markets (Bower et al., 2012, and Rothschild, 2007).

Their operations function institutes a blurred matrix structure which enables them implement operations strategy easily and without conflict, making the organization even able to respond to market dynamics and hyper competitive situations quickly, (Gagnon, 1999, Bower et al., 2012; Schonberger, 1990, and Slack and Lewis, 2008).

2.2.3 Learning organization

A learning organization can be defined as, one which is capable of adapting, changing, developing, and transforming itself in response to the needs, wishes, and aspirations of people both inside and outside of the organization (Gilgeous, and Gilgeous, 2001).

The concept of a learning organization has received a lot of attention from Peter Senge as noted in (Jonhston, and Caldwell, 2001). He defined a learning organization as; one where people continually expand their capacity to create the results that they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free and where people are continually learning how to learn together. Learning therefore should not be seen as an occasional exercise but as a continuous exercise that seeks to improve the firm's performance, and which cannot be imitated easily. Further he supported the view that a learning organization doesn't undertake its improvement plans in dramatic steps, but rather in gradual development

of each of the five disciplines he developed, namely: Shared vision, Systems thinking, Personal mastery, mental models, and Team learning.

Often the big issue concerning firms striving for world class status is the availability of actionable factors that managers can employ in their place of work. The five disciplines provide such a mechanism, which can guide the operations manager in building a learning organization. Closely related to this program is that of organizational learning, which is a bit different and involves two main concepts; that of single and double loop learning. The latter, questions fundamental objectives, such as, service or market position or even the underlying culture of operations. This kind of learning implies an ability to challenge existing operations assumptions in a fundamental way, seeking to re-frame competitive questions and remain open to any changes in the competitive environment (Slack, and Lewis, 2008).

2.2.4 Technology

Any move to provide new or better and improved products or services affects the process technology. Most companies seeking world class status understand the need to continuously address technology issues. They have found a lot of potential in terms of improving their visibility, and ability to make control decisions based on sound, clear and up to date data, generated from their operations systems (Kasul, and Motwani,1995).

These companies are able to maintain a sustained competitive advantage through patenting and guarding their core technologies, they have their product portfolio built

around very unique technologies developed within the business units and which are difficult for the competitor to copy (William, 2007).

In operations management this program is given a lot of emphasis, because of its many influences on processes and cost. Most significant technological changes, take place outside the boundaries of a firm, a challenge that faces any firm whether dedicated or not to being world class, is that of an innovators dilemma. A company should continuously scan the environment to make sure that technologies that currently are being viewed as performing below the standards of the general industry are monitored, because a major breakthrough in a certain area of the market may boost this form of technology into replacing the existing one, the risks are obvious for a firm which has invested heavily in the initial industry standard (Slack, and Lewis, 2008).

2.2.5 Quality commitment

Most literature is quick to jump to the point that every product or service that a firm offers should have a “wow” effect, and fails to address the different perspectives that are a departure from the traditional view, that more is better. Kano outlined three different forms of quality that a manufacturer or service provider should incorporate in their product or service: basic quality, performance quality, and excitement quality associated with the ‘wow’ effect, which is a feature or attribute that causes excitement. Under the third category above, the features that used to excite over time become basic quality features. The implications are obvious, and pose a challenge to firms that are committed to achieving world class status, and are constantly ensuring that

customer expectations are met and exceeded (Stevenson, 2009).

The Operations function of any firm that is seeking world class status should champion development of a quality policy as part of their total quality plans, to be able to transfer the authorship of quality to those employees who produce it (Kasul, and Motwani, 1995). It should determine features that are necessary to achieve the different types of quality outlined and ensure that all specifications are achieved.

In excellent companies or world class companies, quality permeates every corner of the business, they are programs and projects, but they are all connected and all flow from one source, the customer, as noted by (Gilgeous, and Gilgeous, 2001). In any organization the management is tasked with the responsibility of ensuring that the quality era that the organization is operating in is constantly managed. The focus on the customer for all quality programs converts the management style to a strategic quality management style (Okwiri, 2010).

2.2.6 Innovations

Any firm intending to lead others has to produce quickly and efficiently, new and attractive products. This is found to depend on being better than your competitors in four main areas: applied research, production technology, improvement capability and detailed shop floor production know how which should always be undertaken in an integrated and collaborative manner (Yamashina, 2000).

The striking difference between a world class organization and an averagely managed organization is that, they truly appreciate the idea of an innovation space and take full advantage of it. They don't limit their innovation endeavours on processes and products or services. They are actively involved in finding new philosophies or paradigms, and new ways of positioning themselves in the market, their primary goal is to break the rules of the game and set new rules by being first (Sanchez, 1993).

Companies striving to achieve world class status tend to foster innovation uptake into their corporate culture, encouraging employees to do things differently, and to be creative. This transforms them into an organization that is highly innovative and aware of the advantages of innovations. They are focused on aspects of their business that will enable them to exploit new ideas successfully, innovative customised products and services supported by their operations and marketing functions (Gilgeous, and Gilgeous, 2001).

2.2.7 Good supplier relations

In manufacturing it's easy to differentiate who the supplier is and involve them, as compared to service operations where the customer doubles up as a supplier and creates a dilemma for the organization. World class organisations are striving to forge long term relationships with their suppliers in order to build up trust through strategic alliances (Gilgeous, and Gilgeous, 2001). In such arrangements the suppliers benefit from attending product development meetings, and are able to understand what their customers' expectations are, not forgetting that their sales become much more predictable.

The benefits are mutual (win-win) for the parties involved, such as the possibility of cost savings, zero inventories, and improved communication. These advantages can propagate throughout the supply chain. Another emphasis is on the operations function of a company pursuing world class status to maintain a few suppliers and should not consider integrating backwards (Schonberger, 1990).

Most firms that are committed to achieving world class status have a serious quality commitment and good supplier relations established as a pre-requisite within the firm. This was as a result of operational lessons learned previously, over the years that saw Western companies face earthquakes in their operations starting with the 1978's, whereby business executives were frightened enough at their company's poor performance in quality compared to those in the far East, to the point that they were forced to take the quality pledge. The outcome as awesome, the quality quake was big enough to soften everything up in business to the point that small tremors like: JIT (1980's), Employee Involvement and process ownership (1984) formed under the big second quake of manufacturing, whereby the aftershocks were felt in product design, accounting and marketing in (1988) (Schonberger, 1990).

2.2.8 Customer focus and commitment

Operations management identifies this initiative as being the most important of all nine initiatives, and the most focused on by firms seeking world class status. It's also the only program that is the most supportive of the quality performance objective (Gilgeous, and Gilgeous, 2001).

In world-class companies the customer is in the organization , not outside of it. Given the choice to focus on either the customer or the product, world class focus is, first on the customer (Schonberger, 1990). The result has been aligning resources by the way that products flow, operations management associates this with the terms; cells, flow lines and group technology. The broad term being focus , directed to the customer then product, not the function. Customer focus gets first priority, because the linkage with a customer opens up special opportunities for process improvement.

Firms seeking excellence, design all their activities around the customer, the operations function has the role of devising tools to be able to capture the needs of the customer without any ambiguity, for instance by using the quality deployment function to capture customer expectations (Schonberger, 1990), and Stevenson, 2009). Managers can use other techniques such as value analysis to determine product features that customers are interested in and which represent value. Leading companies have a habit of seeking bad news and not killing the messenger (Dixon et al., 1990, and Rothschild, 2007).

World class companies ensure that all customer complaints are handled with speed, and a system is in place to capture ideas that customers may proffer. Delighting customers is at the fore front of world class companies, but not so much to the point that next time if the customer comes again he may be disappointed if it cannot be matched. Managing customer expectations is a discipline practiced dynamically by world class companies (Smith, 1995).

2.2.9 Global competitiveness

Previous research on the subject ignores the role of global competitiveness including that by (Gilgeous, and Gilgeous, 1999). Surprisingly each and every company has the potential to globalize; it's a key element that can be used as a yard stick to judge the performance of a company. Going global needs to be addressed with a global strategy which has three main parts: developing the core strategy, internationalizing it, and globalizing the international strategy. Any company intending to go global should start with building the core strategy first in their home country, and if they are unable, then they should not bother about globalizing. However if the company is successful, then they should move to the second stage of expanding activities and adapting the core strategy across international boundaries. After the firm has mastered this stage then they can formulate a global strategy to integrate the core strategy across countries and deploy it, which is not an easy task (Kasul, and Motwani, 1995).

2.3 Gauging Progress towards World Class Status

A major handicap of the model advocated for by (Gilgeous, and Gilgeous,1999, 2001), is that they don't address the issue of how the programs can be employed. However research by (Kasul, and Motwani, 1995) outlines a cumulative model shown in appendix II, which assumes that certain programs need to be in place and working effectively for others to be pursued and included into the operation's system. They argue that a firm cannot seek global competitiveness, if it has not achieved domestic supremacy.

2.4 How World Class Organizations Compete

Competitive capabilities compare a firm's ability to meet customer's expectations to its competitor's ability to do the same (Hallgren, Olhager and Schroeder, 2011). Operations management offers four distinct competitive priorities i.e. quality, delivery speed, cost and flexibility. There are four models available for any company to pursue its competitive priorities, these are: Trade-off model, Cumulative model, Hybrid model and Order winner and Order qualifier model (Corbett and Whybark 2001; Hallgren et al., 2011, and Silveira, and Slack, 2001). World class companies compete on all four competitive priorities, trading off to them is completely unacceptable (Schonberger,1990).

