ROLE OF ORGANIZATIONAL RESOURCES ON THE SUSTAINABILITY OF COMPETITIVE ADVANTAGE IN THE OIL INDUSTRY IN KENYA

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Role of Organizational Resources on the Sustainability of Competitive Advantage in the Oil Industry in Kenya

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DECLARATION

This thesis is my original work and has not been presented for a degree in any other University.

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DEDICATION

I dedicate this to my family, friends and classmates. They are the source of my inspiration in life. I would like to thank the following people: my family for bearing with me while I spend long hours studying and researching; my parents, brothers and sisters, whose presence alone gave me the impetus to keep working harder, and all my friends and college mates who were a great source of inspiration and encouragement to me throughout the duration of the course. Finally, special appreciation to my friends, Prof. Timothy C. Okech and Dr. Macharia Irungu who encouraged me immensely to pursue the PhD program, Dr. Makori Ochwangi, Dr. Victor Keraro, Dr. Jared Abong'o and Dr. Headmond Okari for the relentless coaching, support and encouragement they gave me when the going got so tough and I almost despaired. I can't forget my friends Patrick Mbagaya, James Ondigo, Eng. Derek Okova, Ruto Lyoba and Col. Rtd. Abdulbari Abdirahman who encouraged me to hang on all the time the going got so tough. Since I can't thank everyone individually, let me say a big thank you to everyone else who in one way or another contributed to my encouragement to pursue the PhD studies

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Notwithstanding this, the views expressed in this thesis are solely those of the author and fully take responsibility of the contents.

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LIST OF ABBREVIATIONS AND ACRONYMS

ANOVA	Analysis of Variance
CEO	Chief Executive Office
EAC	East African Community
ERC	Energy Regulatory Commission
GM	General Manager
GoK	Government of Kenya
IKCs	Independent Kenyan Companies
KIPPRA	Kenya Institute of Public Policy Research Analysis
KM	Knowledge Management
KPRL	Kenya Petroleum Refineries Limited
KPC	Kenya Pipeline Corporation
LOBP	Lube Oil Blending Plant
LPG	Liquid Petroleum Gas
MD	Managing Director
MLRA	Multiple Linear Regression Analysis
MNCs	Multi-National Companies
MoE	Ministry of Energy
MPR	Merchant Processing Refinery
NKCs	National Kenyan Companies
NOCK	National Oil Corporation of Kenya
OMCs	Oil Marketing Companies
OPEC	Organization of the Petroleum Exporting Countries
OTS	Open Tendering System

PIEA	Petroleum Institute of East Africa
SCA	Sustainable Competitive Advantage
SPSS	Statistical Package for Social Scientists
TNCs	Trans-National Companies
TPR	Toll Processing Refinery

OPERATIONAL DEFINITION OF TERMS

Brand & Heritage Resources: Brand and heritage resources refers to a dynamic construct based on an inherited or borrowed past, with a view to supporting brand identity and being transmitted for the sustainability of a business (Patrick & Sebastian, 2012). According to Porter (2011) brand heritage dimension is identity found in its track record, longevity, core values, use of symbols, and particularly in an organisational belief that its history is important. A heritage brand is one with a positioning and value proposition based on its history for the sustainability of a business (Ayanda, 2011).

Competitive Advantage: According to Ong and Ismail (2008), competitive advantage is anything that favourably distinguishes a firm, its products or services, from those of its competitors in the eyes of its customers or end users in such a way that the customer chooses to purchase that product or service over another. According to Porter (1985) competitive advantage grows fundamentally out of value a firm is able to create for its buyers that exceeds the firm's cost of creating it.

Financial Resources: Refers to the money available to an organization for spending in the form of cash, liquid securities and credit lines (Lasserre, 2017). Before going into business, an organization needs to secure sufficient financial resources in order to be able to operate efficiently and sufficiently well to promote success and sustainability (Pajak, Kaminska & Kvilinskyi, 2016).

Human Resources: According to Macky and Johnson (2013) human resource in a firm is concerned with managing the people who are directly employed in an organisation towards achieving the organisation's goals. This is accomplished through attracting and selecting people that the organisation needs to get the work done, motivating them to exert the necessary amount of effort to effectively complete tasks by rewarding them with compensation packages and retaining the employees that are crucial to the organisation's success (Odach, 2015).

Oil Marketing Companies (OMCs): Refers to firms involved in importation, storage, distribution, sales and marketing of petroleum products including fuels, Lubricants, LPG and any other oil products in Kenya and exports market (ERC, 2014).

Organizational Capabilities: According to Handerson and Cockburn (1994), organizational capabilities refer to the ability of an organization to perform a coordinated set of tasks, utilizing organizational resources, for the purpose of achieving a particular end result. While, Sirmon, Hitt and Ireland (2007) state that, capabilities exist when resources have been purposely integrated to achieve a specific task or set of tasks.

Organizational Competencies According to Fiol (2001) organizational competencies include the particular set of skills and resources a firm possesses as well as the way those resources are used to produce outcomes.

Organizational Resources: This refers to an asset or input to production (tangible or intangible) that an organization owns, controls, or has access to on a semi-permanent basis, can be used to conceive and implement strategies to outperform rivals (Ahuja & Katila, 2004, Wade & Hulland, 2004).

Plant & Equipment Resources: Refers to the long-term assets vital to business operations and not easily converted into cash. Their total value can range from very low to extremely high compared to total assets (Faems, 2010). They are non-current, tangible capital asset shown on the balance sheet of a business and used to generate revenues and profits. A plant and equipment resource plays a key part in the financial planning and analysis of a company's operations and future expenditures, especially with regards to capital expenditures (Othman *et al.*, 2015).

Resource Strengths: According to King (2007) resource strengths revolve around the ability of the resources owned and controlled by firms to have the potential and promise to generate competitive advantage which eventually leads to superior firm's performance.

Resource Based View (RBV): The resource-based view is a way of viewing the firm and in turn of approaching strategy (Morgan, Kaleka & Katsikeas, 2004). Essentially, the view conceptualizes the firm as a bundle of resources. It is these resources, as well as how they are combined, that makes firms different from one another and in turn allows a firm to deliver products and services in the market (Katja, 2007). According to Jehad and Faleh (2009) resource-based view is a theory of sustainable competitive advantage as it emphasizes the firm's

resources as the fundamental determinants of competitive advantage and performance.

Sustainability: This refers to keeping something going on over time or continuously. It can also be defined as strengthening or supporting someone or something physically or mentally (Bookchin, 2007).

Sustainable Competitive Advantage: Refers to distinctive differences that are consistently maintained over time leading to higher firm's performance, for instance if a firm could consistently modernize its plant, or develop a more efficient distribution process, or access cheaper credit leading it to consistently compete more successfully and prosperously over its rivals (Peteraf & Bergen, 2003).

Toll Processing Oil Refinery: Refers to an oil refinery operating under agreement through which the refiner is paid an agreed fee for the process but with no change in the ownership of the crude oil under processing. The refinery charges a fee for its service but does not own the crude oil (KPRL, 2012).

