TECHNOLOGY AND STRATEGY ALIGNMENT IN MANAGING CHANGE AT KENYA PETROLEUM REFINERIES LIMITED

by

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DECLARATION

This research project report is my original work and has never been presented for an award of diploma or a degree in this or any other university.

Signature………………………………………… Date……………………………

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This research project report has been submitted for examination with my approval as the University supervisor.

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DEDICATION

I dedicate this work to my family; wife Alice, children; Gabriel and Emmanuel for their enduring patience, love, encouragement and support.

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This study journey would not have been successful without the invaluable support, understanding, assistance and guidance from workmates, colleagues and family members.

I sincerely thank all those individuals for whose encouragement and support made the completion of this study a reality and success. Though I may not be able to list all, I have a strong feeling of mentioning a few names for their special contribution.

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ABSTRACT

This study sought to investigate technology and strategy alignment in managing at the Kenya Petroleum Refineries Limited (KPRL). A case study design methodology was used. The study targeted five senior managers at the KPRL namely: The CEO; COO; CFO; HRM; and the IT manager. Analysis was conducted through the use of content analysis. The findings from each of the five respondents were that strategy and technology were to a large extent fit at KPRL in managing change. The study also found that there were indeed challenges that KPRL faced in change management and implementation of the strategy – technology fit. The study concluded that strategy and technology were very strongly aligned in managing change at KPRL. The study also concluded that there were indeed challenges that the firm in general as well as the respective divisions faced in the management of changes necessitated by the strategy – technology alignment. From the findings and conclusions, the study recommends that the strong alignment between strategy and technology that pervades the philosophy of management at KPRL be sustained and nurtured further. The study also recommended that more specified corrective actions be taken to mitigate the challenges so that the fit can be more seamless.

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LIST OF ABBREVIATIONS

CEO   Chief Executive Officer

CFO   Chief Finance Officer

COO   Chief Operating Officer

HP   High/World Class Performer

HRM   Human Resource Manager

IT   Information Technology

KPRL   Kenya Petroleum Refinery Limited

MS   Manufacturing Strategy

OCC   Organizational Capacity for Change

OPEC   Organization of Petroleum Exporting countries

SP   Standard Performer

TM   Technology Management

White Oils   LPG, TOPS, RMS, PMS, DPK, AGO

Black Oils   IDO, Fuel Oil

CHAPTER ONE: INTRODUCTION

1.1 Background

Petroleum refining is the process of separating the many compounds present in crude petroleum (crude oil). Crude oil is one of the world's most widely-used commodities and one of the most actively traded commodities worldwide. A key geo-political benchmark, the price of oil is among the most quoted statistics in business headlines today (ICE, 2013). Nearly every aspect of our modern lifestyle is impacted by oil. For instance, oil is used to power our vehicles, to create medicines that keep us healthy, and to make the plastics, cosmetics, and other personal products that enhance our daily lives. However, none of these products would exist without the refining process. Crude petroleum is obtained from oil producing countries that trade in the commodity under the OPEC (Organization of the Petroleum Exporting Countries) initiative. Countries who are non OPEC members like Kenya import and process the crude oil to meet its citizen's energy needs. This is the task that the Government of Kenya delegated to the Kenya Petroleum Refineries Limited (KPRL) in conjunction with other oil multinationals (KPRL, 2013).

The energy sector just like other sectors of the economy is faced with numerous challenges including intense competition, satisfying the needs of its customers, fluctuating foreign exchange currency, political instability in the crude oil exporting countries, inefficiencies at the Mombasa port among others. The key challenge for its managers therefore lies in assuring competitiveness and profitability for KPRL in turbulent environments (Daft &Weick, 1984). Being a capital intensive firm where technology is a key component of refinery processes, alignment between strategy and technology is of fundamental importance. In addition, the constant technological

changes that frequently face the firm must be managed in such a manner that ensures successful implementation (KPRL, 2013).

1.1.1 The Concept of Change Management

Companies today are faced with a host of issues, which may cripple their functionality, or in some extreme cases render the organizations obsolete. These challenges are dependent on the nature of operations of the company but broadly, there are common challenges, which are faced by a majority of organizations. In the oil and gas industry, companies are under increasing pressure to meet targets, reduce production costs and maintain the highest safety and environmental standards - all in the face of uncertain market conditions (Krell, 2000). To survive in such circumstances, there are different kinds of changes that companies will need to effect during their lifetime. Sometimes there are internal problems occurring that needs to be solved, or advancement in technology and in some instances going into new era may be a reason for such changes. In other instances, organizational change is stimulated by a major external force, for example, substantial cuts in funding, decreased market opportunity and dramatic increases in services. Typically, organizations undertake technical, structural or strategic shifts in the organization to evolve to a different level in their life cycle, for example changing from a highly reactive organization to a more stable proactive environment (Dervitsiosis, 2008).

Different types of organizations are required to deal with different types of environments, with the result that, as environments change, so must the organization. The more rapidly changing the environment, the more dynamic and flexible the organization must be. One of the main forces for

change in today's environment is the rapid development, dissemination and adoption of new technology (Krell, 2000).

Our era is a period of change. This is not unusual in the history of mankind. What perhaps is different this time is that change must be managed. This is true for societies and individuals but in particular for organizations (Diefbach, 2007). In order to have change management capacities, an organization must develop change capabilities. organizational capacity for change (OCC), which is defined as a combination of managerial and organizational capabilities that allows an enterprise to adapt more quickly and effectively than its competition to changing situations (Judge, 2009).

Technological advancements today are on the increase more than in the previous century. For an organization to offer services, which are relevant, cost effective and compatible with society's needs, modern technology has to be employed. The initial cost of acquiring technology, maintaining and running operations using the acquired technology is often prohibitive. This is worsened by the short lifespan of most technological innovation which imply that companies and or organizations have to reinvest in current technology frequently so as to sustain their relevance (Jiang, 2002).

In order to survive in dynamic environments, entities such as KPRL have to keep on adopting changes that would enable them to thrive amidst a host of environmental challenges. They must put in place proper change management capacities otherwise, the changes may not be successfully implemented.