World class organizations don't compete on each critical factor in isolation, they bundle quality and dependability as an order winner, then they bundle cost and flexibility as an order qualifier, these two main categories were created by (Hill, 1989). They recognize the need for their products or services to have a qualifying level of quality and dependability which are basically what must be met for the customer to consider the firm's product .They are required to enter a given market segment and stay there, and which basically correspond to the basic need of the customer. Once these are in place order winners are those that enable the customer or organization to make the buying decision and win the order (Hallgren et al., 2011).

2.5 Performance Measurement in World Class Operations

Companies that are seeking world class status appreciate one fact about costs, that they are not drivers but passengers. They implement successful performance

measurement, by going through a transition marked by three stages; Firstly, firms start to tinker or modify the existing performance measurement system which is mostly cost based, after realising it's not working. Secondly they realise the need to separate performance and cost issues, what is referred to as cutting the Gordian knot. Finally the stage of evolution involving continuous changes of strategy, actions and measures (Dixon, Nanni, and Vollmann, 1990).

The last stage is necessary, because when they adopt a new strategy they still maintain the old performance measurement system, and soon it acts as an impediment to performance. Operations managers who see the performance system as a big inhibitor to progress towards world class status are advised to "hold the umbrella" for the employees i.e. to disregard the measures until the job is done the right way then institute the measures latter (Dixon et al.,1990).

The areas of measurement and reporting, and staff development have been found to harbor some room for improvement for companies on their way to achieve world class status, the former category which is of interest here, includes benchmarking, performance measurement and reports, quality procedures and frameworks and customer satisfaction measurement (Prabhu, and Robson, 2000).

2.6 Examples of World Class Organizations(WCO)

Toyota motor company represents a world class company because of their quality, and waste management, and by pioneering some of the now almost ubiquitous enablers under world class literature for instance; Just in time (JIT), and lean

management. It holds the position of the world's highest number of sales and largest auto maker compared to its rival General motors in the year 2012. Due to its unique offering, it maintains the highest sales record of the number of hybrid cars sold in the world (Dawson, 2013). It's ranked by the Fortune magazine as tenth largest company in the world with 325,905 employees and profits of \$million 3,591 (CNN, 2012).

China National Offshore Oil Company (CNOOC), which has indicated that it's pursuing a world class status (Bower et al., 2012). Surprisingly it's a public institution in China, which has managed to build a modern energy portfolio by creating an enabling environment for its employees, to the point that China as a nation is now capable of undertaking, oil exploration both shallow and deep water in over twenty countries and regions overseas.

2.7 A New Conceptual Model of Gauging Progress towards World Class status

The new model appearing in Figure 1 below, which managers can employ in a cumulative manner to achieve world class status, has been adopted from the one appearing in Appendix II by (Kasul, and Motwani 1995). Minor modifications have been made to address the disagreement in previous research on the number and nature of Programs. Operational flexibility has resulted from merging facility control, and price-cost leadership. For a given organization to have control over its facility they need to be able to generate more responses than disturbances that occur in the facility, the two authors support this by advocating for the need of firms to be engaged only with activities that represent value to the customer. The two authors retire to the fact

that other than labour efficiency there is also need for a firm to have continuous improvement deeply entrenched in the firm which is one of the primary focus of the program of operational flexibility to be able to achieve price-cost leadership.

The program of a learning organization has been introduced into the new model because the original model had not addressed it, and represents the ability of an organization to process any objectives or goals they might set at any of the corporate levels, when its deeply entrenched. Finally it was necessary to separate innovations and technology programs in the new model which shows a fundamental difference and departure from the model advocated for by (Kasul, and Motwani,1995).

Managers can employ this model by concentrating more on the programs at the lower level first particularly that of focusing on the customer, which depends on developing a chain of customers within the organization by viewing other departments as customers, is of paramount importance compared to all other programs as noted by (Schonberger, 1990). Employees need to be empowered if any significant change has to be witnessed within the organization, because they become more involved in firm activities. An endeavour to develop a learning environment within the organization seems to bear and support the other programs. As more learning is achieved; the organization is able to undertake the other programs easily, and process goals like globalizing with lots of ease.

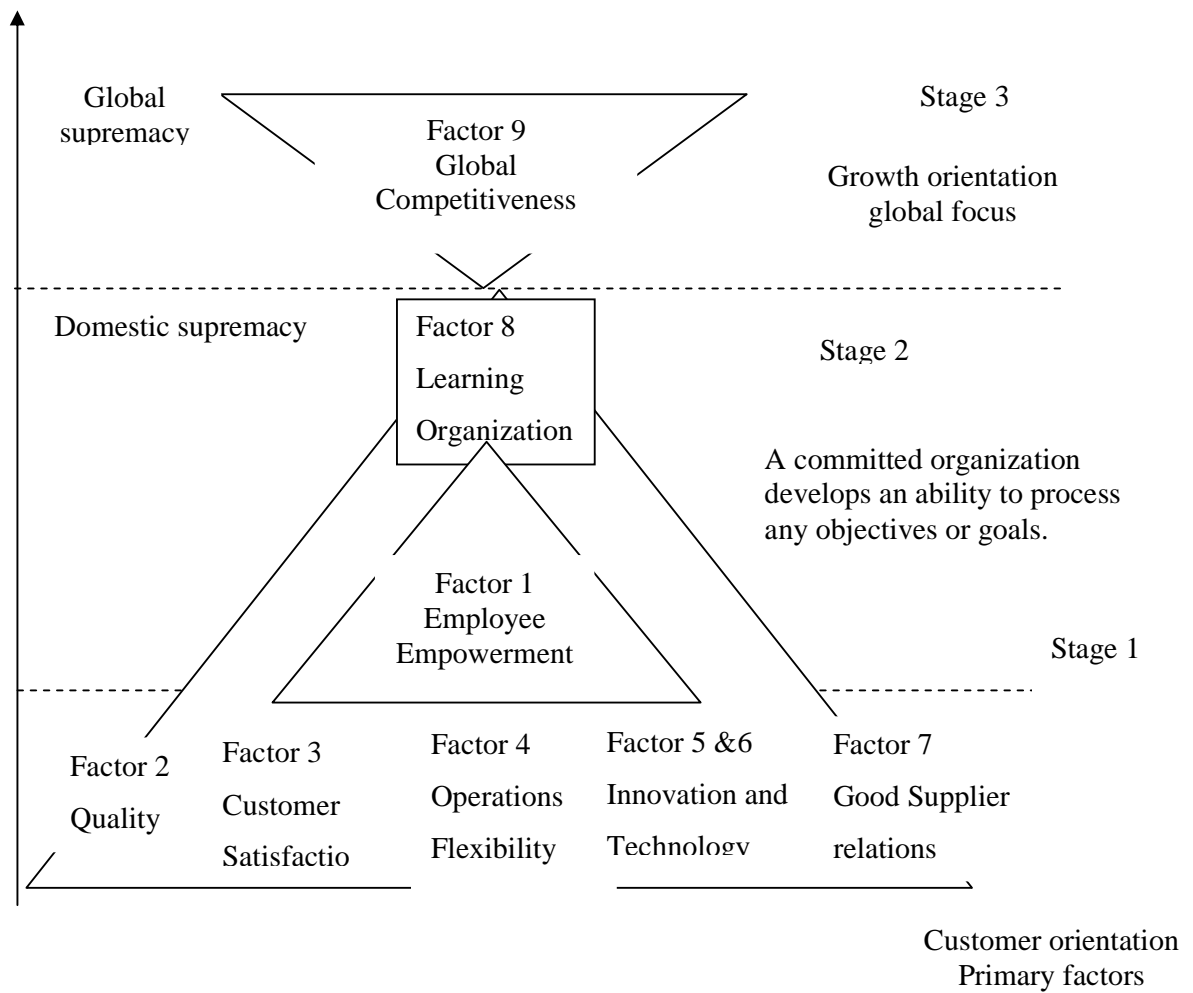


Figure 1: A new performance evaluation model adapted from the research work of (Kasul, and Motwani1995), and advocated for by this research.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research methodology that was applied in conducting the study. It discusses the research design, target population, sampling design and sample size, data collection procedures and instrument, as well as data analysis techniques.

3.2 Research Design

The study involved a multiple case study research design, which represented the best design, due to the focus and emphasis it places on every individual case. Multiple case study design is considered mostly under a comparative design, because it is largely undertaken for the purpose of comparing the cases that are included. It allows the researcher to compare and contrast the findings deriving from each of the cases, which in turn encourages researchers to consider what is unique and what is common across cases and frequently promotes theoretical reflection on the findings (Bryman, and Bell, 2007).

3.3 Population

The population of this study involved five firms in the Electricity supplies industry (ESI) and five other firms which are Independent power producers. The Energy Regulatory Commission's website (ERC) Commission (2012) outlines these firms.

3.3.1 Electricity Supply industry (ESI)

Kenya Electricity Generating Company (KENGEN), Kenya power and lighting company (KPLC), Kenya Electricity Transmission Company (KETRACO), Geothermal Development Company (GDC), Rural Electrification Authority (REA).

3.3.2 Independent power producers (IPP)

Iberafrica Power (EA) Ltd, Tsavo Power Company Ltd, OrPower4 Inc, Mumias Sugar Company Ltd. Rabai Power Ltd.

3.4 Case study Selection

Four firms were selected to represent the sample of the study, three firms were in the Electricity supplies industries i.e. KENGEN, KPLC, and REA and Mumias Sugar Company (MSC) which is an Independent power producer. MSC and KPLC had set a vision of striving to achieve world class status, while KENGEN had set a vision of achieving market leadership in provision of power. REA was a relatively new firm which had set a vision of achieving high quality supply of electricity in the rural areas of the country, this collection of firms provided a good mix of organizations for comparative purposes.