ABSTRACT

The study sought to establish the role played by specified organizational resources on the sustainability of competitive advantage in the Oil industry in Kenya. The study was anchored on the resource-based view theory of the firm. The general objective of the study was to establish the role of organizational resources on the sustainability of competitive advantage in the Oil industry in Kenya. The specific objectives of the study were to determine the role of Human Resources, Financial Resources, Plant & Equipment Resources, Brand and Heritage Resources; and to establish the Moderating Role of Government Policy on the Role of Organizational Resources on the sustainability of Competitive Advantage in the Oil industry in Kenya. The population constituted all the 63 licensed Oil Marketing Companies (OMCs) in Kenya. The appropriate study sample was identified through stratified random sampling. The study adopted both survey and correlational research design. Primary data was collected using a structured questionnaire while secondary data was collected through reviews of both theoretical and empirical literatures. Pilot testing was conducted to assess the questions' validity and reliability of the data that was to be collected. The data obtained was analysed quantitatively using the Statistical Package for Social Scientists (SPSS). A multiple regression model with four variables was approximated to represent the relationship between the independent and dependent variables, while an error term in the model represented all other variables not considered in the study. Analysis of Variance (ANOVA) was carried out to test the significance of the overall model, while the t-test was used to determine the significance of the individual variables. The study established that human resources had a significant positive influence on sustainability of competitive advantage. Government policy played a negative moderating role between sustainability of competitive advantage and human resources. The study results showed that financial resources had a significant positive influence on sustainability of competitive advantage. Government policy had a negative moderating effect between sustainability of competitive advantage and financial resources. The study established that plant and equipment resources had a significant positive influence on sustainability of competitive advantage. Government policy played a positive moderating role between sustainability of competitive advantage and plant and equipment resources. The study results showed that brand and heritage resources had a significant positive influence on sustainability of competitive advantage. Government policy had a negative moderating effect between sustainability of competitive advantage and brand and heritage resources. From the study findings, the study recommended that, firms that want to gain and sustain competitive advantage should invest in their human resources through training and retention. The firms should strive to increase their profitability and working capital, invest in modern efficient and effective production facilities and systems. Firms should have strategically located head and branch offices. Firms should also ensure their brands are highly reputed by their customers and business partners. The study concluded that human resources, financial resources and plant & equipment resources all play significant positive roles on the sustainability of competitive advantage, however, brand & heritage resources contributed higher than any single organizational resource studied. The study also concluded that government policy played an insignificant moderating role in the role of organizational resources on the sustainability of competitive advantage in the oil industry in Kenya.

INTRODUCTION

This chapter covers, background of the study, statement of the problem, objectives of the study, research hypotheses, justification of the study, scope of the study and limitations of the study.

1.1 Background of the Study

This section covers the global perspective, regional perspective and local perspective of sustainability of competitive advantage.

1.1.1 Global Perspective of Sustainability of Competitive Advantage

In a study carried out in Belgium, according to Bridoux (2010), the world's energy consumption will increase by 60% in the next twenty years, currently, 34% of this energy is provided by oil. Oil is therefore an important resource towards the growth of the world's economy. The oil sector is consequently a big contributor to global economic development by creating jobs, adding to revenues, stimulating consumer spending and hence indirectly influencing many sectors of the economy including real estate, education and research, manufacturing, and retail (Higgins, 2009).

Globally Saudi Arabia is by far the biggest oil producer within the Organization of the Petroleum Exporting Countries (OPEC), pumping some 10 million barrels of crude oil a day. Saudi Arabia therefore plays its traditional role as the global oil market's price swing producer, by adjusting its oil prices or adjusting its output to invoke the laws of demand and supply in the Global oil market. The prices are lowered to stimulate demand as a counter to booming oil production from North America and the general sluggish global oil demand, while supply is cut to stimulate price increase (WSJ, 2014).

According to the resource-based view theory of the firm organizational resources are key contributors to an organization's sustainability of competitive advantage

(Barney, 2007). On the global arena companies that are highly successful over the long term effectively acquire, develop, and manage resources that provide competitive advantages (Barney, 1991). The emergence of a fiercely competitive global economy means that these firms have to expand their networks of relationships and cooperate with each other to remain competitive. Companies have to learn to develop and manage relationships with a wide range of organizations, groups, and people that have a stake in their firms hence sustaining their competitive advantage (Barney, 1997).

A study by Jehad and Faleh (2009) on the resource-based view and competitive advantage in a study carried out in Irag banking industry, revealed that the important areas that can sustain competitive advantage are human resource management, market knowledge and product development. The study further revealed that it is not only resources or assets that generate competitive advantage, but also the organizational routines to handle them. This is because knowledge and routines within human resource management, market research and product development are accumulated over a long time and embedded in the organization and therefore cannot be easily replicated (Helfat, 2003; Helfat et al., 2007).

1.1.2 Regional Perspective of Sustainability of Competitive Advantage

In Africa, studies have shown that the development of organizational resources has been hampered by the high financial investments as well as human capital required. This is because of the growing pace of technological change, the spread of information technologies and intensifying competitive pressures. Indeed, research carried out in Tanzania, Uganda and Zimbabwe (Chaharbaghi & Lynch, 2009) shows that the most advanced productive companies are those that had an edge in sustaining competitive advantage and invested a lot of financial resources in positioning themselves to compete effectively. Similarly entrepreneurs of well-performing companies in these three African countries acknowledged the importance of creating good jobs for skilled people. They paid higher salaries and spent more resources on training than the other companies which resulted in increased productivity and

innovation. This study clearly shows the positive link between financial resources and human resources to sustaining competitive advantage.

1.1.3 Local Perspective of Sustainability of Competitive Advantage

In Kenya, a study by Kipchumba, Chepkuto, Obara and Bitange (2010) on the assessment of knowledge management as a source of competitive advantage and its impact on the performance of Egerton University farms revealed that indeed private farms acquired, stored and shared information for their competitive advantage from various sources compared to Egerton University farms, a situation which made the private farms more competitive than the university.

Further, a study by Murithi (2011) on the factors contributing to sustainable competitive advantage in telecom business organizations, a case study of Safaricom Limited, revealed that Safaricom managed to sustain competitive advantage over its competitors by virtue of having inimitable resources. Further, technological resources have greatly changed the way that service firms and consumers interact, and are raising a host of research and practice issues relating to the delivery of e-service which has become increasingly important not only in determining the success or failure of electronic commerce, but also in providing consumers with a superior experience with respect to the interactive flow of information. Technological resources are critical and cannot be put in place without strong financial resource backing.

A study by Ombati, Magutu, Nyamwange and Nyaoga (2010) on technology and service quality in the Banking Industry, importance and performance of various factors considered in electronic banking services, revealed that technology has continued to enable banks in Kenya to sustain competitive advantage. Technology-based self-service particularly greatly changed the way that service firms and consumers interact, and revolutionized the delivery of e-service which became increasingly important not only in determining the success or failure of electronic commerce, but also in providing consumers with a superior experience with respect

to the interactive flow of information. Technology itself is critical and requires heavy financial investments to put in place.

There is cut throat competition in the Oil industry in Kenya due to growing number of players and diminishing profit margins (Ongwae, 2010). The current study focused on this industry which has been rocked by many changes in the competitive landscape, from full deregulation to partial regulation in retail, from a fully operational to a defunct local refinery, from no oil deposits to confirmed reports of commercially viable oil deposits, to name but a few of the changes. The study made use of some of the variables from the previous studies in Kenya, in this case: Human Resources and Financial Resources but also incorporated more resources including Plant & Equipment resources, and Brand & Heritage resources to examine the role played by these organizational resources on the sustainability of competitive advantage with respect to Oil Marketing Companies (OMCs) in the Oil industry in Kenya.

1.1.4 Organizational Resources and Competitive Advantage

In the twenty-first-century landscape, firms must compete in a complex and challenging context using their wealth of resources (Ong & Ismail, 2008). The competitive landscape is however continually being transformed by many factors, which range from globalization, technological development, as well as increasingly rapid diffusion of new technology, to human resources, and the development and use of knowledge (Newbert, 2008). This new landscape demands that firms should strive to do things differently with their resources necessary for expansion and progress, must look to new sources of competitive advantage and take part in new forms of competition while consistently outperforming their rivals and hence sustaining their competitive advantage (Barney 2007).