1.1.2 The Concept of Strategy

Strategy is from the Greek word strategos, which means general. In the Greek city-states, the military general was responsible for formulating a plan for bringing the legislature's policy decisions to fruition and implementing that plan. In business, strategy is a design or plan for achieving a company's policy goals and objectives. Whereas, policy defines the company's goals and objectives and its operational domain, strategy decides how the company's goals and objectives will be achieved, what operational units will be used to achieve the company's goals and objectives, and how those operational units will be structured. Strategy also determines what resources will be needed to achieve the company's goals and objectives and how these resources will be acquired and used. Strategy is a design or plan that defines how policy is to be achieved (Davies, 2000).

In the context of the modern business organizations, strategy is a fundamental framework through which organizations can simultaneously assert its vital continuity and facilitate its adaptation to the changing environment. It is one of the top management tools for coping with both internal and external changes. It is the match between the organization's resources, skills, environmental opportunities, and the purposes it wishes to accomplish. For strategy to be successful it must be consistent with the firm's goals and values, its external environment, its resources and capabilities, its organization and systems (Grant, 2005).

1.1.3 Alignment between Strategy and Technology

Technology is the most fundamental of the core capabilities of a firm. It is a systematic body of knowledge about how natural and artificial things function and interact. It is a body of knowledge embodied in human brains and muscles, machines, and also in software and standard operating procedures of the organization. As such, it is inevitable that technology will become one of the central factors in deciding the firm's strategy (Itami and Numagami, 1992). Itami and Numagami (1992) described strategy as dynamic design of the activities for the entire firm. It is fundamental policy which determines the basic framework of the various activities of the firm and the basic principles of its game plan in the marketplace. Business strategy defines the long-term plan of action a company may pursue to achieve its Goals (Zahra and Govin, 1993).

The literature stresses the need for fit between business strategy and technology policy. Fit means that the choices in business strategy and technology will be compatible, thus reinforcing one another (Porter, 1983). The fit of a manufacturer's technologies with the manufacturing strategy is certainly a major driver of the effectiveness of a manufacturing technology. The nature of technology strategy will vary across industries as well as economic regions (De Meyer et al, 1985).

Central to the alignment of strategy and technology is the concept of technology strategy. A technology strategy, like any functional strategy, has two purposes. It is on one hand the translation of the overall strategy of the organization into a coherent set of long-term instructions for investments for the sub-organizations that are active in technology development. This can happen through product or process development or through the development of more general

technological know-how that can be used in product and process development. But at the same time it is also the development of technology-based opportunities or options for the organization to steer future developments, i.e. provide the capabilities that enable the organization to shape its future (de Meyer and Loch, 2008).

Over the years researchers and practitioners have argued that technology can play an important role in gaining competitive advantage. However, despite superior technology, organizations may fail to compete successfully in the marketplace. This is particularly true if organizations take a tactical rather than a strategic view of managing their technology (Ahmad, 2011). Various theoretical frameworks have attempted to explain the alignment between strategy and technology in the literature. Two have stood out: the static directional theories and the dynamic theories (Ortega, 2012; Itami and Numagami, 2007).

1.1.4 Kenya Petroleum Refineries Limited (KPRL)

Kenya petroleum refinery limited is a refinery in Mombasa, which is a topping and reforming refiner. The refinery supplies refined products to the Kenyan market, Uganda and Northern Tanzania. KPRL is the only refinery in Kenya and has operated as a tolling refinery since its inception until very recently. KPRL was originally set up by Shell and the British Petroleum Company BP to serve the East African region in the supply of a wide variety of oil products. The Company was incorporated in 1960, under the name East African Oil Refineries Limited. The first refinery complex which has distillation, hydro treating, catalytic reforming and bitumen production units was commissioned in 1963. The second refinery train was commissioned in 1974 and also has distillation, hydro treating and reforming units. KPRL is privately owned

limited liability company. The Government of Kenya (GOK) owns 50% of the company's equity and the other 50% is held by Essar Energy Overseas Limited (KPRL, 2013).

The refinery processes Crude oil mainly imported from the gulf region for marketing companies on the basis of processing agreements which set out the precise terms on which the Refinery takes custody of specific quantities and types of crude oil, and how they should be processed and delivered. For this service the user pays a processing fee which varies according to the type of crude oil processed. KPRL's main products include Liquefied petroleum gas, unleaded premium gasoline, regular petrol, automotive gasoil, Industrial diesel, fuel oil and special products like bitumen and grease. KPRL does not own crude oil or products; it serves all customers, called Refinery Users, within processing agreements and offers the following services: Crude oil refining; laboratory services to certify or verify if a particular oil product or products meet the stipulated standards; loading facility to transferred to the customers via pipelines all the products produced except bitumen which has a loading facility inside the refinery and emergency response school (KPRL, 2013).

1.2 Research Problem

Technology is the most fundamental of the core capabilities of a firm (Itami and Numagami, 1992). Technology has proven to be a pillar to strategic positioning of many business enterprises. Organizations that have been able to successfully integrate technology and business strategy have created significant business returns in the context a dynamic environment (Stanleigh, 2008). The literature stresses the need for fit between business strategy and technology, only the can they can they complement and reinforce each other (Porter, 1983). Since technology is dynamic by nature, organizations must also create internal capacities to

manage technical changes otherwise, as has been empirically proven; implementation may be largely unsuccessful (Pellettiere, 2006).

KPRL is the only crude oil refinery in the country and serves almost the entire region. KPRL therefore finds itself in a unique situation whereby it does not have a direct, immediate competitor but is continually under pressure to re-invent itself. The re-invention is typically technology and process based and is fuelled by ever growing demand. In 2012, for instance, KPRL transformed its operations from a tolling refinery to a merchant refinery. The change was necessitated by an urgent need to address severe discharge limitations. The refinery had continuously been under constant threat of closure due several incapacities mostly of a technical nature. The management with the aid of major stakeholders have initiated steps aimed at sorting out the challenges the organization was facing through massive role out of investment in strategic technology (KPRL, 2013).

Zahra and Govin (1993) lamented that despite the wide recognition of the importance of this strategy-technology fit, the relationship between business strategy and technology policy has not in general, been well documented empirically in the literature. This is particularly so in the oil industry. A handful of studies have been done on other management issues. For instance, Gichuki (2010) undertook a study to assess change management at Kenya Petroleum Refineries Limited. The study determined change management practices; established the challenges and identified strategies adopted in managing change challenges management at KPRL. Kalama (2007), in his study underscored the perception of the management of oil marketing companies in Kenya with specific focus on green marketing practices by Kenya

petroleum refineries. This study, however, is not aware of a local study on strategy and technology alignment in managing change in the oil industry.