3.5 Data Collection

The research instrument employed was a drop and pick, self-completion questionnaire with four sections: Section A, gathered general information on the participants; section B addressed the first objective, that of world class characteristics present in Kenyan energy firms; section C addressed objective two, which seeks to establish the

prevalence of company wide world class programmes in the energy sector. Primary data was collected from 177 individuals involved in product or service development, at the senior management level, and at the low levels of operations in the sector.

3.6 Data Analysis

Descriptive statistics on the pattern of frequencies within the four organizations and in the entire sample together with exploratory factor analysis and chi-square analysis were undertaken within SPSS version 17 to condense the number of variables into a manageable number of factors and to test whether the observed data on objective one might have resulted from chance. A content analysis was undertaken for responses to the open ended questions and results presented as percentages of word counts.

The researcher relied on the percentage frequencies to prepare tables of results of most of the variables which touched on general information of respondents, while means were used for world-class characteristics present in these organizations and the focus they had.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

The researcher identified eight firms in the electricity supplies industries (ESI) namely; Kengen, Kplc, Rea, GDC, Ketraco and three others which were independent power producers (IPP) i.e. Mumias, Orpower, Tsavo Power. However only four firms authorized the researcher to collect data, these are Kengen, Kplc, Rea which are public companies, and Mumias, a private firm involved in production of sugar, ethanol and power generation from burning bagasse. The study had some symmetry because out of the four firms involved two had set a vision of being world class i.e. Kplc, and Mumias, while Kengen had a vision of achieving market leadership in power production. On the other hand, REA had a vision of providing quality and affordable energy.

4.2 Response Rate

Response rates for the firms were as follows: KENGEN 60 questionnaires were issued 54 were returned indicating 90%, KPLC 75 were issued and 58 were returned indicating 77%, MSC 25 were issued and 20 were returned indicating 80% response rate, for REA 50 were issued and 45 were returned indicating a response rate of 90%. Response rates within these firms were high and this could be associated with the fact that the researcher had a letter of authority permitting him to collect data and therefore employees felt their management were informed of the study.

4.3 Characteristics of Respondents

4.3.1 Gender of Participants

One of the objectives of this study was to establish if there was any gender exercising dominance in the energy sector, the results appearing in Table 1 below, are as a result of the researcher posing a question touching on the gender of respondents in section A of the questionnaire.

Table 1: Gender of Participant

Organization	Percentages Derived From Frequencies		Sample Size
	Male	Female	
Entire Sample	72.9	27.1	177
KENGEN	79.6	20.4	54
KPLC	82.8	17.2	58
MSC	80.0	20.0	20
REA	48.9	51.1	45

Out of the four firms that the sample was drawn from and a questionnaire administered, it became clear that there were more men than women in three of the firms. From Table 1 above only the sample drawn from REA had an almost equal number of both gender, signalling the move towards compliance with gender balance in public organizations in recent years. This is possible to achieve for new firms in the public sector, but difficult for old established firms in the same sector like KENGEN and KPLC.

The energy sector is a technology based sector, depending on water, steam and wind to generate power. The dominance that men demonstrate can be linked to low interest and intakes of female students in engineering and science related disciplines in local colleges and universities.

4.3.2 Age of Participants

The researcher sought to establish the age of most of the participants within the firms sampled, which is an important factor to consider when determining how changes are perceived. The Table 2 below presents data relating to age of participants within the firms involved in the study, the data is based on percentages.

Table 2: Age of Participants

Organization	Percentages Derived From Frequencies					
	25 or Below	26-34	35-44	45-54	55+	Total
Entire Sample (177)	6.8	57.1	20.9	13.0	1.1	98.9
KENGEN	5.6	57.4	24.1	11.1	1.9	100
KPLC	6.9	56.9	12.1	20.7	1.7	98.3
MSC	5.0	65.0	20.0	10.0	0	100.0
REA	8.9	53.3	28.9	6.7	0	97.8

From Table 2 above its evident that the majority age group for the entire sample and the individual firms lies on age group 26-34 years with all percentages encountered being larger than 50%. However for the case of organizations with elderly employees, KENGEN and KPLC had almost equal scores when the values were rounded off to the nearest whole number i.e. 2%. A majority age group of 26-34years, signals that chances are high that most of these employees are visionaries, early adopters of new ideas as well as practices, they are expected also to be risk takers which is a good mix for firms intending to achieve world class status, however these advantages associated with a young workforce might be affected by the small number of elderly employees or craftsmen, present in KENGEN and KPLC but absent in MSC and REA (Nykodym etal, 1995).

4.3.3 Time of Joining Company

The researcher was interested in knowing the, level of job security which could be encountered within both public and private organizations. The Table 3 below gives the number of employees falling under the listed categories under the column labelled year.

Table 3: Time of Joining Company

Year	KENGEN	KPLC	MSC	REA
1978-1983	2	1	0	0
1984-1989	2	6	0	0
1990-1995	2	0	1	0
1996-2001	7	5	1	0
2002-2007	6	16	6	0
2008-2013	35	30	12	45

From Table 3 above, KPLC and KENGEN registered the eldest employees dating back to 1978 and 1981 respectively, followed by MSC dating back to 1994. Most employees within these firms came in 2008-2013 at a time when the political environment was favourable for organizations and the country's economy was peaking up after plummeting to a GDP growth rate of 1.5% in 2008 compared to 6.5% in 2012, increased generation of electricity from 5,416 GWh in 2008 to 7851.2 GWh in 2012 and increased connectivity in rural areas of 205,287 in 2009 to 382,631 households in 2012 (Kenya National bureau of Statistics, 2009). The values scored by KENGEN and KPLC, confirm the view that, job security within public service is high compared to the private sector (Kenya Institute for Public Policy Research and Analysis, 2013).

4.4 Characteristics of Organizations

4.4.1 Organizational structure

In order to have a complete understanding on the nature of firms involved in the study, it was important for this study to establish the organization structure of these firms. Employees were requested to indicate which department they belonged to, the results appear in the Table 4 below.

Table 4: Number of departments and levels within these Departments

Organization	KENGEN	KPLC	MSC	REA
Number of Departments	13	16	8	14
Number of Levels	3	3	3	3

From Table 4 above, all firms sampled had a hierarchical structure, each department could be associated with a given specialization, a key indicator of a bureaucratic system as outlined by Max Weber's theory on bureaucracy.

4.5 Data Analysis Related to Objective One of Study

4.5.1 introduction

Objective one of this research was to determine some of the characteristics considered world class that were present in the Kenyan energy sector, and how deeply entrenched they were.

4.5.2 Duration Employees have spent in their current department in years

Table 5 below, gives results relating to question 5 of section A of questionnaire. The researcher was interested to know the duration that employees had spent in their

current department. The figures it gives are the actual number of employees who claimed to have taken time within the three categories indicated.

Table 5: Duration Employees have stayed in their Current Department

Duration Employees have spent in current department	KENGEN	KPLC	MSC	REA
2-5	23	32	11	38
6-10	7	14	7	0
Above 10 years	10	9	2	0

From Table 5 above its clear that for KENGEN, roughly 42.5% of the employees who responded have taken more than 6 years in their current department, similar percentages for KPLC and MSC are 41.8% and 45% respectively. Since REA was a relatively new firm in the industry it had most of its employees still serving in their current departments for periods of less than 2-5years as expected.

4.5.3 How Departments View each other

The Table 6 below shows results from question 6 in section A of questionnaire. The researcher was interested in establishing the perception that employees had towards other departments within the firms involved.

Table 6: How departments view each other

Organization	KENGEN	KPLC	MSC	REA	Entire Sample(177)
Mean score	3.25	3.13	3.05	3.07	3.14
Standard deviation	.648	.668	.848	.721	.695

From Table 6 above it's clear that the average responses from all respondents considered, indicated the right perception expected within firms pursuing world class status. This is due to the response received from respondents of an average score of 3

when rounded off to the nearest whole number, corresponding to a response that, “they are our customers and should be treated like any other customers”.

4.5.4 Performance of each Firm on World class Characteristics grouped under the nine Companywide Programs

Objective one of this study was to determine some of the characteristics, which can convert an organization into a world class one that were present in the Kenyan energy sector. The table 7 below gives the performance of the firms on each characteristic.