According to Eising (2007), a resource refers to an asset or input to production (tangible or intangible) that an organization owns, controls, or has access to on a semi-permanent basis. A firm's assets can be considered to be anything tangible or intangible which a firm uses in the firm's processes for creating, producing, and

offering its products to a market (Nelson, 2009). The resource-based view of the firm states that companies can be understood as a combination of productive resources, and that different companies possess different sets of these resources (Penrose, 2009). The resource-based view of the firm remains a powerful way through which a firm can use to view, define and cement its competitive position in the market place (Barney, 2007). According to Porter (2011) a firm's resources are seen as strengths that a firm can use to conceive and implement their strategies. These resource strengths include all assets, capabilities, organizational processes, firm attributes, information, knowledge, among others controlled by a firm that enable the firm to conceive of and implement strategies which improves its efficiency and effectiveness (Porter, 2011; Porter, 2008) and enables the firm to consistently outperform its rivals.

Competitive value of the resources can be enhanced or annulled by changes in the technology, by changes in the competitor's behaviour, or by changes in the buyers' needs. These aspects therefore need consideration when performing analysis of how resources impact competitive advantage (Porter, 2011). According to Gold, Seuring and Beske (2010) resources create a satisfactory base for formulating competitive strategies. An important factor that assures a long term competitive advantage is the sustainability of the firm's resources. Sustained resources are those that are not easy or quickly reproduced by the competitors and must form the base of firm's strategy. These resources are the key for the sustainability of competitive advantage and should be protected (Surroca,Tribo & Waddock, 2010).

Current rapid changes of the business environment together with the existing knowledge based economy lead firms to confront with more stringent competition environment in the areas of pricing, quality, time duration, innovation and product knowledge. According to Ong and Ismail (2008), competitive advantage is anything that favourably distinguishes a firm, its products or services, from those of its competitors in the eyes of its customers or end users in such a way that the customer chooses to purchase that product or service over another. Firms pursuing primary strategic goal of long term expansion and success, therefore, usually build on competitive advantage in order to sustain competitive advantage over their rivals

(Lee & Lee, 2009). According to the resource-based view theory of the firm therefore, the explanation for why some firms ultimately succeed and others fail in the endeavour to sustain competitive advantage can be found in understanding their resource base (Barney, 2007).

The ability to sustain competitive advantage of a firm also stems from the nature of its resources such as their value, rareness, inimitability and organization, as well as reputation, innovation, architecture and strategic assets (Barney, 2014; Barney, 2007). Successful private sector firms use their resources to add value by using them in a proactive way and by demonstrating appropriability, or the ability to realize the benefits of a distinctive resource for the benefit of the firm itself, rather than its customers, suppliers or competitors (Surroca, Tribo & Waddock, 2010).

Organizational resources are considered as assets or means through which a firm can utilize so as to increase its productivity and competitiveness. These resources can be in various forms including people, money, equipment, time, technology, infrastructure, information and knowledge (Grant, 2007). According to Mahoney and Pandian (2002) firms that utilize their available resources more effectively and efficiently than others are more likely to achieve their goals and enhance their performance and competitiveness.

Some resources are tangible while others are intangible. Tangible resources are assets that can be seen and quantified such as production equipment, manufacturing facilities, distribution centres and formal reporting structures (Barney, 1991). There are four types of tangible resources; physical, financial, organizational, and technological, while other resources are intangible or experiential. Physical resources include the plant, machinery, equipment, production technology and capacity which contribute positively towards organizational competitive advantage and eventually result in firm's superior performance (Morgan, Kaleka & Katsikeas, 2004). In addition, financial resources include the cash-in-hand, bank deposits and/or savings and financial capital in terms of stocks and shares (Morgan *et al.,* 2004). Further,

intangible or experiential resources include product reputation, manufacturing experience and brand-name (Ainuddin, Beamish, Hulland & Rouse, 2007).

Intangible resources are assets that are rooted deeply in the firm's history and have accumulated over time (Raduan, Naresh & Hazril, 2008). Intangible resources are relatively difficult for competitors to analyze and imitate. These comprise of human resources such as knowledge, trust between managers and employees, managerial capabilities, organizational routines, innovation resources such as scientific capabilities and capacity for innovation. Reputational resources consist of brand names, customer reputation and supplier reputation (Rao & Krishnan, 1989). Human resources such as the top and middle management, administrative and production employees also contribute positively towards organizational competitive advantage which eventually result in superior firm's performance (Adner & Helfat, 2003; Morgan *et al.,* 2004; Ainuddin *et al*., 2007; Haslinda, Raduan & Naresh 2007a; Raduan *et al.,* 2007)

The resource-based view of the firm shows that the activities in which a firm engages in consists of a bundle of resources which include assets, processes, attributes, knowledge, information, and know-how which a firm possesses and can therefore use them to formulate and implement competitive strategies (Wernerfelt, 1984). According to Peteraf (1993) such resources allows the firm to work and to implement its strategies more effectively and efficiently. The competitive advantage of the firm could therefore be explained by the differences of the firm's resources and their utilization (Wernerfelt, 1984; Barney 1991; Peteraf, 1993). Penrose (1959) further states that firms reach a superior performance, not only because they have more or better resources, but also because of making better use of their distinctive competencies, being those activities that a particular firm does better than any other competing firm.

Further it is evident that sustainable competitive advantage can be achieved if a firm has a set of resources that can be utilized to create value in the marketplace (Makadok, 2001). In this regard therefore a firm can be able to sustain its

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competitive advantage over another firm only if the resources that are used to create superiority are durable and inimitable (Barney, 1991; Peteraf, 1993). According to Barney (1997) possessing resources is not enough to create competitive advantage. This is because there is need for firms to be organized in order to take full advantage of their resources so as to be able to attain competitiveness. According to Branzei and Thornhill (2006), several firms may have access to the same resources; however their competitive advantage may be different depending on how well firms utilize these resources. Firms that utilize their resources better enjoy competitive advantage over their rivals (Branzei & Thornhill, 2006). Although a given firm may possess more or less of any particular resource, only those resources that are rare, valuable, and difficult to imitate provide a sustainable competitive advantage (Barney, 1991; Amit & Schoemaker, *1993*).

The successful employment of strategies in leveraging the firm's rare, valuable, and difficult-to-imitate resources, then such firms are likely to gain an advantage over their competitors in the marketplace and thus earn higher returns (Hansen, 1995). In the same regard, competitive advantages that are sustained over time lead to higher performance, for instance if a firm could modernize its plant, or develop a more efficient distribution process, or access cheaper credit, it could compete successfully and prosper (Peteraf, 1993).

It has also been argued that intangible resources are more likely to produce a competitive advantage because they often are truly rare and can be more difficult for competitors to imitate (Barney, 1995). Mills, Platts and Bourne (2003) state that because of their diverse attributes not all employees have a strategic value in organizations. Only those who are valuable, rare, unique, and properly organized can create competitive advantage in a way coherent with the resource-based view of the firm. Other employees performing secondary and repetitive tasks do not generate value for the firm (Wright, McMahan & McWilliams, 1994)

1.1.5. The concept of competitive advantage and sustainable competitive advantage

According to Ong and Ismail (2008), competitive advantage is anything that favourably distinguishes a firm, its products or services, from those of its competitors in the eyes of its customers or end users in such a way that the customer chooses to purchase that product or service over another. According to Porter (1985) competitive advantage grows fundamentally out of value a firm is able to create for its buyers that exceeds the firm's cost of creating it. A firm has competitive advantage when it implements a value creating strategy which is not simultaneously being used by its current set of potential competitors. According to the resource-based view, the resources are used to implement a value creating strategy. So if the firm has the resources which let it implement a value creating strategy which the competitors cannot implement, it possesses a competitive advantage. If the current and potential competitors are unable to replicate the effects of this value creating strategy over the long term, the firm has a sustainable competitive advantage (Barney 1991).