The study therefore intends to determine the extent to which technology and strategy are aligned at KPRL, if any and how such alignment to its business strategy could be harnessed to mitigate the challenges currently facing the entity.

1.3   Research objectives

The main objective of the study is to establish the extent to which technology and strategy are aligned in managing change at KPRL and establish the challenges facing technology and strategy alignment in managing change at KPRL.

1.4   Value of the study

This study will be of the following practical values: It shall provide the ownership, stakeholders and management of KPRL with information regarding the extent to which strategy and technology are aligned; it will also establish the specific factors that influence technology and strategy alignment at KPRL; in addition, the challenges that face technology and strategy alignment shall also be established; management of technological change shall also be assessed All the above can practically be factored into policies that will yield greater value adding strategic alignment that not only improve operating efficiency, but also profitability and strategic positioning. The study is also of the following theoretical value: It shall seek to bolster the relatively scant local literature on technology and strategy alignment.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter focuses on a review of strategy and technology alignment literature as well as organizational capacity for change. Theories that explain strategy and technology alignment are first discussed. Organizational capacity for change is then discussed. Empirical evidence of strategy and technology alignment is then given. Finally a summary of the literature is considered.

2.2 Theories that explain the alignment between strategy and technology

Various theoretical frameworks have attempted to explain the alignment between strategy and technology in the literature. Two have stood out: the static directional theories and the dynamic theories (Ortega, 2012; Itami and Numagami, 2007).

2.2.1 The static directional theories

Ortega (2012) observed that up to the 1990s, most of the studies essentially viewed the relationship between strategy and technology from one of these two static (current), unidirectional perspectives: strategy drives technology perspective and technology as the driver of strategy perspective. He further argued that as a consequence, an alternative focus has been sidelined that may allow testing for both perspectives simultaneously, bi directionally.

(Skinner, 1969; Porter, 1983) explained that in order to drive competitiveness in organizations, strategy should drive technology development. Therefore, technological development can provide the plant with a group of competitive weapons and a better technological base,

applicable to other products and markets (Hofer and Schendel, 1978; Itami and Numagami, 1992). This implies the adoption of a unidirectional perspective, that is to say, the causal relationship goes from strategy to technology, and not vice-versa.

The other side of the coin (also unidirectional) that is apparent from specialized literature (Hayes, 1985) considers technological capacity as the foundation of strategy, i.e. it presents a perspective in which technology should guide strategy. From this perspective, the plant tends to look inwards for its strategic options – inside its limitations and technological capacities. It can be argued that in this situation, technology can act as a tool to a plant's advantage (Porter, 1983), or as a restriction to which it must then adapt (Hofer and Schendel, 1978). The plant's product/process portfolio therefore influences the kind of technology that the organization tries to maintain or develop. This then affects the technology on which the plant chooses to base its strategy: therefore, strategy is limited by technology (Porter, 1985).

2.2.2 The dynamic theories

The dynamic theories look at the alignment between strategy and technology from three perspectives. The first focuses on the effect of current technology on current strategy of the firm, the second on the effect of current strategy on future technology, and the third on the effect of current technology on future strategy. The essence of these effects is respectively: strategy capitalizes on technology, strategy cultivates technology, and technology drives cognition of strategy. As we go from the first to the third, it becomes less conventional, less oriented to economics, more development-oriented and more process and organization-oriented. Past strategy research has been dominated by the first perspective and thus has been too narrow and static (Itami and Numagami, 2007).

The first perspective on the (dynamic) alignment between strategy and technology focuses on the contemporaneous match between strategy the firm wants to take and the technology it possesses. Typical questions that strategists and researchers ask in this perspective include: How should technology be used as a tool to differentiate the firm from its competition? When should a new technology be introduced to the market? What type of strategic focus is most effective given the constraints on the technology available to the firm? How should the firm cope with technological innovation introduced by the competitors or technological trends in the industry? (Itami and Numagami, 1992).

Technology in these discussions can act on strategy in one of the three ways: (1) as weapons that the firm can utilize in their favor (Abell, 1980; Maidique and Patch, 1988; Porter, 1983, 1985), (2) as constraints to which they must adapt (Hofer and Schendel, 1978), or (3) as threats that they have to guard against and cope with (Cooper and Schendel, 1976; Foster, 1986; Abernathy, 1978; Tushman and Anderson, 1986; Anderson and Tushman, 1990). Strategy literally capitalizes on technology. As a weapon, the firm presumably has some technological advantage over competition and thus can capitalize on its technology. As a constraint, strategists have to find the best way to capitalize on the constrained, extant strategy. As a threat, technology forces the firm to match competition and the industry trend and, to do so, the firm once again has to make the best use of technological possibilities it possesses or can develop. Either the firm can or has to, i.e., active or passive, the strategy the firm develops capitalizes on technology that the firm has or tries to have (Itami and Numagami, 1992). In all three cases, a basic premise is that

current strategy should make the best use of current technology of the firm and, often implicitly, should be within the technological limit of the firm. In this sense, contemporaneous matching between strategy and technology is advocated. Most of the past research on strategy and technology has been devoted to clarifying the logical structure of this contemporaneous matching (Itami and Numagami, 1992).

This seems to be the orthodoxy in strategy research and with good reason. This static matching or framing of strategy by technology is difficult enough to practice and it is the first order of business that the firm has to cope with. Even when research focuses on what type of technological development should be undertaken to fill certain strategic needs in the marketplace, it deals with contemporaneous matching of strategy and technology. This line of research may not treat the technological possibility of the firm as something fixed, but technology is still made to fit strategy contemporaneously. In this sense, technology frames strategy.

Technology determines or limits strategy as its environmental factor, either as weapons, constraints or threats, or strategy asks for certain technological developments because they frame the feasibility of strategy under consideration. Behind this type of reasoning lies an implicit assumption of independence between strategy and technology (Itami and Numagami, 1992).

As far as their respective internal logic is concerned, strategy and technology can remain intrinsically independent of each other, but have to be matched within the firm consciously so that they synchronize with each other to produce the best performance. 'Interaction' appears in this perspective only in this sense of synchronic matching. Matching is done by

adjusting two independent variables, strategy and technology. When observed over time, a series of efforts for synchronic matching may appear quite 'dynamic', but this is not dynamic interaction, only a dynamic sequence of static matching. Of course, the way strategy is matched to technology may change over time. At some times, technology may give the firm competitive advantage (as their weapon) and later on it may become a threat (when the competitor changes the basic rule of technology games). Both strategy and technology change over time, but, within this perspective, current strategy does not affect future technology directly, nor does current technology affect future strategy in any explicit way. They are not truly interactive (Itami and Numagami, 1992).