Table 7: Performance of each Firm on World class Characteristics

Questions relating to objective one of study to establish world class qualities present		Mean scores				Entire Sample
		KPLC	MSC	KENGEN	REA	
P1	Employee Empowerment					
BQ1	Your organization has partnered with other institutions for purposes of employee development?	3.16	3.45	3.25	2.64	3.09
BQ2	Your organization has equipped you with the necessary skills to undertake your job comfortably.	3.89	3.35	3.69	2.84	3.50
BQ3	You can term or consider teams formed within the organization self-managing.	3.48	3.05	3.61	2.70	3.28
BQ27	Teams are used, involving different professionals while undertaking projects.	3.89	3.70	4.00	3.14	3.71
BQ28	Your organization communicates adequately.	3.98	3.68	3.74	2.95	3.61
Program (P1) Means		3.6800	3.4460	3.6580	2.8540	3.4380
P2	Believe in the Organization					
BQ4	Your company's leadership is committed to achievement of the set vision.	4.11	3.50	4.20	3.22	3.84
BQ5	Your organization Matches issues of market or customer needs with capacity of your company.	3.77	3.11	3.98	3.27	3.63
BQ24	You would recommend somebody to work in your organization.	4.09	4.10	4.91	3.09	4.08
BQ29	Your organization's vision is referred to in meetings.	3.96	3.32	4.02	3.12	3.70
Program(P2) means		3.9825	3.5075	4.2775	3.1750	3.8125
P3	Learning Organization					
BQ6	Your job gives you opportunities to learn and apply something new you've learned elsewhere.	3.93	3.85	3.81	3.14	3.68
BQ7	You've been attached to a different department from yours.	2.66	2.20	2.36	2.47	2.46
BQ8	Your organization is tapping into your talent.	3.64	3.45	3.51	2.64	3.34

BQ9	Willingness to teach your workmates something new, that you've learned that can improve their performance in the workplace.	4.22	4.05	4.06	3.53	3.97
BQ30	You learn something new from your workmates, which can improve your performance in the workplace.	3.91	3.84	4.06	3.32	3.80
Program(P3) means		3.6720	3.4780	3.5600	3.0200	3.4500
P4	Technology					
BQ10	There is development of new technologies in your organization that are patentable.	3.83	3.55	3.51	2.87	3.44
BQ11	Uptake of technologies from other sectors.	3.67	3.40	3.51	2.70	3.34
BQ12	Uptake of technologies from other countries.	3.65	3.15	3.72	2.73	3.37
BQ31	The information technology system breaks down.	2.87	2.56	2.98	3.05	2.92
Program(P4) means shaded row not included		3.7167	3.3667	3.5800	2.7667	3.3833
P5	Quality Commitment					
BQ13	Encouragement offered within your organization to reflect on how you can improve on activities that serve your organization's customers.	3.70	3.00	3.66	2.58	3.32
BQ14	Made suggestions on improvement of activities, your organization is meeting customer needs with.	3.56	3.05	3.63	2.91	3.35
BQ15	Made suggestions on improvement of product, your organization is meeting customer needs with.	3.51	3.35	3.47	3.00	3.34
BQ16	Made suggestions on improvement of services, your organization is meeting customer needs with.	3.43	3.47	3.58	2.86	3.33
BQ17	Top management values suggestions that you may come up with for improving processes the firm owns.	3.26	3.25	3.44	2.75	3.19
BQ18	Top management values suggestions that you may come up with for improving on products the firm is offering.	3.30	3.50	3.56	2.80	3.27
BQ19	Top management values suggestions that you may come up with for improving services the firm is offering.	3.50	3.45	3.54	2.75	3.31
BQ32	Receive training on quality in your company.	3.72	3.11	3.67	2.89	3.42
Program(P5) means		3.4975	3.2725	3.5687	2.8175	3.3163
P6	Innovations					
BQ20	Your organization has communicated that it can fund any new ideas that promise to improve features of products it's offering.	3.17	2.90	3.49	2.73	3.12
BQ21	Your organization has communicated that it can fund any new ideas that promise to improve features of services it's offering.	3.09	2.90	3.61	2.63	3.12
BQ33	Emphasis is placed on creativity in your organization.	3.53	3.05	3.75	2.84	3.37
Program(P6) means		3.2633	2.9500	3.6167	2.7333	3.2033
P7	Good Supplier Relations					
BQ22	Your organization is forming long term relationships, with its suppliers.	3.34	3.45	3.78	2.87	3.37
Program(P7) means		3.3400	3.4500	3.7800	2.8700	3.3700
P8	Global Focus					
BQ23	A green strategy is employed within, seeking to minimize any negative impact its processes has to the environment.	3.26	3.50	4.17	2.98	3.50

Program(P8) means		3.2600	3.5000	4.1700	2.9800	3.5000
P9	Customer Focus					
BQ25	Your organization captures customer ideas.	4.89	3.50	3.87	2.82	3.88
BQ26	Your organization captures customer complaints	3.94	3.35	3.83	3.29	3.66
Program(P9) means		4.4150	3.4250	3.8500	3.0550	3.7700
Overall mean value for each organization (Excluding shaded row values)		3.6575	3.3618	3.71843	2.90843	3.44968
		75	75	75	75	75

■ Shaded region: A low value is desirable compared to the other scores which indicates, more is better.

From Table 7 above it can be seen that, two firms, KPLC, and KENGEN had overall mean values which were higher than that of the entire sample implying that they have a higher number of characteristics in place, as a matter of fact KENGEN had 90.9% of its mean scores tabulated above when rounded off being 4, while KPLC had 72.7% of the same score. On the other hand MSC and REA have lower overall mean compared to that of the entire sample in a number of activities that can convert them into world class organization. A closer look at MSC's mean scores when rounded off to nearest whole number, 51.5% represents scores of 4, corresponding to a large extent of implementation of activities that can convert it to a world class organization, REA on the other hand had only 6% of its mean scores when rounded off equal to 4.

4.5.5 Chi square Analysis

The results appearing in Table 8 below represent a chi square analysis performed on data collected with regard to objective one of this study, which sought to establish some of the world class characteristics which had taken deep roots in these organizations as a whole. It was necessary to establish if the results appearing for the entire sample in Table 7 above might have resulted from chance.

Table 8: Chi square analysis results

Questions	Pearson Chi-Square	Asymp. Sig. (2-sided)	Likelihood Ratio	Asymp. Sig. (2-sided)	Cramer's V	Approx. Sig.	df	N of Valid Cases
Employee Empowerment								
BQ1	13.250	.351	13.079	.363	.160	.351	12	173
BQ2			32.005	.001	.252	.001	12	176
BQ3			38.332	.000*	.275!	.000**	12	174
BQ27			25.666	.012	.233	.006	12	169
BQ28			33.309	.001	.251	.001	12	172
Belief in the Organization								
BQ4			46.174	.000*	.297!	.000**	12	175
BQ5			23.781	.022	.207	.038	12	171
BQ29			33.780	.001	.256	.001	12	171
BQ24			41.089	.000*	.273	.001	15	173
Learning Organization								
BQ6			22.570	.032	.209	.034	12	171
BQ7			17.891	.119	.184	.141	12	169
BQ8			29.595	.003	.241	.004	12	167
BQ9			24.010	.020	.222	.014	12	171
BQ30			24.581	.017	.210	.030	12	171
Technology								
BQ10	21.387	.045	20.684	.055	.205	.045	12	169
BQ11			33.309	.001	.211	.031	12	172
BQ12	25.729	.012	28.216	.005	.224	.012	12	171
BQ31	10.845	.542	12.120	.436	.147	.542	12	168
Quality Commitment								
BQ13			43.581	.000*	.277	.000**	12	174
BQ14			18.572	.099	.188	.113	12	170
BQ15			20.432	.059	.195	.082	12	169
BQ16			22.096	.036	.200	.061	12	169
BQ17			22.180	.036	.213	.025	12	171
BQ18			22.297	.034	.202	.050	12	172
BQ19			27.310	.007	.229	.008	12	172
BQ32			30.958	.002	.242	.004	12	167
Innovations								
BQ20			23.791	.022	.207	.036	12	172
BQ21	33.917	.001	33.930	.001	.258	.001	12	170
BQ33			44.000	.000*	.281	.000**	12	171
Good Supplier Relations								
BQ22			30.514	.002	.223	.012	12	172
Global Focus								
BQ23			35.309	.000*	.240	.003	12	170
Customer Focus								
BQ25			37.012	.001	.271	.001	15	173
BQ26			14.989	.242	.174	.226	12	169

All shaded entries did not meet the criteria of 20% of expected frequencies should be less than 5.

*Only six characteristics BQ3, BQ4, BQ13, BQ23, BQ24, BQ33 had significantly different maximum likelihood values indicating they were not by chance ($p < 0.001$) which represents 18% of the total number of characteristics in section B of the questionnaire. Cramer's V gives an idea of the effect sizes of these characteristics and from Table 8 above around 87% of these characteristic within the entire sample of firms have less than a medium effect size.

4.5.6 Information technology is exploited in the firm to improve visibility when making decisions

The researcher was interested in knowing the extent to which data from information technology systems was employed in making decisions. The results on question 1 section C of questionnaire are summarised in Table 9 below.

Table 9: Information technology is exploited in the firm to improve visibility when making decisions

Organization	KENGEN	KPLC	MSC	REA	Entire Sample(177)
Mean score	3.67	3.66	3.33	2.95	3.45
Standard deviation	1.080	1.206	1.085	1.297	1.205

From table 9 above results, it becomes clear that KENGEN and KPLC employed data generated from information systems for decision making to a large extent due to the mean score of 4 when rounded off, whereas for the other firms their dependency on information systems in making decisions is just to a moderate extent due to a mean score of 3.

4.5.7 Waste elimination in processes in World class organizations

Table 10 below shows the results of question seeking to establish the level of waste minimization in firms involved in the study. The mean values tabulated are average

scores based on responses per company.

Table 10: Your Company is committed to waste elimination in processes and firm activities

Organization	KENGEN	KPLC	MSC	REA	Entire Sample(177)
Mean score	3.93	3.16	3.39	3.05	3.42
Standard deviation	.843	1.196	1.145	1.075	1.107

From Table 10 above only KENGEN seems to practice waste minimization in its areas of operations, because of the relatively higher mean value it scored of 4, corresponding to a large extent on the likert scale item employed in the research. Such a firm is expected to minimize the cost of its products and services, since it has a higher chance that it doesn't maintain high levels of inventory, and no time or firm resources are wasted in anyway. The other three firms were practicing this activity to a moderate extent.