The term sustainable is not marked by a period of time of which the firm has the advantage, but rather is it marked by the inability of the competitors to duplicate the advantage. This means that a firm can lose its sustainable competitive advantage at any given time, when competitors are able to replicate the effects of the value creating strategy. However, taking up the notion of dynamic resources, it is argued that it is not the resources that are the basis for competitive advantage, but rather the configurations of the resources, which are the result of the ability to manipulate the resources, and are the basis for implementing the value creating strategy which leads to competitive advantage (Morgan *et al.,* 2004; Ainuddin *et al*., 2007)

According to Diugwu (2011), a firm gains competitive advantage over its competitors by offering customers greater value, either through lower prices or by providing additional benefits and service that justify similar, or possibly higher prices. Pfeffer (1994) describe competitive advantage as any organizational practice,

resource and asset that can be created, used and or sustained to improve an organization's competitive position in the marketplace. Line, (1994) considers competitive advantage as the necessity for every organization to be better in some way than its competitors. This refers to "better" in the functional quality of its products or services, in the products' attractiveness, in their reliability, in the speed, efficiency or convenience with which they are delivered, in the way they are marketed, in their cost to the consumer, or in other ways.

According to Kotler, (2000) competitive advantage is an organizational capability to perform in one or many ways that competitors find difficult to imitate now and in the future, while Barney, (1997) sees competitive advantage as an ability to produce products or offer services different to what competitors do, by utilizing the strengths that organizations possess to add value in a way that competitors find it difficult to imitate.

1.1.6 The Oil Industry in Kenya

Although petroleum fuels constitute the main source of energy in Kenya, the country is a net importer of petroleum products since it has no confirmed oil or gas reserves which are an important resource. Petroleum fuels were prior imported as crude oil for domestic processing; however since August 2013 they are imported as refined products, mainly used in the transport, commercial, as well as industrial sectors (ERC, 2014). There exists a modest upstream oil industry as the Kenyan government in its investment incentives continues to encourage foreign interest in oil exploration and eventual production. Companies like Africa Oil and Tullow Oil have been working on some sites in Northern Kenya and have recently announced oil discoveries and embarked on establishing the commercial viability of the said discoveries, which if confirmed will endow the country with a precious resource (PIEA, 2016).

Infrastructure is an important resource. The country has a defunct petroleum refinery owned and managed by the Kenya Petroleum Refineries Ltd (KPRL) and an installed oil pipeline of 800 km owned and managed by Kenya Pipeline Company (KPC).

This pipeline runs from Mombasa to Nairobi and Western Kenya with terminals in Nairobi, Nakuru, Eldoret and Kisumu (KPC, 2014; ERC, 2014). KPC offers primary transport of refined products for all oil marketing companies to Nairobi and Western Kenya meaning presence at all KPC depots countrywide has a bearing towards ability to compete effectively in the market.

Total industry demand for oil products in Kenya is estimated at 4,500 million Litres per year for all the petroleum fuels, 46.7 million litres for Lubricants and 1.3 million tonnes for LPG (KIPPRA, 2012; PIEA, 2016). Importation and distribution of petroleum products is a cash intensive affair and therefore financial muscle is an important resource (PIEA, 2016). The industry was liberalized from 1994 up to 2012 when due to public outcry on rapid escalation of oil products pricing the government introduced retail fuel price regulations changing the competitive landscape drastically to the disadvantage particularly of the high-cost multinational oil marketing companies (ERC, 2014). The size and distribution of the retail network for each player might still have significant implications towards an OMCs competitiveness in the market (PIEA 2016).

According to the industry regulator, Energy Regulation Commission (2014), there were 63 licensed downstream Oil Marketing Companies in Kenya which can be classified into: Global Multinational Corporations (MNCs), Transnational or Regional Emerging Multinationals (TNCs), Local National Organizations and "Independent" Oil Marketing Companies with mainly local presence. Multinational and Transnational companies leverage more on their brands' recognition due to their foreign heritage compared to the locals and independents in differentiating themselves in the market place.

Competition in the Oil industry in Kenya is cut-throat and influenced by a number of key factors that required investigation including but not limited to quality of human resources, number of service stations owned countrywide, presence at KPC locations countrywide, financial strength, brand and heritage, duration and presence in key sectors of the market. The factors are grouped into four organizational resources

namely: human resources, financial resources, plant & equipment resources, and brand & heritage resources; and all played different roles on the sustainability of competitive advantage of one player versus its rivals to varying degrees (PIEA, 2016).

1.2 Statement of the Problem

In the latest industry statistics released by Petroleum Institute of East Africa for the period January to March 2017, Nairobi Securities Exchange listed company Kenol Kobil topped the industry's overall market share including exports at 16.7%. Vivo Energy followed second with overall market share at 14%. Listed company Total Kenya took third spot with overall market share at 13.6%. The fourth position was held by Gulf Energy at 7.5% while Libya Oil occupied the fifth position with 5.3% market share. The top 5 companies occupied 57.9% market share with the remaining 42.1% being shared by over fifty companies (PIEA, 2017).

The Oil industry in Kenya has in the recent past undergone a lot of changes in the competitive landscape, Changes in infrastructure, oil discovery and many new entrants leading to cut throat competition (Ongwae, 2010). Further changes in the industry have been; the price capping regulations introduced by the Energy Regulatory Commission (ERC) in January 2011 that requires the retail fuel pump prices to be reviewed every 15th Day of the month (ERC, 2014) therefore eliminating pricing rivalry and introducing majority service station ownership as a new competing tool, the change of the only petroleum refinery in the country from a toll processing refinery to a merchant processing refinery and finally to a defunct refinery (KPRL 2012), eliminating cost competitiveness due to internal efficiencies as a competing tool and introducing leveled cost platform among the industry rivals, and finally the oil discovery in northern Kenya that has introduced new focus onto the Oil industry in Kenya both upstream and downstream seeing unprecedented interest especially from major international players in oil exploration and production (PIEA, 2016, Sambu, 2012).

The industry has further been plagued by unpredictable fluctuations of oil prices in the international market, volatility in the foreign exchange market and also the unpredictable political environment (Chepkwony, 2001; Ongwae, 2010). A survey conducted by PricewaterhouseCoopers (PwC) 'African oil & gas review, 2017', analyses the effects in the oil & gas industry since the decline of the oil price in late 2015, which has had a significant effect on major and emerging African markets especially for the local oil marketing companies growth and investing in the sector.Whereas past empirical studies had shown varying degrees of the Role of organizational resources in sustainability of competitive advantage in various industries across the world (Wernerfelt, 1984; Wiklund & Shepherd, 2003; Morgan, Kaleka & Katsikeas, 2004; Sirmon, Hitt & Ireland, 2007), there had been limited focus on the Oil Industry and in Kenya particularly, therefore generalization of the results to the Oil industry in Kenya not appropriate hence the need for this study.

The natural resources hold significant potential for the country, oil discovery has attracted renewed interest and entry of new players in both the downstream and upstream sectors of the Oil industry in Kenya (Tullow, 2014). With these massive changes in the industry, there was need for understanding the role played by the various resources on the sustainability of competitive advantage in order for the industry players to leverage on their organizational resources to compete successfully in the fiercely competitive industry rocked by increasing competition and steeply declining profit margins (Chepkwony, 2001).

1.3 Objectives of the study

The study was guided by a general objective and five specific objectives.

1.3.1 General Objective

The general objective of this study was to establish the Role of organizational resources on the sustainability of competitive advantage in the Oil industry in Kenya.

1.3.2 Specific Objectives

The specific objectives of this study were:

i. To establish the Role of Human Resources on the sustainability of Competitive Advantage in the Oil industry in Kenya.
ii. To find out the Role of Financial Resources on the sustainability of Competitive Advantage in the Oil industry in Kenya.
iii. To determine the Role of Plant & Equipment Resources on the sustainability of Competitive Advantage in the Oil industry in Kenya.
iv. To ascertain the Role of Brand & Heritage Resources on the sustainability of Competitive Advantage in the Oil industry in Kenya.
v. To examine the Moderating Role of Government Policy on the Role of Organizational Resources on the sustainability of Competitive Advantage in the Oil industry in Kenya.

1.4 Research Hypotheses

In order to achieve the stated general and specific objectives, the study aimed at testing the following five specific Hypotheses:

H_{o1}: Human Resources do not play a significant role on the sustainability of Competitive Advantage in the Oil industry in Kenya.