In reality, however, they are interactive. For example, the product portfolio that the firm currently has influences the kind of technology that the firm tries to maintain or develop and thus affects the firm's future technological base available to the firm, for its next strategic moves. The next two perspectives are more subtle, but truly dynamic, alignments in which current strategy affects future technology or current technology affects future strategy (Itami and Numagami, 1992).

Quite often, current strategic decisions have long-term implications for technology accumulation. For example, a decision to enter or strengthen a certain business, a typical strategic decision, forces the firm to invest in technology development to be competitive in that business. This is actually a requirement from contemporaneous matching that we mentioned in the previous section. This technology development effort can bring to the firm not only a set of competitive weapons effective in that business, but also a deeper

technological base applicable in other businesses too. Technology is often extensible (Itami and Numagami, 1992).

Casio, once a small Japanese calculator maker has extended its technology from digital watches and electronic musical instruments to office information machines. It has done this through its development of LSI (large scale integrated circuit) design capability necessary to its remaining competitive in the calculator business. By succeeding in this technological accumulation, Casio not only became very competitive in calculators, but gained a very important technological base to extend its product portfolio into other businesses. Its current competitive strategy in calculators affected its future technology in LSI design. Many other calculator manufacturers decided to buy standard LSI chips and thus decided not to invest in LSI technology accumulation. This decision not only affected their competitiveness in calculators but also their future growth potentials. This is a very good example of strategy cultivating technology. It is not, however, limited to the cases of R&D efforts in the lab required for a certain current strategy (Itami and Numagami, 1992).

More mundane- looking accumulations of technological bases can occur during the implementation process of current strategy. A good example is the case of Toyota establishing a lean production system. Toyota's just-in time system was needed to cope with the difficult production planning requirements it encountered when it had to produce a variety of vehicles from trucks to passenger cars, all in small quantities, using limited production facilities. To remain viable in the Japanese automobile industry after World War II, Toyota did not have much choice other than to go after a wide product line with

small market volumes for each product. To implement this strategy with efficiency, it had to devise a new production system, which later became one of the bases of its international competitiveness. Building an internationally competitive production base was not Toyota's original intention, but it helped Toyota's later strategy immensely (Itami and Numagami, 1992).

In essence, pursuit of contemporaneous fit between technology and current strategy can lead to technology accumulation with much greater future potentials than necessary to met current needs. This can occur either through a particular technological development project, such as Casio's, or from a day-to-day implementation of current strategy, as in Toyota (Itami and Numagami, 1992).

Either way, the essence is that strategy implementation processes affect technology accumulation processes. The cases can be summarized as 'current strategy cultivating future technology'. It can occur when: (1) contemporaneous matching between strategy and technology is pursued in earnest, but at the same time (2) the technology being accumulated is greater in its potential than current short-term needs. The catch here is if strategists are aware of this logic, a somewhat counterintuitive strategy recommendation may prove valuable, like 'try to enter into some business in which the firm may not have a competitive advantage now'. It is logical only when this strategic decision can lead to efforts to cultivate valuable technology for the future, within reasonable cost (Itami and Numagami, 1992) .

The third perspective in conceptualizing the dynamic alignment between strategy and technology is concerned with the effects of current technology on future strategy of the firm. Technology that the firm possesses now and/or the firm's current commitment to technological development affect human cognitive processes for strategy formation within the firm. Of course, any factor can have two opposite effects on human cognitive processes. It can help stimulate appropriate cognitive processes, or it can hinder them. This perspective emphasizes the positive side, and claims that current technology can drive cognition of future strategy of the firm. In the past, the negative side of the cognitive effect of technology on strategy seems to have been more prominently emphasized. For example, in the research on the effect of technology on corporate culture, technology is often to blame because excessive psychological commitment to the old technology may hinder emergence of new strategic thinking (Itami and Numagami, 1992). .

In reality, however, there are many cases in which strong commitment to a particular technology. Current technology can affect individual and organizational cognitive processes behind the emergence of an organization-wide strategy in two steps. First, deep knowledge in a particular technological area shared by many people in the organization stimulates those people to generate elementary ideas of various new products or new competitive weapons that may become feasible with that technology. This idea generation may, in the beginning, be quite fragmentary and autonomous, rather than very systematic and well-coordinated. Implementation of these ideas in bits and pieces will follow, and then the efforts to integrate various initiatives into an organization-wide strategic direction can emerge, often under the leadership of top management. Sharing of technology helps at this

integration stage too. For the emerging strategic direction to be widely understood and accepted by many members of the organization, it is helpful for them to share a common frame of understanding and communication. Sharing of deep technological bases can build that understanding and communication. Thus, technology drives cognition of a particular strategy because (1) it channels and activates idea generation processes, and (2) it helps integrate these fragmentary ideas. In fact, the future is not only uncertain, but often unknowable. To try to imagine its future by the collective efforts of the members of the organization, the firm needs some common lens which is shared by many members. Technology works as such a lens. In this sense, current technology serves as a cognitive driver for future strategy (Itami and Numagami, 1992).

2.3 Organizational change management

Studies have shown that approximately 70 percent of planned organizational change initiatives fail. One of the primary causes for these failures is the lack of reliable and valid diagnostic instruments to assess and track an organization's capacity for change (Pellettiere, 2006). Despite all the rhetoric, books, effort, and money thrown into change efforts, most organizational change efforts fail. Studies indicate that of hundreds of organizations that entered into change initiatives about two-thirds fail to produce the results expected (Stanleigh, 2008). These leaders develop clear strategies around re-design, restructuring, new efficiencies, etc., hoping to get everyone to share their vision and create change programs around these strategies.

The most general lesson to be learned from the more successful cases is that the change process goes through a series of phases that, in total, usually require a considerable length of time.

Skipping steps creates only the illusion of speed and never produces satisfactory results. Stanleigh (2009) observes that employees move through the phases of denial, resistance, exploration before commitment when a change occurs. However, too often, management fails to recognize that adjustment to change takes time. They very quickly expect employees to move from the denial phase to the commitment phase and fail to recognize that each individual will go through all of the phases at different paces. Stanleigh (2008) considers the greater challenges to successful change management to arise non engagement of all employees and managing change only at the executive level.