4.5.8 Departments compete for provision of services within, with other firms outside

The Table 11 below presents results in mean scores of responses per company, to the question whether departments within the firms involved, competed for provision of services within their firms with other firms outside their firms.

Table 11: Your organization's departments compete for provision of services within, with other firms outside

Organization	KENGEN	KPLC	MSC	REA	Entire Sample(177)
Mean score	3.21	3.28	3.06	3.08	3.18
Standard deviation	1.035	1.213	1.110	1.222	1.141

Surprisingly, from Table 11 above, all firms showed a score of 3 when rounded off to the nearest whole number, indicating that the firms practiced this activity to a moderate extent on the likert scale item used, and not to a large extent as expected of world class firms.

4.5.9 Procurement system and world class status

The Table 12 below gives an impression of the contribution that the procurement system within the four firms visited had on their activities. The mean scores are based on the responses received per company.

Table 12: Your organizations procurement system contributes positively to your company's activities

Organization	KENGEN	KPLC	MSC	REA	Entire Sample(177)
Mean score	3.19	3.41	3.39	3.23	3.29
Standard deviation	1.302	1.203	.979	1.187	1.204

It's apparent from Table 12 above that; employees in all four firms are only convinced to a moderate extent that the procurement system contributes positively to the activities they conduct. For this variable, no single firm shows a character of being world class, whereby we expect employees to be pleased with their firm's procurement system.

4.5.10 Innovations

From Table 13 below, representing a summary of mean of responses per company to questions in the questionnaire, touching on the level of preparedness and awareness of the firms involved to being innovative.

Table 13: organization level of awareness and preparedness of being a high innovator

Organization		KENGEN	KPLC	MSC	REA	Entire Sample(177)
Is prepared to improve its innovations capability	Mean	3.76	3.76	3.53	3.18	3.59
	SD	1.008	1.182	.943	1.174	1.118
Is aware of the need to change to become a high innovator	Mean	4.15	4.02	3.44	3.10	3.77
	SD	1.081	1.108	1.094	1.297	1.220

When the mean scores in Table 13 above are rounded off to the nearest whole number, only KENGEN and KPLC are maintaining high levels of preparedness and

awareness on issues to do with innovations, a score of 4 is realised which corresponds to “a large extent” on the likert scale item used in the questionnaire.

The case is a bit different for MSC which showed high levels of preparedness and low levels of awareness to become a high innovator. On the other hand REA showed low levels of preparedness and awareness to become a high innovator.

4.5.11 Competitive Priorities

This research sought to establish, the extent of pursuance of the four competitive priorities within the four organizations. The Table 14 below gives a summary of the average score and standard deviation (SD) per company of responses received, with regard to questions 10, 11, 12, and 13 of section C of the administered questionnaire.

Table 14: The type of competitive priority model employed

Organization focus on		KENGEN	KPLC	MSC	REA	Entire Sample(177)
Quality	Mean	4.11	4.12	4.00	3.32	3.91
	SD	.839	1.089	.935	1.289	1.097
Delivery speed	Mean	3.93	3.86	3.88	3.65	3.83
	SD	1.079	1.161	1.088	1.272	1.150
Cost reduction	Mean	4.17	3.66	3.94	3.59	3.84
	SD	1.033	1.287	1.144	1.352	1.225
Operational flexibility	Mean	3.93	3.98	3.94	3.36	3.81
	SD	1.079	1.140	1.249	1.308	1.191

From Table 14 above it can be seen that only REA is pursuing a trade-off model, the other three firms are pursuing an order winner and order qualifier model, indicating that the three are not trading off any of the priorities, because they have means scores of 4 when rounded off to the nearest whole number.

4.5.12 Organizational Focus

The Table 15 below gives a picture of the focus the four organizations have, it gives a glimpse of the emphasis the firms place on the three decision areas in operations namely; customers, products and processes. The mean is representative of the average score of responses per company over the five likert scale items in the questionnaire.

Table 15: Level of focus on customers, products and processes

Organization focus on		KENGEN	KPLC	MSC	REA	Entire Sample(177)
customers	Mean	3.91	4.10	3.88	3.57	3.88
	SD	1.051	1.104	1.054	1.130	1.095
products	Mean	3.89	3.90	3.94	3.25	3.74
	SD	1.121	1.182	.827	1.335	1.195
Processes	Mean	3.90	3.71	3.88	3.25	3.68
	SD	.975	1.137	.857	1.171	1.090

From Table 15 above it's apparent that only REA is employing an approach that is world class, this is because it's more focused on its customers which has a rounded off mean value of 4, while the other factors have a value of 3, representing an approach of putting customers first in everything that they do.

4.6 Data Analysis Related to Objective Two of Study

4.6.1 Introduction

The approach used by world class organization is to employ first companywide programs which are intended to make the organization prepared and receptive in a good way of their underlying activities. Objective two was to establish some of these programs that were being employed in the four firms considered.

**4.6.2 Activities and Company Wide Programs Cited by Respondents
which can make their organizations world class**

Respondents from the four firms were requested to specify any characteristics that make their firm a world class one in section B of questionnaire, another open ended question was provided in section C of the same questionnaire relating to some of the company wide programs that the firms were employing to help them achieve world class status. The researcher avoided grouping the questions in section B and C within programs which are normally encountered to avoid introducing a response bias. Results of a content analysis carried out on the responses is provided below.

Units of Analysis

The researcher settled for word count and thematic analysis of statements and slogans received as the two units of analysis employed.

Table 16: Content Coding

Coding variable	Coding Options
Activities	The 252 activities cited by (Sharma, and Kodali 2008) research work.
Programs	Customer focus Employee Empowerment Learning organization Innovations Technology Operations flexibility Good supplier relations Global focus Quality commitment
Miscellaneous or residual category	Material that cannot be categorized and which cannot be coded under the two categories given above.

Rural Electrification Authority (REA)

Out of the 39 responses cited by respondents in REA, it was clear that the firm was employing ICT based technologies in most of its areas of operations (15.38%), indicating high levels of visibility while making decisions. Employee involvement

was also high at about (12.81%) indicating high levels of communication. A high level of customer satisfaction (10.25%) confirmed the previous finding that REA was focusing more on customers than other firm activities which is expected for a firm pursuing world class status. From the results of the content analysis it became clear that REA had elements of a well-articulated vision and strategy, an initiative of cost reduction and achieving high productivity, and a deliberate attempt to increase the internal competency of its employees which had a score of (7.69%) respectively.

There was evidence to suggest that REA was benchmarking with similar firms in other countries, while making an attempt to empower its employees through offering trainings and seminars, in addition to encouraging employees reflect on the firm's processes to offer improvement suggestions which scored(5.12%) on each aspect. The firm was ISO 9001:2008 certified (2.56%), a score also obtained for teamwork, use of non-financial measures in performance management, being mindful of the society through transparency in its procurement activities, outsourcing to increase its operational capacity, and forging partnerships with local governments.

From the section on company-wide programs that REA is employing to achieve world class status, a respondent noted customer satisfaction as the only program being employed. However from the above analysis there was some evidence to suggest the existence of, a technology program, employee empowerment, operational flexibility and a quality focus.

Kenya Electricity Generating Company

Out of 69 responses cited by respondents, there was a high score witnessed with employment of technology (17.39%), training (14.49%), employee involvement (10.14%), a shared vision and employment of an operational strategy standing at (11.59%) in addition to ensuring its activities has a minimum effect on its environment at (8.69%). It became clear that the company has structures to ensure high reliability of its operations through high levels of maintenance (5.79%) and an emphasis on being creative through its innovations program which stood at (5.8%).

There was some evidence to suggest the use of lean management approaches (1.45%), continuous improvement (2.89%), benchmarking (1.45%), customer satisfaction (1.45%), being ISO 9001:2008 certification at (1.45%), having a performance measurement system (2.89%), an incentive pay based system (1.45%), organization image (1.45%), team work (1.45%) a conscious attempt to increase internal employee competency (4.35%), being mindful of societal values like transparency in operations (1.45%), and some focus on processes(1.45%).

From the evidence provided above there is a possibility that KENGEN might have around six programs in place which can be used to guide its objective of employing best practices in its areas of operations, i.e. operational flexibility, global competitiveness, technology, innovations, employee empowerment and quality focus.

Kenya Power and Lighting Company

Out of 61 responses received a high score was witnessed with Customer satisfaction

(27.8%), use of technology (18.03%), employee involvement (11.47%), and ISO 9001:2008 certification (8.19%). Moderate levels were witness with employment of, green approaches (3.27%), creativity (4.91%), societal values through corporate social responsibility activities (4.91%), employee training (4.91%), and an attempt to have high operational reliability through maintenance (3.27%).

Equal percentages were witnessed from the content analysis results of KPLC with the following activities: use of lean management activities, incentive bade pay systems, an ability to improve internal competency, increasing process capabilities through outsourcing, some aspects of product diversification, organizational image through publicity, use of team work and some focus on processes all with(1.63%).

From the above analysis it's clear that, there are around four programs in place in KPLC which it invokes in attempt to achieve world class status, i.e. a quality focus, technology, customer focus, and employee empowerment.

MSC

Out of 29 responses achieved from respondents in MSC, two characteristics that can convert a firm into a world class one were witnessed, i.e. an attempt to improve the internal competency of employees at (10.35%), and a unique management type (10.35%) seen in having its shares trading in the Nairobi stock exchange. Six characteristics were seen to be practiced in MSC i.e. having societal values like putting in place a corporate social responsibility program, being conscious of the effect its operations have on the environment, emphasizing on creativity, developing a

strong organizational culture, employing continuous improvement activities, and having training activities for its employees all at (6.89%).