H_{o2}: Financial Resources do not play a significant role on the sustainability of Competitive Advantage in the Oil industry in Kenya.

H_{o3}: Plant & Equipment Resources do not play a significant role on the sustainability of Competitive Advantage in the Oil industry in Kenya.

H_{o4}: Brand & Heritage Resources do not play a significant role on the sustainability of Competitive Advantage in the Oil industry in Kenya.

H_{o5}: Government Policy does not play any significant Moderating Role on the Role of Organizational Resources on the sustainability of Competitive Advantage in the Oil industry in Kenya.

1.5 Justification of the Study

Firms must leverage on their resources to consistently beat their rivals in the market place and sustain competitiveness (Porter, 2011; Jehad & Faleh, 2009). It is therefore the distinctive differences that are consistently sustained over time that lead to higher firm's performance (Farndale, Paauwe & Boselie, 2010), for instance if a firm consistently modernizes its plant, or develops more efficient distribution processes, or accesses cheaper financing or credit at any one time better than its rivals (Sirmon, Hitt & Ireland, 2007). A study focusing on organizational resources and their role with regards to sustainability of competitive advantage in the Oil industry in Kenya is of significance to a number of organizations and individuals as follows:

1.5.1 Oil Marketing Companies

The findings and recommendations of this study will be important to strategists in the oil marketing companies as will contribute to theory in leveraging organizational resources for competitiveness knowing the key roles played by different organizational resources in sustainability of competitive advantage in the Oil industry in Kenya. The study will also contribute towards the changes in attitudes of the Oil industry in Kenya employees and managers in their involvement in the process of strategy execution, knowing the Role of human resources on the sustainability of competitive advantage. Shareholders in the industry as well will benefit from the study in that they will become more aware of the key roles played by different resources at their disposal in sustainability of competitive advantage and will utilize the knowledge to leverage their resources more wisely.

1.5.2 Research and Academia

Scholars interested in studies on roles played by different organizational resources in sustainability of competitive advantage can also use the findings of this study and will therefore find the study important.

1.5.3 Policy Makers

The findings of this study will also be useful to policy-makers. One of the policy-makers is the Kenya Government. The government can use this study to understand why in the recent past there were exits of major multinational oil companies including Chevron, ExxonMobil and Shell, perhaps the changes in the competitive landscape had been to the extent that their main contributors to sustainability of competitive advantage were threatened.

1.6 Scope of the Study

Sustainability of competitive advantage is not only limited to oil marketing companies. The study considered the period 2013 to 2017. However, the study was restricted in scope to cover only downstream oil marketing companies in the Oil industry in Kenya especially those that have operations in major cities in Kenya, including Nairobi, Mombasa, Nakuru, Kisumu, Eldoret, Thika and Kitale; these being the major economic, trade and industrial cities or towns in Kenya, and most oil marketing companies with significant operations in the country would be present in these areas or aspiring to be present in the long term at retail level.

The study was done in oil firms that present a true representation of the Oil industry in Kenya in all aspects. Factors considered in the stratification of the oil marketing companies for the study included: Possession of Service Stations (Presence in Retail) in at least majority of the aforementioned cities or towns, presence in the Industrial and Wholesale market, offering full range of oil industry products, established organizational and management structures, established depots, plants, terminals as well as offices in the major cities or towns either directly or through the KPC system. The respondents for the study were key representatives of the sampled OMCs at all levels of seniority including strategic managers or senior managers involved in some form of decision making in the selected organizations. The information collected in the study was limited to human resources, financial resources, plant and equipment resources and brand and heritage resources.

1.7 Limitations of the Study

The company's confidentiality policy limited respondents' response since most respondents were not willing to share information relating to sales and profits because of fear that the information may be shared with other competitors. This scenario prompted adjustment of the questionnaire at the pilot stage to test the sustainability of competitive advantage variable using perceptual measures so as to reduce cases of non-response. To ensure that respondents were comfortable sharing information, they were given the option of not disclosing their Company identities to ensure that information collected is not traced back to the respondents. It was also difficult to get the busy employees to fill and return the questionnaires. There were also a few cases of respondents seeking clarification in filling sections of the questionnaires.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents the review of relevant theoretical and empirical literature. It comprises of the theoretical review, conceptual framework of the study, review of the resource based view theory of the firm, concept of organizational resources, concept of competitive advantage; concepts of human resources, financial resources, plant & equipment resources and brand & heritage resources; summary of the theories reviewed; followed by review of empirical studies, critique of both theoretical and empirical literature, and finally concludes with summary of the reviewed literature and identified research gaps.

2.2 Theoretical Review

A theory is a set of systematic interrelated concepts, definitions and propositions that are advanced to explain and predict phenomena (Cooper & Schindler, 2011). Concepts are sometimes called the building blocks of theory. A theory refers to definitions and propositions that present a systematic view of phenomena by specifying relations among variables, with the purpose of explaining natural phenomena (Luciani, 2015; Cooper & Schindler, 2008). Khan (2010) defines theoretical framework as an agenda, outline or construct of a research approach that preceded the literature review. According to Ocholla and Le Roux (2010), theoretical framework forms the rationale for a study that helps a reader make logical sense of relationships between variables relevant to a problem and the theorized relationship between them. The study was based on the Resource–Based View (RBV) Theory, Porter's Theory of Competitive Advantage, Competency Based Theory, Systems Theory and Dynamic Capabilities Theory.

2.2.1 The Resource-Based View (RBV) Theory

In the context of strategic management, Mintzberg, Ahlstrand and Lampel (2000) consider Wernerfelt Birger (1984) as being the first person to develop the idea of resource based view. It is indeed one of the most widely used theoretical frameworks in the management literature. However, the credits for the development of the Resource Based View were given to Jay Barney who transformed it into a complete theory. The theory has earned a reputation as a promising contemporary theory which integrates strategic insights on competitive advantage as well as organizational insights into the existence of the firm. Resource-Based View remains outstanding because of how it focuses on the internal forces of the firm. Barney and Clarke (2008) stipulates that Resource-Based View (RBV) of a firm's internal strengths and weaknesses largely depends on two fundamental assumptions. First, it assumes that work firms can be described in terms of bundles of productive resources which are different for each specific firm. Each firm can be thought to possess different bundles of these resources. This assumption is termed as firm resource heterogeneity. The second assumption drawn from Selznick (1957), Schuler and McMillan (1984), is such that one assumes that some of the organization's resources are either inelastic to supply or just very costly to copy, thus regarded as the assumption of resource immobility.

As a competitive advantage, the Resourced-Based View examines the relationship between the internal organizational characteristics and the performance of an organization; it could not have the same fundamentals that are adopted for studies that focus on environmental threats and analysis of opportunities. Thus, the two basic theory principles developed by Barney (2014) are: a) from Penrose's work (1959), stating that companies can be understood as a combination of productive resources, and that different companies possess different sets of these resources; b) from Selznick (1957), claiming that some organizational resources are very expensive to follow and have disrupted supply, generating the notion of the immobility of these resources.

According to Barney (2014) the Resourced-Based View focuses on the distinctiveness and on the costs of copying the resources controlled by the organization. This occurs because the organizations within one sector can be heterogeneous in relation to the strategic resources they control and these resources may not be transferable between these organizations and, therefore, the heterogeneity may be permanent (Barney, 1986). In the construction of the concept of resource, Barney (1997) affirms that the organizational resources are all the organizational goods, capacities, abilities, processes, attributes, information, knowledge and many others that are controlled by the organization and that makes it possible for the company to conceive and to implement strategies that improve its efficiency and its effectiveness.