Buchanan and Badham (1999) equally concur that the success of implementing change is generally associated with those who facilitate the change process. The change agent is defined here as a manager who seeks "to reconfigure an organization's roles, responsibilities, structures, outputs, processes, systems, technology or other resources" in the light of improving organizational effectiveness.

Stanleigh (2008) enumerated the drivers of change to include the following: mergers and acquisitions; innovation; technology; restructuring/re-organizing; declining sales and/or market share; globalization, expansion and growth among others.

Central to dealing with the challenges of change management better understanding organizational change are the key concepts of organizational capacity for change; organizational receptivity to change and organizational flexibility to change. Judge (2009) defined organizational capacity for change as a combination of managerial and organizational capabilities that allows an enterprise to adapt more quickly and effectively than its competition to

changing situations. Butler (2003) defined organizational receptivity as "an emerging, but undeveloped, notion which attempts to reveal the factors which contribute to organizations being either low-change, non-receptive contexts, or high-change, receptive contexts." Hatum and Pettigrew (2004) also investigated organizational flexibility that they defined organizational flexibility as "A combination of a repertoire of organizational and managerial capabilities that allow organizations to adapt quickly under environmental shifts." The understanding and embracing of the above concepts increases the potential for better understanding organizational change and management and provide a managerially useful way of diagnosing and improving an organization's ability to respond to and proactively initiate change.

2.4 Empirical Evidence of Technology and Strategy alignment

Ortega (2012) using the matching/difference perspective, examined the interaction fit between a set of managerial practices from manufacturing strategy (MS) and another set from technology management (TM) and the link of this fit to operational performance. He applied multiple statistical methods to a database of an international sample of plants in the auto supplier sector to explore (deviation score analysis/multiple linear regression) and confirm (correlation and variance subgroup analysis) whether a matching model presented organizational disequilibrium, where states of fit are related to effectively higher performance than states of misfit. Results from regression showed that there were no states of misfit between the levels of both manufacturing practice sets/areas. This meant that there were no significant differences in performance that may have been tested for matching interaction. However, subgroup analysis provided greater detail on why there may not have been any misfits (i.e. state of fit), by illustrating that when grouping by plant type (high/world class performer, HP, and standard performer, SP), the slight lack of

significant difference in the correlation between MS and TM was in favour of HP. Most of the interaction fit bibliography is from the accounting perspective. Therefore, the impact of the matching interaction fit between MS and TM (as well as its impact on performance) has not been well documented theoretically, and much less, empirically, in production and operations management.

Cockfield (2005) examined the relationship between union renewal strategies and the adoption and implementation of information and communication technologies by trade unions. Her research centered on a case study of an Australian trade union, exploring the fit between recent changes to the industrial strategy and information technology strategy. It involved interviews with union officials and a review of union documentation. She found that information and communication technologies had the potential to promote union renewal by enabling new forms of participation and activism. However, to achieve those outcomes the technologies must be part of an integrated union renewal strategy. The internal political processes of the union shaped both the union renewal strategies and the role and use of technology in implementing these strategies.

De Meyer (2008) aimed to offer a framework and a detailed overview of what it entails to develop and implement a technology strategy in the context of China. The methodology adopted is observation and literature survey. His study emphasizes the alignment of the strategy with the organizational competencies and the strategic context, as well as the capacity to manage risk. The attention was also drawn on the need to find better ways for intellectual property protection, leveraging the Chinese market to explore opportunities for innovative ideas and the need to create less hierarchical organizations that enable creative thinking.

2.4 Summary to literature review

Various theoretical frameworks have attempted to explain the alignment between strategy and technology in the literature. Two have stood out: the static directional theories and the dynamic theories (Ortega, 2012; Itami and Numagami, 2007). Ortega (2012) observed that up to the 1990s, most of the studies essentially viewed the relationship between strategy and technology from one of these two static (current), unidirectional perspectives: strategy drives technology perspective and technology as the driver of strategy perspective. The dynamic theories look at the alignment between strategy and technology from three perspectives. The first focuses on the effect of current technology on current strategy of the firm, the second on the effect of current strategy on future technology, and the third on the effect of current technology on future strategy.

Zahra and Govin (1993) observed that despite the wide recognition of the importance of this strategy-technology fit, the relationship between business strategy and technology policy has not in general, been well documented empirically in the literature. Consequently, little statistical evidence existed regarding how technology policy relates to business strategy and, ultimately, to company performance. Most writings on the topic of the business strategy-technology policy interface have been prescriptive and conceptual or anecdotal in nature. To date, few studies have focused directly on the empirical relationships among technology policy and business strategy (Zahra and Govin, 1993).

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

The focus of this chapter is the methodology that shall be used to conduct the research. The chapter tackles: research design; data collection and data analysis respectively.

3.2 Research design

The study will use a case study methodology to undertake the research. Eisenherdt (2004) explained that case studies place more emphasis on a full contextual analysis of fewer events and conditions and their interrelations. The merit of using a case study is that it enables an in-depth understanding of the behavior pattern of a concerned unit. Case studies constitute collecting empirical data, generally from one or a small number of cases, of a predominantly qualitative nature (Yin, 2004). Whereas most research aims directly at generalized understanding, the case study aims at the comprehensive understanding of a single, idiosyncratic case. Whereas most research attempts to limit the number of variables considered, the case study seeks to maximize them. Ultimately, the researcher executing a case study typically seeks insights that will have a more generalized applicability beyond a single case under study, but the case itself cannot ensure such generalizability (Eisenherdt, 2004).

3.3 Data collection

The primary data will be collected though interviews. Interviewing is a qualitative research technique that involves conducting intensive individual interviews with a small number of respondents to explore their perspectives on a particular idea, program, or situation (Kvale, 1996).

The tool of choice will be interview guides; this is a list of topics, themes, or areas to be covered in an interview (Nigel and Christine 2010). The researcher will interview the Chief Executive Officer, Chief Operating Officer, Human Resource Manager and Information Technology manager as they are well positioned to know the issues regarding strategy and technology alignment and change management. He will use different interview guide (appendix 1) for each interviewee, as this will enable me to obtain pertinent information specific to the interviewee.