Some world class aspects were witnessed in product diversification, global outlook, teamwork, employee involvement, productivity and cost reduction, product standardization, benchmarking, incentive pay systems, technology, process capability issues through being engaged in sugar importation to meet demand, ISO 9001:2008 certification all standing at (3.45%).

From the above dissection, there is adequate evidence indicating employment of three companywide programs by MSC in its bid of achieving world class status, i.e. Employee involvement, operations flexibility, and a quality focus.

4.7 Data analysis relating to objective Three

4.7.1 Introduction

The researcher was interested in knowing whether the characteristics embedded in the questionnaire had any other latent variables, and if there number was in agreement with that unearthed in the literature review. Additionally the researcher was interested in knowing if these factors could be identified by looking at the manner that the questionnaire variables were grouped or occurred under each factor.

4.7.2 Exploratory Factor Analysis

It was therefore necessary to undertake an exploratory factor analysis on the questions in section B and some questions in section C i.e. from question BQ1 to CQ6. A

Preliminary analysis was undertaken by screening the data for extreme correlation values i.e. less than 0.2 and greater than or equal to 0.8, consequently variables BQ7, BQ24, BQ25, BQ31, CQ3, BQ16, BQ20, BQ17, BQ15, and BQ19 were dropped from the analysis.

Data from the exploratory factor analysis employing direct oblimin, is presented in Table 17 and Table 18 below

Table 17: Exploratory Factor Analysis results

	Entire Sample
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.944
Bartlett's Test of Sphericity Approx. Chi-Square	2535.531
df	406
sig	.000
(Haitovsky's χ^2)*	0.00000
Number of Extracted Components	9

Since the variables used are less than 30 and all communalities obtained are not less than 0.7, Kaiser's criterion is not adequate, hence the use of Jolliffe's criterion of 0.7 in extraction of eigenvalues. Our KMO value is greater than 0.5 hinting that our sample size is adequate. In generation of data in table 18 below, the pattern matrix was used since it gives information about the unique contributions of a variable to a factor.

*For $df=406$ we have ($df=400$, ($p=0.05$), $\chi^2_{critical}=447.63$), ($df=500$, ($p=0.05$), $\chi^2_{critical}=553.13$) our test statistic is less than the critical value for all samples, hence multi collinearity is not a problem for principal component analysis.

Bartlett's test is ($p<0.001$) meaning that the R-matrix is not an identity matrix there is

some relationship between variables and therefore factor analysis is appropriate.

4.7.3 Factors and factor loadings derived from pattern matrices of component analysis

Table 18 appearing below is for factors and their world class characteristic loadings, Q represents a question or world class variable in the administered questionnaire and FL represents factor loading of that world class variable to the corresponding factor.

Table 18: Factors and factor loadings derived from pattern component matrices

Factors	Variables Q	Loading FL	Extraction Sums of Squared Loadings % of Variance	Communalities Extraction
1	BQ32	.733	46.732	.752
	BQ33	.642		.772
	BQ29	.616		.724
	BQ28	.517		.714
	BQ4	.466		.750
2 EE	BQ1	.919	4.512	.852
	BQ3	.429		.669
3	CQ4	.897	3.672	.816
	CQ5	.461		.766
4	CQ2	.804	3.531	.813
	BQ23	.561		.805
	CQ1	.401		.694
5 LOG	BQ6	-.622	3.226	.747
	BQ30	-.598		.726
	BQ9	-.555		.635
6TEC	BQ10	.703	3.116	.700
	BQ11	.547		.754
	BQ12	.469		.732
7	BQ8	.838	2.870	.791
	BQ2	.408		.705
8	BQ23	.530	2.710	.805
	BQ22	.765		.712
	BQ26	.657		.720
	BQ21	.649		.708
	BQ27	.564		.634
9	BQ12	.411	2.501	.732
	BQ5	.543		.682

Despite the low number of variables employed in the analysis though of an extreme nature i.e.39 compared to 252 variables as advocated for by (Sharma and Kodali, 2008). It can be seen that results for factor analysis are in agreement with the number of programs in literature review, which promotes nine programs.

The only challenge with the results of the analysis being, the difficulty of assigning corresponding programs from literature review to the factors which were formulated during factor analysis, other than for factors 2,5, and 6 which correspond to, employee empowerment, Learning organization and technology respectively, which can be associated with the low number of variables used in the study.

From table 18 above it can be seen that factor one explains 46.732% of total variance, whereas the other factors explain small amounts of the total variance. It can be seen that before extraction the communalities are all equal to one, however after extraction the communalities tabulated in table 18 above show the amount of variance in each variable that can be explained by the retained factors, for instance it can be seen that for variable BQ32, 75.2% of the variance associated with the variable is common or shared, variance.

4.8 Discussion

Objective one of this research was to determine some of the characteristics employed by world class firms, which were present in the Kenya energy sector, and determine whether they were deeply established or the results thereof might have been due to chance. World class organizations are found to encourage employees to be involved

with what is happening in other departments, since these departments represent their internal customers (Schonberger, 1990). In committed organizations employees are even allocated to work in departments that don't touch on their specializations so as to know the expectations of their internal customer. From the results in table 4, it becomes clear that all firms have a bureaucratic system, in place whereby employees are allocated on the basis of specialization, and not talent. From table 5 the level of pigeon holing is high within the dominant firms hence the possibility that the internal customers' expectations might not be well understood, though from table 6, the firms seem to have the right perception with regard to how they view the other departments as internal customers which can be associated with the trainings offered within this firms on customer service and sensitization on the service charter, a fact reinforced by the results of the open ended questions touching on objective two of this study (Bower etal, 2012, and Owusu, 1999).

The outcome of objective one of this study represented in table 7, whereby the characteristics that were expected to be practiced highly have been summarized under their corresponding programs. It's clear that REA scored below the entire sample's mean in all areas of the company wide programs, which could be explained by the fact that it's a relatively new firm which was established by the energy act of 2006 section 66, to accelerate rural electrification. KPLC's performance is higher than the entire sample's in the following areas employee empowerment, believe in the organization, learning organization, technology, quality commitment, innovations, and scores highly in customer focus than any other firm, however it performs lower than the entire sample's means in the following areas good supplier relations and

global focus. Msc's performance is lower than KPLC's, except in areas that KPLC is performing poorly, surprisingly it also has some parameters which it performs poorly than the entire samples, believe in the organization, technology, quality commitment, innovations and customer focus. KENGEN's performance has a lot to be desired, since it scored higher than the entire samples scores in all programs, and higher than the other firms, in global focus and believe in the organization. However its performance compared to KPLC's has areas which it's lagging behind, i.e. Employee Empowerment, learning organization, technology, and customer focus.

The performance demonstrated by KPLC is as expected because it has set a clear vision of achieving world class status and as such we would expect it to have higher scores than the entire samples. The nature of business between KPLC and KENGEN is such that the latter sells all electricity it generates to KPLC, however it's focus on customer is very low which is indicative of its comfort with the monopoly position it exercises in the energy sector. By KPLC being a strategic customer of KENGEN and the public being the customers of KPLC, it's evident that the pressure is on KPLC to meet the needs of the public, provided electricity is flowing in the lines. It has been shown that KENGEN scored highly than the entire samples scores, which is not expected since it has not set a vision of being world class, this warranted the researcher to dig deeper and unearth some of the strategies it was articulating to guarantee it such results. The researcher realized that though KENGEN might not have set a vision to achieve world class status it was however exercising as one of its operational pillars a strategy of employing best practices in its areas of operations.

The low performance of KENGEN compared to KPLC in the area of technology can be associated with the fact that technology needed to generate electricity is a highly standardized product, depending on the natural resources available, on the other hand the high results of KPLC can be associated to the fact that there has been a lot of technological changes in the use of concrete based poles compared to wooden in its transmission lines, and the use of prepaid meters.

The high level of employee empowerment in KPLC can be attributed to the high number of different trainings sighted by respondents as being carried out in KPLC. The high score of MSC compared to KPLC in good supplier relations can be explained by the fact that most private firms operate under a different set of procurement rules, compared to public institutions which have no such freedom with the public procurement act, which its main focus is on accountability and transparency.

World class organizations employ information technology in their areas of operation to improve on visibility when making decision and to mitigate risks. Results from table 9, and the section on objective two of this study made it clear that all firms had invested in some form of information technology in their operations. However only KENGEN and KPLC depended on this systems highly, compared to the other firms. This could be associated with the two firms having far flung offices and branches from their headquarters and high capital investment in technology to provide their services and products to the public.

One characteristic of a world class company is to minimize waste in their areas of operations; because this ensures that all its resources go into creating value to its customers. These high performing firms normally implement packages and activities referred to as Just in time or lean management which ensure everyone within the firm is involved in waste minimization. From table 10 only KENGEN seems to practice this characteristic in its areas of operations. However in the section on objective two of this study KPLC and REA emerged as the two other firms employing lean management in its areas of operations by focusing on waste minimization.

World class organizations are found to compete in provision of certain services within the firm with other firms outside, which specialize in there, none core competency areas of operations (Rothschild, 2007). This ensures that the world class organization stays competitive and offers an opportunity to benchmark. From table 11 all firms had similar results indicating that they didn't exercise this characteristic of world class organization properly. This practice was expected to be high in the private sector as in the case of MSC in this research, however all firms including those that their mandates are established by legislature had low levels of practicing this characteristic. The modern approach being exercised by world class organization is to ensure that their supply chain system which influences how procurement is done encourages forging of strategic or long term relations with suppliers (Gilgeous, and Gilgeous, 2001).