The use of the term resource to distinguish an organizational attribute does not exclude the adoption by some authors of other terminologies. Thus, concepts such as capacity (Kay, 1996), ability (Prahalad & Hamel, 1990), asset (Teece, Pisano & Shuen, 1997) and resources are current, not having in practice great distinctions between them (Barney, 1996). Penrose (1959) affirms that a company is more than an administrative unit, being also a grouping of productive resources divided in physical resources and human resources. The physical resources include the tangible goods such as plant, equipment, natural resources, raw material, half-finished products, discarded products and by-products and unsold supplies. The available human resources in the company are the professional, clerical, administrative, financial, legal, managerial and technical teams.

According to Grant (2007) the reputation and the technological resources goes beyond Barney's four categories of resources being; human capital, financial, organizational and physical resources that he calls, in general, organizational resources. Kay (1996) further presents four different capacities as important relationships between the characteristics of an organization (a) the organizational architecture is a contract where it can establish relationships with or between its employees – internal architecture –, with its suppliers and customers – external architecture – or, enters a group of companies engaged in correlated activities; (b)

innovation or company capacity to offer new products to the market; (c) the reputation or mechanism used to transmit information to consumers and the association with the attributes of product and; (d) the strategic assets that are related to the position the company has in the market.

Barney and Clarke (2007) argue that resources should have some capability to generate profits or to avoid losses. A general resources' unavailability will neutralize the firm's competitive advantage. Further, for a firm to take high levels of performance and a sustained competitive advantage, it needs to acquire heterogeneous resources that are difficult to create, to substitute or to imitate by other firms (Penrose, 1959). Resources can be tangible or intangible in nature. Tangible resources include capital, access to capital and location (among others). Intangible resources consist of knowledge, skills and reputation, entrepreneurial orientation, among others (Ndungu, 2015). The main reason for firm's growth and success can be found inside of the firm's resources and superior capabilities which will build up a basis for gaining and sustaining competitive advantage (Barney, 2014).

According to some authors (Barney, 2014; Grant, 2007; Ndungu, 2015) resources are, by themself, insufficient for obtaining sustained competitive advantage and high performance. This is possible only if the firms are able to transform resources through capabilities, and consequently in a positive performance (Coccia & Rolfo, 2013). Cascio (2018) further states that firms reach a superior performance, not only because they have more or better resources, but also because of making better use of their distinctive competencies, being those activities that a particular firm does better than any other competing firm.

2.2.2. Porters Theory of Competitive Advantage

According to Porter (2011), a firm develops its business strategies in order to obtain competitive advantage over its competitors. It does this by responding to five primary forces: the threat of new entrants, rivalry among existing firms within an industry, the threat of substitute products/services, the bargaining power of suppliers, and the bargaining power of buyers. A firm assesses the five competitive forces in a

given industry, then tries to develop the market at those points where the forces are weak (Penrose & Penrose, 2009). For example, if the firm is a low-cost producer, it may choose powerful buyers and sell them only products not vulnerable from substitutes. The firm therefore positions itself so as to be least vulnerable to competitive forces while exploiting its unique advantage of cost leadership. A firm can also achieve competitive advantage by altering the competitive forces. Firms also increase bargaining power over their customers and suppliers by increasing their customers' switching costs and decreasing their own costs for switching suppliers. The five competitive forces model provides a solid base for developing business strategies that generate strategic opportunities.

According to Porter (2011) competitive advantage grows fundamentally out of value a firm is able to create for its buyers that exceeds the firm's cost of creating it. Value is what buyers are willing to pay and superior value stems from offering lower prices than competitors for equivalent benefits or providing unique benefits that more than offset a higher price. Penrose and Penrose (2009) propose three generic strategies requisite for competitive advantage: Cost leadership, differentiation and focus. According to Porter (Porter, 2008), a low cost producer must find and exploit all sources of cost advantage. Low cost producers typically sell standard or no frills, product and place considerable emphasis on reaping scale or absolute cost advantages from all sources. If a firm can achieve and sustain overall cost leadership, then it will be an above-average performer in its industry provided it can command prices at or near the industry average.

Porter (2008) claims that cost leadership requires aggressive construction of efficient-scale facilities, vigorous pursuit of cost reductions from experience, tight cost and overhead control, avoidance of marginal customer accounts, and cost minimization in areas like research and development, service, sales force and advertising. A firm's cost position gives the firm a defence against rivalry from competitors, because its lower costs mean that it can still earn returns after its competitors have competed away their profits through rivalry. Any cost leadership strategy has to be one in which a firm is able to achieve the lowest cost of operation

per unit of production, compared to others in the same industry. An overall cost leadership strategy concentrates attention on a company's value chain resulting in low-cost products and services (Porter, 1980; Ramaswamy & Namakumari ,1996)

According to Porter (1985), in differentiation strategy a firm seeks to be unique in its industry along some dimensions that are widely valued by buyers. It selects one or more attributes that many buyers in an industry perceive as important and uniquely positions itself to meet those needs. The means for differentiation are peculiar to each industry. Differentiation can be based on the product itself, the delivery system by which it is sold, the marketing approach and a broad range of other factors. A firm that can achieve and sustain differentiation will be an above-average performer in its industry if its premium price exceeds the extra costs incurred in being unique.

Differentiation provides insulation against competitive rivalry because of brand loyalty by customers and resulting lower sensitivity to price. It also increases margins, which avoids the need for a low-cost position. The resulting customer loyalty and the need for a competitor to overcome uniqueness provide entry barriers. Differentiation yields higher margins with which to deal with supplier power and clearly mitigates buyer power since buyers lack comparable alternatives and are thereby less price sensitive (Barney, 2014). According to Porter (2008) in this strategy the firm can choose to concentrate on a select customer group, product range, segment of a market, geographical areas or service lines. Focus strategy is also based on adopting a narrow competitive scope within an industry that large firms may have overlooked. A successful focus strategy depends upon an industry segment large enough to have good growth potential but small enough not to be important to other major competitors (Akan, Allen, Helms & Sprawls, 2006). Focus strategy is twofold. In cost focus a firm seeks a cost advantage in its target segment, while in differentiation focus a firm seeks differentiation in its target segment. Both variants of the focus strategy rest on differences between the focuser's target segments and other segments in the industry (Lavie, 2006).

According to Atikiya (2015), the strategy rests on the premise that the firm is able to serve its narrow strategic target more effectively or efficiently than competitors who

are competing more broadly. As a result the firm achieves either differentiation from better meeting the needs of the particular target or lower costs in serving this target or both. A firm can create strategic advantage by choosing to become specialized and focus on a market niche instead of competing broadly in the market (Koo, Koh, & Nam, 2004).

2.2.3. Systems Theory

According to the systems theory, the world consists of things, which in turn can be described by the set of properties they possess. Each property has a value, which might change over time and the particular value at a particular point in time can be defined as a state of the property (Nevo & Wade, 2010). System theory suggests that systems consist of other things and they are things by themselves. A thing might be a system by itself or a basic element. System properties might be of two natures: some properties belong to the components of the system, but a new value is assigned to them; the other properties are radically new properties and their existence stems from relationships between the components of the system (Farina & Rinaldi, 2011). It means therefore that components are not isolated and they might interact. From this interaction the new or modified properties arise. The synergy (positive emergent capabilities) between the children things of the subsystem might rise to the system itself, which will have a positive impact on the overall performance (Lundvall, 2010). Systems are composite things, that is, they have interacting components that may be systems in their own right (in which case we refer to them as subsystems) or they may be basic elements. In addition, systems possess properties that are derived from the interactions among the components.

Systems can be classified based on their relationships with their environments. The two types are open systems and closed systems. A closed system is isolated from its environment. There is no import or export of material and its final state is unequivocally determined by its initial conditions. An open system, on the other hand, exchanges materials with the environment and has the basic characteristic of self-regulation (Alipour & Mohammadi, 2011). An open system must include

component elements that facilitate an interaction with its environment and contribute to the self-regulation (Lundvall, 2010). As the system regulates itself so as to achieve its goals, it seeks to maintain a steady state, a constant composition that is achieved by a continuous exchange and flow of component material. Most of the descriptions of how information can be used to achieve competitive advantage have focused on the firm's customers (Farina & Rinaldi, 2011). Although obviously effective, this customer-oriented approach is rather narrow.