3.4 Data analysis

Data shall be analyzed by the use of qualitative content analysis technique. Since the approach is a case study and since the study seeks qualitative data, this is the best approach. Content analysis examines the intensity with which certain words have been used. The information recorded in the interviews shall be evaluated to answer the study questions. This technique does not restrict respondents to answers and therefore has the potential of generating more detailed information (Kombo and Tromp, 2006).

CHAPTER FOUR: DATA ANALYSIS AND INTERPRETATION OF RESULTS

4.1 Introduction

This chapter presents the data findings of the study and the analysis of the same. Data was gathered through interview guides and analyzed using content analysis. According to the data found, all four senior managers at KPRL scheduled in the previous chapter to be interviewed were actually interviewed and thereby the study achieved 100% success rate. The exceptional success rate was attained on account of meticulous planning, convenient scheduling of appointments around the busy diaries of the managers and polite reminders of the interview dates. This study sought to interview only a few top managers since the study deemed them to have exclusive information on the research questions that the study sought.

4.2 Technology and strategy alignment at KPRL

KPRL's main strategic goal was construction of a Thermal Gasoil Unit (TGU) that converts fuel oil into lighter products (technology-based goal). The CEO observed that the processing efficiency of an oil refinery can be enhanced if the product mix ratios could be changed to produce a larger proportion of the higher value products (LPG, petrol) and both cheaper and more crude oil intake can be realized.

Figure 4.1: Total production for the Financial Year April 2012 – March 2013

PRODUCTS	APRIL 2012 - MARCH 2013	
	METRIC TONS	% Per Product
LPG	18,534	1.81
TOPS	42,457	4.15
RMS	3,272	0.32
PMS	124,320	12.16
DPK	216,049	21.13
AGO	255,465	24.99
IDO	15,006	1.47
FUEL OIL	347,341	33.97
TOTAL	1,022,444	100.00

Figure 4.2: Percentage Production for financial year 2009 – 2013

PRODUCTS	APRIL 2009 - MARCH 2010 % Per Product	APRIL 2010 - MARCH 2011 % Per Product	APRIL 2011 - MARCH 2012 % Per Product	APRIL 2012 - MARCH 2013 % Per Product
LPG	1.94	1.97	1.66	1.81
TOPS	5.26	5.72	6.85	4.15
RMS	3.15	3.11	2.22	0.32
PMS	7.24	9.08	8.51	12.16
DPK	23.76	23.48	23.65	21.13
AGO	24.59	24.69	24.23	24.99
IDO	1.14	1.73	1.60	1.47
FUEL OIL	32.92	30.22	31.28	33.97
TOTAL	100	100	100.00	100.00

Figure 4.1and 4.2 shows that there is certainly low production on the white oils i.e. LPG, TOPS, RMS and PMS and the bulk of the production is on the black products as Fuel Oil. The white products are more clean (i.e. have less sulphur content) and have higher prices than the black products. The CEO observed that KPRL needs to heavily invest in new technology to ensure that they are producing the white oils which have less sulphur content and are more expensive than the black oils.

Figure 4.3: ERC product prices cargo five 2013

Product	Prices USD/MT
LPG	1286.61
PMS	1077.50
DPK	1045.77
AGO	994.77
IDO	984.76
TOPS	808.66
FO	796.88

Figure 4.3 indicates that the white oils have better prices than the black oils and thus it is better to produce more of the white oils in order to maximize profits. This can be achieved by the Thermal Gasoil Unit technology. The unit also comes with facilities for reducing sulphur on gas oil and treating emissions to air and surface water. That particular goal is necessitated by the fact that KPRL's current plant restrained refining capacity is unable to refine higher octane fuels.

KPRL has focused on a SWOT analysis to design its strategy.

Figure 4.4: KPRL SWOT analysis

Strength	Weakness
1) Technical Support from Essar Oil Limited 2) Skilled Workforce 3) Good Health and safety performance culture 4) Processing and Distribution infrastructure 5) Power generation plant has been commissioned	1) High fuel loss encountered during production 2) Hydro treating and catalytic reforming but lacks residue conversion facilities to enable the conversion of residue to more valuable light products 3) Low Customer Engagement 4) LPG storage facility is considered a safety risk as it is close to a public highway 5) operational reliability of the facility is considered low because of the sub-optimal operation of some equipment and units 6) Slow decision making at the Board level
Opportunity	**Threats**
1) Increased Demand For Energy With Growing Economy 2) Increasing electricity consumption for industrial and domestic purposes 3) Deliberate move by the government to promote use of LPG 4) Provide Storage For Imports and Loading Services	1) Availability of Cheaper Refined Imports 2) New Refinery Coming in The Region – Uganda 3) Natural Gas discovery and its distribution to Kenya as alternative fuel sources for power generation 4) Stringent Environmental and Product Standards

Based on the SWOT analysis in figure 4.4 above technology is key for KPRL. From the highlighted weaknesses that are faced by KPRL, it indicates that more technological input needs to be done, as the issues are all technology based except one. For the year 2011 – 2012 capital expenditure was Ksh2,832,022,400 while for 2012 – 2013 the expense was Ksh1,456,683,476. The CEO noted that most of their strategic goals over the years have been technology based, they have included; the shift from toll to merchant refining, acquisition of power plant and several plant upgrades; among other examples.

Large budgetary allocations were earmarked for the fit and associated technological changes. Budgetary allocation to technology varies from year to year but that on average technical based aggregate expenditure would range from 40% to 50% in the 2012-2013 budget. This was in light of the capital-intensive nature of the firm. The expenditures would range from; plant, equipment and software design/acquisition; installation costs; maintenance costs; upgrading costs; technical training; interest costs; leasing costs; among others.

Human capital plans were prominently reflected in their strategic plan. The HRM indicated that he participated in formulating the firm's strategy with particular responsibility for the firm's strategic human capital investment. His division was mandated to not only ensure that competent, well trained and appropriately experienced technicians are employed, but also with ensuring all technical training gaps were met as they arose and with respect to both present and future strategic human resource needs.

Figure 4.5: Training Costs

Year	Cost(Ksh)
2009	25,354,939.55
2010	33,445,826.34
2011	37,668,358.06
2012	34,921,588.64
TOTAL	**131,390,712.59**

Figure 4.5 shows the amount that has been used for staff training in the last four years. The amounts spent on staff training indicate that all the human capital technical requirement were well addressed through training.

The IT strategic direction was heavily influenced by the strategy/technology fit and associated changes. The IT manger explained that he did participate in influencing the strategy of the organization with particular responsibility for the strategic IT direction of the firm.