However the nature of public institution purchasing compared to that of private firms doesn't give room for such relations. It's more of a contractual relation with suppliers.

Still even where the opportunity and freedom to enter into such strategic relations as in the private sector exists, the procurement system is still not contributing positively to the firm activities.

World class organizations are found to develop a strong innovations culture, within which encourages employees to come up with creative ways of solving problems or creating new product or service features. Organizations must be aware of the benefits of setting up such an environment and the need for preparedness to implement strategies that can guarantee success in this characteristic. KENGEN and KPLC scored highly in this bid to become high innovators, which could be associated with the current government's efforts to ensure low cost electricity is made available in order for Kenya to produce competitive products on a global scale.

The traditional way of gauging world class competition was also employed, by looking at the competitive priority model that a given firm is employing in its areas of operations. It became evident that only REA was employing a trade off model whereby they were trading off, quality and operational flexibility with delivery speed and cost reduction. The other three institutions were actually employing an order qualifier and order winner model, which was in line with their vision of being world class, and the better performance on world class characteristic present in their firms.

An established fact with world class organizations is that they focus only on the customer even when given the opportunity to focus on other decision areas of their operations like processes and product (Schonberger, 1990). In objective one of this

research, this characteristic was sought in order to understand the focus that the firms involved in the study employed. Surprisingly REA the one firm that scored poorly on most of the other characteristics scored highly on this factor and had low scores as expected on focus on processes and products. This can be associated by the nature of the mandate that it undertakes, to accelerate rural electrification, compared to KENGEN which might see KPLC as its only customer. The government's performance evaluation model in public organizations can also be a contributing factor whereby the focus is on more of achieving targets set out touching on revenues to be generated.

There was need to establish if this results might have happened by chance for the entire sample, from table 8 it was found that characteristics touching on employee empowerment, belief in the organization, quality commitment, and innovations might not have been due to chance. This represents the fact that world class practices are elusive, firms might spend a lot of money and time in trying to implement these practices but the employees might have a different opinion and attitude towards some of these practices (Kasul, and Motwani, 1995).

Objective two of this study was to establish the nature and number of programs that these firm were employing on a company wide basis to achieve world class status. From the results of the content analysis on the open ended questions in the questionnaire, it's clear that no single firm is pursuing the world class objective by fully utilizing any of the frameworks advocated for by (Gilgeous, and Gilgeous, 2001, and Kasul, and Motwani, 1995) this can be associated with the obsession by local

firms to implement ISO 9001:2008, as the only way of trying to achieve world class status a fact supported in the outcome of the open ended section whereby in all four firms are certified but no single respondent cited a quality commitment program being in place.

Objective three of this study was to try and establish the number of factors which correspond to the company wide programs which could result after an exploratory factor analysis. There is an obvious lack of agreement in most published research work in this area, over the number of programs and also the particular nature of these programs. This research utilized a total of 27 variables after discarding a number in order to meet the requirement of a moderate level of correlation. A total number of nine programs resulted which is in agreement with (Kasul, and Motwani, 1995). From table 18 it was only possible to identify factor 2 as employee empowerment program, factor 5 as learning organization, and 6 as technology, however factor 6 had the best loading and membership of characteristics.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Introduction

This study was undertaken with two objectives in mind, to determine what characteristics and companywide programs that firms in the energy sector were employing to achieve world class status. This chapter therefore presents the summary of findings, conclusions drawn from findings, some of the limitations the researcher came across and suggestions for further research.

5.2 Summary of Findings

This study dependent on data collected from four firms three were in public service whereas one was a private firm engaged in manufacturing of sugar, and producing electricity from bagasse. Out of the three public firms one firm REA was relatively new compared to the other three firms. The first objective of this research was to determine the characteristics which are normally associated with world class firms which were present in this sector. It's worth noting that out of the four firms involved two had set a clear vision of achieving world class status i.e. KPLC, and MSC, whereas two didn't i.e. KENGEN and REA. The study was able to establish that in all firms the right attitude within the different departments, of viewing other departments as customers and treating them the same way as any other customers was present in all four firms.

One major finding of this research is that, it might be possible to find firms that have not set an explicit vision of pursuing world class status, which in actual sense are

employing best practices associated with world class organizations in their areas of operation. This was the case with the results of KENGEN compared to those of the entire sample; it had better results compared to the other three firms some of which had set a clear vision on being world class.

The study was able to establish that firms which had a larger technology outlay like KENGEN and KPLC depended highly on information technology while making their decisions, this two also had the highest level of awareness and preparedness to become high innovators.

Out four firms engaged in the study only one had waste minimization activities in its operations, still no single respondent in all these firms, identified any worldwide established activities like JIT or lean management which have a focus of ensuring non ambiguous communication, and waste minimization by ensuring utilization of minimum resources in areas of operation.

The traditional way of viewing world class organizations as those employing an order qualifier and order winner competitive model was employed in this research. The results showed that all firms which had set an objective of achieving world class status as a vision or in areas of operations were in actual sense competing on all elements of the competitive model.

This research established that firms which focus more, on their customers than any other decision area in operations, like processes or product, can be regarded as

pursuing world class status, and are able to achieve a lot within a short time. Results obtained on this parameter were confounding, because the one firm that performed poorly on most of the other measures was found to be employing this practice correctly, while those that scored highly on other measures had a wrong approach to this aspect.

All firms involved in this research proved to be employing the wrong approach towards achieving world class status. It became clear that no single firm was employing the full spectrum of programs advocated for, and found to lead to world class status. Though there was some evidence within each firm of existence certain programs, the only program cited by respondents was customer focus and in only two firms out of four.

5.3 Conclusions

It has been established that firms which have set a vision of being world class may be implementing strategies to achieve such status, on the same or even lower level with firms that have not explicitly set it out in their visions. The four firms in the Kenyan energy sector have been found to have characteristics which are being employed by firms in other countries where a lot of research contribution in this area has come from. The only difference being that these firms are not employing the full spectrum of companywide programs as advocated for and found to define the path to world class status. This research found out that there was no general agreement on the nature and actual number of these companywide programs. This research has been able to show with a limited number of variables or characteristics, that the number of

programs needed to be in place and functioning for a firm to be truly world class are nine.

The ability of a firm to compete on all competitive priorities comes out as one of the crucial traditional and dependable measure, since firms with a larger number of world class characteristics were not trading off these priorities. The only confounding outcome, which also proves the elusive nature of achieving world class status, is that a firm which performed poorly on most of the measures employed, turned out to be employing the best focus associated with world class organizations and advocated for as the only big bang approach that can guarantee immediate results, that of focusing on the customer then on the other decision areas of operations.

5.4 Recommendations

The management within these firms should reorganize their efforts and address their move towards world class status by implementing the company wide programs advocated for by research. This will enable employees to be able to see the overall effect that certain characteristics have to the success of a given program. They should also be informed that achieving world class status is an elusive task, whereby the real job lies in having over 200 different characteristics in place, which are as involving as having a strategic plan in place and running, which is identified as being one of these characteristics.

5.5 Limitations of the Study

This research managed to engage four firms, which limits its generalizability over the whole energy industry, more firms should be engaged in future research in the same topic. The results from this research are a snap shot of performance of these firms at the particular time that the data was collected; more studies should be undertaken within this sector to shed more light on the progress that these firms are making.

Though the questionnaire had open ended questions giving the respondents the freedom to outline what some of the activities they felt would turn their organization into a world class one, it's a section that would have been better complemented through a face to face interview of the key decision makers in these organizations.

5.6 Suggestions for Further Research

This study had a wide but manageable focus, it sought to establish best practices in the energy sector, these practices are always coordinated from a project management perspective, whereby each practice should be formulated with certain objectives in mind, clear deadlines outlined, resources provided and an authoritative team (not just a team) formed for implementation. It has also established nine companywide programs that companies can employ, within these nine programs there are roughly 252 activities i.e. best practices which organizations can implement. It therefore becomes clear that though the questionnaire concentrated on the salient features of a world class company, ideally around 2520 (252 best practices and 5-10 questions or variables for each practice) variables are needed to fully establish the world-class status of an organization.

More studies should be formulated concentrating on specific programs, this is informed by the outcome of the exploratory study which showed that some underlying factors which represent these programs had more variables loading on them than other factors.

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Appendix I:

Research Questionnaire

This Questionnaire is intended to collect data on some of the Best Practices your company/institute is employing towards being a World Class Organization. Your contribution will be highly appreciated.

All information gathered will be treated in a strictly confidential manner.

Section A: General Information

What is your Gender?

Male

Female

What is your Age?

25 or below

26-34

35-44

45-54

55+

When did you join this company? _____

What is your current department? _____

For how long have you worked, in your current department?

2-5 years

6-10 years

Above 10 years

Which **statement** below **BEST** represents your view of the other departments of your company?

Place a tick to your answer.

- They are just a department,
- We can actually do without them.
- They are our customers and should be treated like any other customers.
- Our department is superior and the backbone of the company.

Do you use electricity for lighting in your house? Yes No

Does the supply of this electricity in the past three months delight you?

Yes No

Does the cost of this electricity delight you? Yes No

Section B

Please indicate the Extent to which the following factors are exercised in your company/institute.

Use the scale of:

- Very small extent
- Small extent
- Moderate extent
- Large extent
- To a very large extent

	Factors	1	2	3	4	5
1	Your organization has partnered with other institutions for purposes of employee development?					