Systems theory provides the basis for taking a broader view with regards to firms' competitive advantage. Competitive advantage can therefore be achieved by improving the information flow between the firm and each of the environmental elements. For example, an improved information flow between the firm and its suppliers will ensure that raw materials are available when needed; an improved flow between the firm and its stockholders and owners, and the financial community will ensure that funds are available when needed; an improved flow between the firm and labor unions will ensure a continuing supply of skilled workers; and so on (Nevo & Wade, 2010). A systems view therefore enables the firm's executives to see that relationships with each of the environmental elements can contribute to competitive advantage. Further, it becomes clear that information flows play key roles in these relationships. Systems theory contributes a systematic, rather than haphazard, approach to the design of environmental information systems (Alipour & Mohammadi, 2011).

2.2.4. Dynamic Capabilities Theory

The dynamic capabilities view of a firm was launched by Teece in early 1990s. The framework is based on the works of Barney (1991), Rumelt (1984) and Wernerfelt (1984). The theoretical framework is an advancement of the resource-based view of the firm which views resources as the key to superior organization performance. If a resource exhibits the VRIO attributes, it enables an organization to achieve a competitive advantage (Barney, 2014; Rothaermel, 2012). According to Barney (2001), the RBV's framework emerged in 1980s and 1990's after the major works

published by Wernerfelt, B. (the resource based view of the firm), Prahalad & Hamel (the core competence of the corporation), Barney, J. (Firms resource and sustained competitive advantage). However, the RBV theory failed to recognize the fact that environment in which organizations works today is not static but dynamic and turbulent in nature (Priem & Butler, 2001). The effort to rethink about the applicability of the RBV in a dynamic environmental context that characterizes today's organizations is what gave birth to the Dynamic Capabilities Theory or approach to organizations.

According to Teece (2017), a capability is the capacity to utilize resources to perform a task or an activity, against opposition or circumstance. Capabilities flow from astute bundling or orchestration of resources. While resources base according to RBV refer to physical, human and organizational assets (Cantwell, 2016), dynamic capabilities are learned and stable patterns of behavior through which a firm systematically generates and modifies its way of doing things, so that it can become more effective (Winter, 2003). The dynamic capability theory (Eisenhardt & Martin, 2000) is based on the concept that organizations will always attempt to renew their resources in a way that suits the changes taking place in a dynamic environment. According to Teece (2014), dynamic capability approach examines how firms are able to integrate, build, and reconfigure their specific competencies (internal or external) into new competencies that match changes taking place in a turbulent environment (Helfat, Finkelstein, Mitchel, Peteraf, Singh, Teece & Winter, 2007).

The dynamic capability framework is based on the assumption that firms with greater dynamic capabilities will always outperform those with smaller dynamic capabilities. Therefore, operations in a dynamic environment call for firms to continuously renew re-engineer and regenerate their internal and external firm's specific capabilities in order to remain competitive (Barretto, 2014). The dynamic capabilities are hard to develop and difficult to transfer because they are tacit and are embedded in a unique set of relationships and histories of a firm. Ordinary capabilities, according to RBV (Grant, 2007), are about doing things right whereas dynamic capabilities are about doing right things at the right time based on unique processes, organizational culture

and prescient assessments of the business environment and technological opportunities surrounding a firm (Teece, 2014). Managerial functions are relevant to dynamic capabilities in areas of co-ordination, guided learning, and reconfiguration or transformation. Dynamic capabilities reside in at least part, in managerial entrepreneurship and leadership skills of the firm's top management and in managerial ability to design, develop, implement and modify their daily organizational routines (Al-Aali & Teece, 2014).

2.3 Conceptual Framework

A conceptual framework presents factors that are helpful in conceptualizing a study. It is a concise description accompanied by a graphical or visual depiction of the major concepts of the study and the hypothesized relationships and linkages among them (Mugenda & Mugenda, 2012). In conducting the study, a conceptual framework was developed to show the relationship between the independent variables and dependent variable. Sustainability of competitive advantage in the Oil industry in Kenya depends on certain factors as set out into two categories as dependent and independent variables. Independent variables include: Human resources, financial resources, Plant and equipment resources, and, brand and heritage resources. Government policy was included as a moderating variable. The relationship of the variables is displayed in the Figure 2.1 below:

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┌─────────────────────────────┐          ┌─────────────────────────────┐
│ Human Resources             │          │ Government Policy           │
│   • Recruitment & Staffing  │          │   • Rules and regulations   │
│   • Training & Learning     │          │   • Infrastructure          │
│   • Labour & Employee       │          │   • Taxation policies       │
│     relations               │          │   • Competitive             │
│                             │          │     environment             │
│   • Organization Development│          │                             │
└─────────────────────────────┘          └─────────────────────────────┘
┌─────────────────────────────┐
│ Financial Resources         │
│                             │
│   • Cash                    │                    ┌─────────────────────────────┐
│   • Bank facilities         │                    │ Sustainability of           │
│   • Short term bank deposits│                    │ Competitive                 │
│   • Liquid financial        │                    │ Advantage                   │
│     Investments             │                    │   • Sales turnover          │
└─────────────────────────────┘                    │     / Market Share          │
┌─────────────────────────────┐                    │   • Profitability           │
│ Plant & Equipment Resources │                    │   • Return on               │
│                             │                    │     investment              │
│   • Head & branch offices/  │                    │                             │
│     customer service centres│                    │   • Product                 │
│     and trading network     │                    │     diversification         │
│                             │                    └─────────────────────────────┘
│   • Manufacturing storage & │
│     Operating facilities    │
│                             │
│   • Availability and        │
│     accessibility of        │
│     Modernized equipment    │
│                             │
│   • Processes & Technology  │
└─────────────────────────────┘
┌─────────────────────────────┐
│ Brand and Heritage          │
│ Resources                   │
│   • Company Image           │
│   • Parent company leverage │
│   • Service provider        │
│     attraction              │
│                             │
│   • Product identity        │
└─────────────────────────────┘
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Dependent variable

Independent Variables   **Moderating Variable**

Figure 2.1: Conceptual Framework

2.3.1 Human Resources

The human resource enables organizations to achieve optimization of other resources, effectiveness, and continuous improvement consistently (Wernerfelt, 2014). Organizations take time to nurture and develop their human resource by improving their knowledge, skills, abilities, motivation, attitude, as well as interpersonal relationship, making it difficult for competitors to imitate (Ayanda, 2011). According to Pfeffer (2014) human resource has been vital for firm sustained performance. In knowledge economy, for instance the human resource has been regarded as a strategic tool, which is necessary to organizational profitability as well as sustainability. This means that the realization has led to the new function of human resource managers as strategic partners in formulation and implementing organizational strategy (Patrick & Sebastian, 2012). Organizations continue to proactively pursue human resource management (HRM) practices and systems in order to capitalize on strength of this vital asset so as to achieve sustained competitive advantage in knowledge economy (Lasserre, 2017).

People are the assets on which competitive advantage is built, whether in the public or private sector, whether in the corporate world or in the world of education. Human resources are considered the most important asset of an organization, but very few organizations are able to fully harness its potential. Focus on people has become the new mantra for success (Deresky, 2008). The latest theory in human resource management holds that people are an "inimitable" asset. Workforce and their skills are the one thing that competing organizations cannot imitate. Effective and efficient workforce has been shown to enhance company's performance by contributing to customer satisfaction, innovation, productivity, and development of a favourable reputation of the firm (Sristava, Franklin & Martinette, 2013). Cascio (2018) looked at HR practices of high performance companies and established that indeed attracting and selecting the right employees' helps to increase the employee productivity, while at the same time boosting the performance of the organization and contributing to reduced turnover.