The key factors that were normally considered in determining the current technology were; current as well as future needs; financing; regulatory requirement and particularly environmental and safety laws; and industry best practices and trends.

Given the fact that technological platforms of a capital-intensive industry involve heavy capital investments and may take enormous resources to upgrade; to a large extent future strategy at KPRL depended on existing technology.

Future technology was considered when formulating current strategy. Anticipation of future technology was very important as it may prove costly if overlooked. The CEO observed that an organization should first build it strategy around the resources that it possesses. Consequently, he pointed out that at KPRL, changes in technology have previously greatly impacted on both current and future technology. The COO noted that all of the firms divisions were integrated through an automated ERP that integrated all the separated units into one.

Figure 4.6: KPRL Software costs in the last three years

Software	Cost(Ksh)
Computer aided software	461,000
Windows NT Based GLS	1,251,200
Purchase /Install Computer Aid Auto Card	282,260
Sales Order System	2,213,460
Replace EMA-34 (Sun System)	33,882,900
Vision budget mgt system	1,591,500
PI process mgt system	14,813,492
S-RCM Software	4,939,870
Purchase of S-RBI Software	8,525,663
Upgrading of Process Management Computer System - DCS - Softwares	4,907,761
Asset Management System -(Maximo)	77,445,823
E-Horizon HR Software	12,723,350
Upgrade of Entis System (Honey well EnrafEntis Pro)	13,184,023
Aspen	18,928,850
Sun System Debt Mgt module &Clickview software	16,092,492
Total	**211,243,644**

Figure 4.6 indicates that KPRL has strived to automate and upgrade its various systems in different areas as finance, Engineering and Human Resource. Some of the recent technologies that have been put in place are Maximo – for asset management, E-Horizon for human resource management and Upgrade of Sunsytem to improve financial management.

That aside, the technical units also had separate automated systems that synchronized and coordinated operational tasks. KPRL, has a technical policy that is keen on having the technical team as thoroughly equipped as possible to ensure that not only is the expensive and high maintenance plant well attended to but also to avert potential accidents that may arise from inappropriate handling. The COO observed that since the firm invested heavily in the technical competence of its staff, he believed that the firm made good, safe and efficient use of its available technology.

KPRL has however never faced radical technology obsolescence whereby a technology abruptly falls into disuse but that gradual technological obsolescence was a common occurrence in every capital-intensive firm to stay competitive and relevant, every so often technology had to be reviewed. From a finance perspective, provisions were made for obsoletes of plant, machinery, equipment and software.

4.3 Challenges faced in managing change at KPRL

One of the main challenges in managing change at KPRL is the staff turnover. Experience is a key factor in managing operations at KPRL and there is a very significant impact when an experienced staff leaves, Figure 4.7 indicates the number of staff that have left KPRL over the last five years.

Figure 4.7: Staff Departures

Year	2008	2009	2010	2011	2012	2013
No of Staff Departures	21	30	19	16	14	27

Many KPRL staff are being poached by Arabian companies putting up new refineries. This has therefore increased the training costs of the company as indicated by figure 4.4 earlier. KPRL has countered this by ensuring that they have a rotation job policy such that one person can work in different positions. This however reduces the skill level of the staff.

Resistance to change, both conscious and sub conscious was also a challenge. The Human resource manager had put programs in place that address resistance. Some of these programmes include; involving employees in the innovation process e.g. the "my idea" concept that targets

ideas from the refinery's employees and introduction of change management seminars where the employees why the drivers of the change.

The HR noted that from his perspective, one of the greater challenges that he faced when implementing new technology was the transition of skill from one technology to the next. He observed that the more radically different the new technology is from the preceding technology the harder the transition. This was countered by ensuring that staff are well trained before a new technology is fully rolled out.

Finance was also key challenge. The CFO pointed out that the firm was heavily leveraged and had a huge interest bill. The refinery for instance had recently acquired a loan of 34 million dollars to upgrade the refinery from Standard Chartered Bank and 13.5 million dollars to build a power plant. He also noted that most of their key investments have been to a large degree financed externally as the firm has had to recently invest heavily in capital projects to remain relevant. The CFO was of the opinion that from a financial perspective, the challenge they faced when implementing technology was the costs that are associated with technological acquisitions. This has been mitigated through seeking of government grants and strategic partners.

CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter gives a summary of the key findings. It also draws conclusions and gives recommendations from the findings. Limitations of the study are also discussed. Suggestions for further studies are finally given.

5.2 Summary of findings

This study was conducted with the aim of establishing the extent of alignment between strategy and technology in the management of change at KPRL. The study also sought to establish the challenges faced by the firm in technology and strategy alignment in managing change at KPRL. To achieve the above objectives, feedback from five senior manager at KPRL: the Chief Executive Officer, Chief Operating Officer, Human Resource Manager and Information Technology manager was subjected to content analysis, the summary of the findings of which are given below.

5.2.1 The extent of strategy and technology fit

KPRL's main strategic goal was, construction of a Thermal Gasoil Unit (TGU) that converts fuel oil into lighter products (technology-based goal). The processing efficiency of an oil refinery can be enhanced if the product mix ratios could be changed to produce a larger proportion of the higher value products (LPG, petrol) and both cheaper and more crude oil intake can be realized.

KPRL needs to heavily invest in new technology to ensure that they are producing the white oils which have less sulphur content and are more expensive than the black oils.

Based on the KPRL SWOT analysis technology is key aspect for the firm. Weaknesses faced by the company indicate that more technological input needs to be done as most of the issues are all technology based. Strategic goals over the years have been technology based, they have included; the shift from toll to merchant refining, acquisition of power plant and plant upgrades.

Large budgetary allocations were earmarked for the fit and associated technological changes. Budgetary allocation to technology varies from year to year but that on average technical based aggregate expenditure would range from 40% to 50% .This was in light of the capital-intensive nature of the firm. The expenditures would range from; plant, equipment and software design/acquisition; installation costs; maintenance costs; upgrading costs; technical training; interest costs; leasing costs; among others.

Fit and associated changes were prominently reflected in their strategic human capital plans. From year 2009 to 2012, over 131 million shillings had been spent on staff training this indicates that the entire human capital technical requirement were well addressed through training.