2	Your organization has equipped you with the necessary skills to undertake your job comfortably.					
3	You can term or consider teams formed within the organization self-managing.					
4	Your company's leadership is committed to achievement of the set vision.					
5	Your organization Matches issues of market or customer needs with capacity of your company.					
6	Your job gives you opportunities to learn and apply something new you've learned elsewhere.					
7	You've been attached to a different department from yours.					
8	Your organization is tapping into your talent.					
9	Willingness to teach your workmates something new, that you've learned that can improve their performance in the workplace.					
10	There is development of new technologies in your organization that are patentable.					
11	Uptake of technologies from other sectors.					
12	Uptake of technologies from other countries.					
	Factors	1	2	3	4	5
13	Encouragement offered within your organization to reflect on how you can improve on activities that serve your organization's customers.					
14	Made suggestions on improvement of activities, your organization is meeting customer needs with.					

15	Made suggestions on improvement of product, your organization is meeting customer needs with.					
16	Made suggestions on improvement of services, your organization is meeting customer needs with.					
17	Top management values suggestions that you may come up with for improving processes the firm owns.					
18	Top management values suggestions that you may come up with for improving on products the firm is offering.					
19	Top management values suggestions that you may come up with for improving services the firm is offering.					
20	Your organization has communicated that it can fund any new ideas that promise to improve features of products it's offering.					
21	Your organization has communicated that it can fund any new ideas that promise to improve features of services it's offering.					
22	Your organization is forming long term relationships, with its suppliers.					
23	A green strategy is employed within, seeking to minimize any negative impact its processes has to the environment.					
24	You would recommend somebody to work in your organization.					
25	Your organization captures customer ideas.					
26	Your organization captures customer complaints					
27	Teams are used, involving different professionals while					

	undertaking projects.					
	Factors	1	2	3	4	5
28	Your organization communicates adequately.					
29	Your organization's vision is referred to in meetings.					
30	You learn something new from your workmates, which can improve your performance in the workplace.					
31	The information technology system breaks down.					
32	Receive training on quality in your company.					
33	Emphasis is placed on creativity in your organization.					

Please specify any other characteristics that make your firm a world class company

Section C

Please indicate The Extent to which the following factors are exercised in your organization.

Use the scale of:

- Very small extent
- Small extent
- Moderate extent
- Large extent
- To a very large extent

	FACTORS	1	2	3	4	5
1	Information technology is exploited in the firm to improve visibility when making decisions.					
2	Your company is committed to waste elimination in processes					

	and firm activities.					
3	Your organization's departments compete for provision of services within, with other firms outside.					
4	Your organizations procurement system contributes Positively to your company's activities.					
5	Your organization is prepared to improve its innovations capability.					
6	Your organization is aware of the need to change in order to become a high innovator.					
7	Your organization is focusing on Products .					
8	Your organization is focusing on Processes .					
9	Your organization is focusing on Customers .					
10	Your organization is focusing on quality					
11	Your organization is focusing on operational flexibility					
12	Your organization is focusing on delivery speed					
13	Your organization is focusing on cost reduction					

Please specify any **company wide programs** that your company is employing to achieve world class status

Thank You

Appendix II

Performance evaluation framework advocated for by Kasul and Motwani (1995)

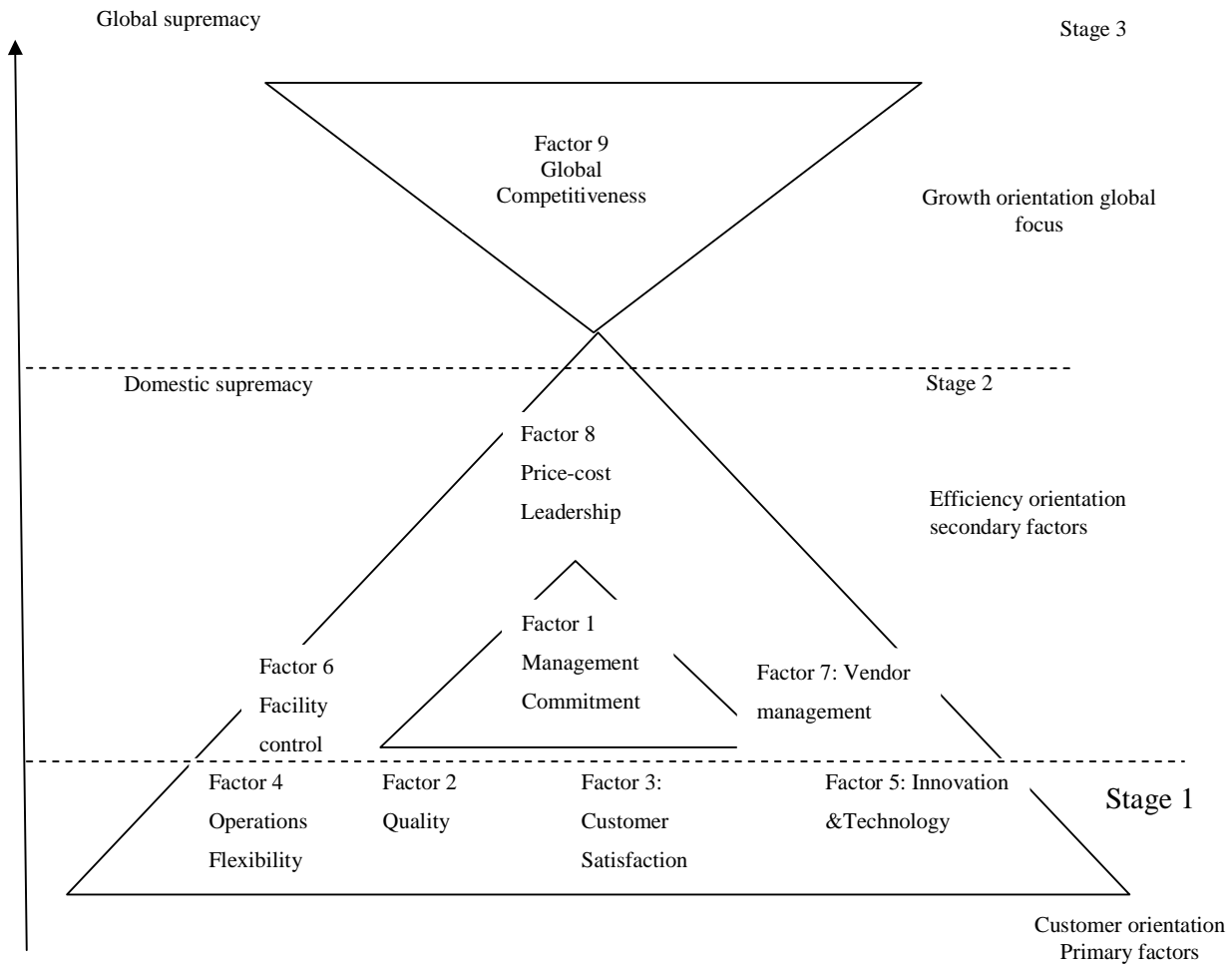


Figure 2: Performance evaluation framework advocated for by Kasul and Motwani (1995)



UNIVERSITY OF NAIROBI
SCHOOL OF BUSINESS
MBA PROGRAMME

Telephone: 020-2059162
Telegrams: "Varsity", Nairobi
Telex: 22095 Varsity

P.O. Box 30197
Nairobi, Kenya

DATE 10/8/2013

TO WHOM IT MAY CONCERN

The bearer of this letter Alphonse Nzeki Mutuku
Registration No. DG/70793/2008

is a bona fide continuing student in the Master of Business Administration (MBA) degree program in this University.

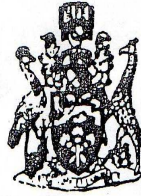
He/she is required to submit as part of his/her coursework assessment a research project report on a management problem. We would like the students to do their projects on real problems affecting firms in Kenya. We would, therefore, appreciate your assistance to enable him/her collect data in your organization.

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.


PATRICK NYABUTO
MBA ADMINISTRATOR
SCHOOL OF BUSINESS





UNIVERSITY OF NAIROBI (9)
 SCHOOL OF BUSINESS
 DEPT. OF MANAGEMENT SCIENCE
 RECEIVED
 DATE: 27/09/2011

UNIVERSITY OF NAIROBI
SCHOOL OF BUSINESS

DEPARTMENT OF MANAGEMENT SCIENCE
 MBA PROJECT SUPERVISION ALLOCATION FORM

SECTION A: (To be completed by the student)

Name of Student: Alphonse Nzeki Muturi Reg. No: 061/70793/2008
 Tel. No. 0720084468 Email address: nzesho6@yahoo-com

Proposed Title of the Study.....
Challenges Kenyan firms are facing in
their quest for world class status

Specialization (Tick as appropriate):

- Operations Management
- Management Information Systems
- Procurement & Supply Chain Mgt.

Other (specify).....

Signature of Student: [Signature] Date: 27/09/2011

SECTION B (To be completed by the Department)

Name of Supervisor Allocated: Michael Mwangi & Dr X Nwa
 Moderator: M. Mwangi

Total number of students allocated to the supervisor within the year to date.....

Acceptance by Supervisor:

Name: [Signature] Signature: [Signature] Date: 3/11/11

Approval by the Thematic Coordinator:

Name: Alelo E.O. Signature: [Signature] Date: 18/01/2012

Approval by Chairman of Department:

Name: Dr. Nj'iria Signature: [Signature] Date: 23/1/12

Note:

- Original to be filed in the Department
- Copy 1 (Photocopy) to be filed by thematic Coordinator
- Copy 2 (Photocopy) to be filed by the Supervisor