The IT strategic direction was heavily influenced by the strategy/technology fit and associated changes. The key factors that were normally considered in determining the current technology to include; current as well as future needs; financing; regulatory requirement and particularly environmental and safety laws; and industry best practices and trends. Technological platforms of a capital-intensive industry involve heavy capital investments and may take enormous resources to upgrade; to a large extent future strategy at KPRL depended on existing technology.

Anticipation of future technology was very important as it may prove costly if overlooked. The CEO observed that an organization should first build it strategy around the resources that it possesses.

All of the firms divisions were integrated through an automated ERP that integrated all the separated units into one. KPRL has strived to automated and upgrade its various systems in different areas that is finance, Engineering and Human Resource. Some of the recent technologies that have been put in place are Maximo – for asset management, E-Horizon for human resource management and Upgrade of Sunsytem to improve financial management.

Technical units also had separate automated systems that synchronized and coordinated operational tasks. KPRL, has a technical policy that is keen on having the technical team as thoroughly equipped as possible to ensure that not only is the expensive and high maintenance plant well attended to but also to avert potential accidents that may arise from inappropriate handling.

5.2.2 Challenges faced in management of change at KPRL

One of the main challenges was staff turnover. Experience was a key factor in managing operations at KPRL and there is a very significant impact when an experienced staff leaves. KPRL has countered this by ensuring that they have a rotation job policy such that one person can work in different positions. This however reduces the skill level of the staff.

Resistance to change, both conscious and sub conscious was also a challenge. The Human resource manager had put programs in place that address resistance for instance through employees driving the change process.

The HR noted that from his perspective, one of the greater challenges that he faced when implementing new technology was the transition of skill from one technology to the next. He observed that the more radically different the new technology is from the preceding technology the harder the transition. This was countered by ensuring that staff are well trained before a new technology is fully rolled out.

Finance was also key challenge especially since the firm is heavily leveraged. This has been mitigated through seeking of government grants and strategic partners.

5.3 Conclusion

The need for a strategic and technology alignment has been emphasized in the literature. On the evidence of the findings from the five respondents; the Chief Executive Officer; the Chief Operating Officer; the Chief Finance Officer, the Human Resources Manager; and the Information Technology manager; strategy and technology are very strongly aligned in managing change at KPRL. The strength of the relationship perhaps, as the Chief Executive Officer pointed out, stems from the fact that KPRL is a capital intensive firm that regularly requires addressing technological change and therefore the twin concepts of strategy and technology have to naturally be intertwined.

The study also concluded that there were indeed challenges that the firm in general as well as the respective divisions faced in the management of changes necessitated by the strategy – technology alignment. The challenges were majorly staff turnover, resistance to change and finance cost. Mitigation measures had been put in place by job rotations, staff training and external borrowing to counter the challenges faced.

5.4 Recommendations

From the findings and conclusions, the study recommends that the strong alignment between strategy and technology that pervades the philosophy of management at KPRL be sustained and nurtured further. This is because the long term success of the firm depends on the bond between the two concepts given the fact that the firm is capital and technology based.

The study established that the CEO as well as the respective division managers was well aware of the challenges that both the firm and the respective divisions faced in the change management of strategy – technology alignment. The study therefore recommends that more specified corrective actions be taken to mitigate these challenges so that the fit can be more seamless.

5.5 Limitations of study

The targeted group for the research was only the very top of management. The rest of the entire workforce that includes middle level managers were left out. This means their input which could have been constructive, was not factored in the study. In addition, the method used to analyse the data was content analysis. This means that the results provided were largely subjective depending on the experiences of the individual participants and also their perception of the entire process and their interpretation. Also, some of the strategy information was deemed to be very confidential and could not be divulged.

5.6 Suggestions for further study

This study targeted the very top management at KPRL and thus the involvement of middle and junior employees at KPRL was not factored in and they remain essential components of the strategic process and therefore their input may have been value adding. Further enquiry can be carried out that factor in their input as well on strategy and technology fit in change management at KPRL. This study also failed to identify exhaustively the change management mechanisms in place at KPRL in relation to managing changes that are necessitated by the fit. Perhaps an enquiry can be done to establish the change management mechanisms at KPRL and how effective they have been in streamlining the strategy – technology fit.

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APPENDICES:

Appendix 1: Interview Guide

NB: Answers to questions below will be treated with utmost confidentiality and at no time will the researcher quote your answers verbatim.

Chief Executive Officer

1. What are your main strategic goals?

2. How do you come up with your strategies?

3. Do you consider technology when formulating your strategy?

4. What factors did you consider in determining your current technology?

5. Does your current technology influence your choice of future strategy?

6. Is future technology considered when deciding on the current strategy?

7. In case of changes in technology, how does this impact on current and future strategy?

8. How does a change in strategy affect the current technology and how does it determine future technology?

9. How effective is the organizations Technology in supporting and enabling the business strategy?

10. What challenges do you face when implementing strategy?

11. How do you use technology to manage change?

Chief Operating Officer

1. Within the business environment, what are the operational areas that have been integrated with technology?

2. What are the areas that need to be integrated?

3. How well does the operational team understand technology?

4. Do you think the organization makes good use of its technology?

5. Are there any processes that have been recently automated?

6. What guided the decision to automate these processes?

7. Is there a time when you have retreated from technology use?

8. What challenges do you face when implementing technology?

9. Have you faced any obsolescence in technology?

10. How was this situation resolved?

Chief Finance Officer

1. What percentage of the company's budgets is allocated for technology?

2. What guides this decision?

3. Are the amounts spent on technology justified?

4. What informs your decision to acquire new technology?

5. What challenges do you face when implementing technology?

6. What are the major obstacles that would hinder the organization from achieving its strategic objectives?

7. How is strategy and technology used to manage change?

8. How do you handle obsolete technology?

Human Resource Manager

1. Do you participate in deciding the organizations strategy?

2. What role do you play to support the organization with technology issues?

3. What is the technological skill level of your staff?

4. What challenges do you face when implementing new technology and strategy?

5. What human resource challenges do you face when implementing strategy and technology?

Information Technology Manager

1. Do you participate in deciding the organizations strategy?

2. What do you consider when acquiring new technology?

3. How do ensure that technology acquired is put to optimum use?

4. What process has been automated recently?

5. What process do you plan to automate?

6. What guided these decisions?

7. What challenges did you face when implementing new technology?

8. How well does the IT team understand the business?

9. How do you handle obsolete technology?

10. Under which circumstances would you consider migrating from an older version of software to a new version?