The first criterion for competitive advantage in an organisation is that the resources must be valuable (Barney, 2014). This means therefore that specific skills and capabilities each person holds is likely to provide more or less value depending on the market in which the organisation operates (Imran & Ahmed, 2012). From there, value can therefore be determined by whether or not these skills as well as capabilities helps the organisation to exploit its opportunities and thus reduce the role of its threats and how the organization recognises as well as responds to these opportunities and threats in the changing environment (Barney, 2014).

2.3.2. Financial Resources

According to Mihm-herold (2010) they all emphasize that financial resources are directly related to competitive advantage as well as the past activities of the firm, which is especially true in respect of managerial and organizational capabilities. This may be particularly true in the case of firms, which typically grow from start-up or become developed by serial entrepreneurs. Managerial skills garnered on the entrepreneurial journey are extremely valuable, and form the core of the literature on competitive advantage (Lockett, Thompson & Morgenstern, 2009).

Pajak, Kaminska and Kvilinskyi (2016) argue that financial resources are key in the development of human capital resources and are both key for sustainable competitive advantage of organizations. Barney (2014) states that human capital resources include the training, experience, judgement, intelligence, relationships, and insights of individual managers in a firm. Evidence from previous empirical studies of organizational and entrepreneurial learning suggests that investment decision making in organizations is on the basis of experiential learning, rather than formalized methods (Ekanem & Smallbone, 2007). Experience is extremely important, as it provides time to recognize opportunities, develop contacts and experience, and learn how to access and to interact with funders, including bank managers and venture capitalists. Thus, a large part of entrepreneurial learning is experiential (Fink & Kessler, 2009).

Although some studies report that only a small number of financial managers employ the resulting knowledge in a proactive way to build competitive advantage (Ongwae, 2010), other studies find that as firms move from a higher-level learning style, this is accompanied by competence enhancement that can lead to greater organizational capability (Fink & Kessler, 2009) and hence sustained competitive advantage. Similar to the development of managerial skills and experiential learning, access to, and accumulation of financial resources also increases over time. This is clearly indicated by higher bankruptcy rates in younger firms, as young firms are more failure prone than older ones (Cressy, 2006b). This may be attributable to a number of factors, including undercapitalization and a lack of financial management nous. Competitive advantage is gained from an initial endowment of financial resources, and also access to networks of private investors and business angels, who commonly provide seed capital funding. This gives the firm owner an advantage at start-up, which, if sufficient, ensures that the firm is adequately capitalised. Additionally, financing options generally increase as a track record is accumulated (Diamond, 1989). Effective and efficient management and investment of these capital financial resources results in profit generation, which are typically accumulated as a firm develops and progresses over time. In this way firms develop sustained competitive advantage, resulting in accumulation and reinvestment of owners' favoured source of finance as well as internal equity (Paul, Whittam & Wyper, 2007).

Porter (2011) states that the RBV is important because it proposes that inter-firm variations in financial performance are at least as important as inter-industry differences. It has also been established that firm-specific characteristics are more important than structural characteristics of industry, and that financial and strategy variables have far greater explanatory power than industry-specific effects (Fink & Kessler, 2009). This evidence, agree with the central proposition of the RBV that idiosyncratic, immobile resources are the source of competitive advantage (Pajak, Kaminska and Kvilinskyi, 2016; Fink & Kessler, 2009; Kelliher & Reinl, 2009).

2.3.3. Plant and Equipment Resources

Success in any competitive context depends on offering superior customer value hence value advantage, or operating with lower relative costs hence cost advantage or, ideally, both (Porter, 2011; Othman et al., 2015; Kamasak, 2017). The survival of any business depends on its ability to compete effectively. The competitive advantages occur when a firm uses its resources and capabilities to develop organizational competences that, in turn, create value for customers, Odack (2015). As a response to the challenges posed by a business environment, for example increased global competition, many manufacturing companies are seeking ways to gain competitive advantages with respect to cost, service, quality and on-time delivery. Furthermore, the focus has moved from 'Lean Production', which focuses on the reduction of total costs towards 'Agile Manufacturing' that focuses on increasing total revenue (Othman et al., 2015).

Consequently, the manufacturing company structure has changed from a labour-intensive industry to a technology-intensive, i.e. capital intensive, industry. The production pattern has changed from mass production to the production of many variations to meet diversified needs, i.e. Job-shop, and finally, to a separate model for every customer or mass customization. Many changes in the internal environment of the companies are taking place: the increased use of mechanization and automation of operations, such as flexible manufacturing systems (FMS), robots, automatic warehousing, automatic guided vehicles (AGVs); the increasing trends of using Just-In-Time (JIT), and Total Quality Management (TQM) philosophy (Kamasack, 2017). These entire changes tie up much invested capital, for example, companies within process and chemical industries, such as paper mills and refineries, use extremely expensive and fully automated production lines (Othman et al., 2015).

Furthermore, there is increasing pressure to protect the ecological environment from the danger of harmful industrial waste and pollution. This means that the manufacturing plant should be used effectively, efficiently, and provide high quality products at a competitive price in addition to showing concern for the environment

and safety. In the move towards world-class manufacturing many firms are realizing a critical need for the use of a proper, i.e. efficient and effective, maintenance of production facilities and systems (Othman *et al.,* 2015). Industrial plants, machinery and equipment are becoming technologically more advanced and at the same time more complex and difficult to control. JIT management systems, lean and agile manufacturing and the use of automated and integrated systems have made production systems increasingly vulnerable to risks and susceptible to diverse consequential effects due to breakdowns (Yang, Marlow & Lu, 2009). For example, implementing JIT requires an effective and efficient maintenance which can ensure a smooth flow of production and, ideally, a 100-percent quality cost effectively.

Plant and equipment maintenance is a business function that serves and supports the primary process in an organisation. The maintenance process adds to customer value in terms of profit, quality, time and service (Yang, Marlow & Lu, 2009). Therefore, the maintenance function became more essential for a manufacturing organisation's ability to maintain its competitiveness. Without well-maintained equipment, a plant will be at a disadvantage in a market that requires low-cost products of a high quality to be delivered quickly, (Swanson, 2001). Therefore, the importance of the plant maintenance function has been greater than before, due to its role in maintaining and improving availability, performance efficiency, quality products, on-time deliveries, the environment, safety requirements and overall plant productivity at high levels. Furthermore, an increasing awareness of plant maintenance and its influence for both industrial enterprises and society as a whole can be recognized as it leads to competitive advantage against the rivals.

Plant and equipment is becoming increasingly essential due to the changes in the production and the environment of companies. These changes can be described by factors such as the level of automation and capital intensity associated with automated production lines, globalisation, restructuring and downsizing strategies, organisation structures, personnel competence development and the difficulty of assessing the impact of plant maintenance on the companies' competitiveness. A typical manufacturing system consists not only of mechanical components, but also

of other elements such as electronic, hydraulic, electromechanical elements, software and human beings. This means that disturbances and deviations in the production process may occur due to different factors such as the failure of significant components of equipment, the quality of purchased material and spare parts, design, manufacturing process control, management systems and human errors, (Yang, Marlow & Lu, 2009).

Organizations that need to achieve competitive advantage need to reduce failures of their manufacturing plants, machinery and equipment/component, thus improving the overall productivity of the plant. This objective can be achieved using various approaches: corrective maintenance; the changing of a component at a pre-specified time using statistical models based on collected historical failure data; condition-based maintenance through monitoring the condition of the component using one or more of the condition monitoring (CM) techniques. In every case, the decision maker tries to select one approach from all the possible maintenance approaches for each piece of equipment or component. However, the current practices in plant and equipment maintenance and replacement decisions are frequently based on informed opinions such as following the original equipment manufacturer's (OEMs) recommendations (Odack, 2015). It is also essential for organizations to reduce indirect (invisible) costs that may arise due to planned and unplanned plant maintenance actions, e.g., lost production costs and accidents. Recently more emphasis has been put on plant maintenance as a profit generating function and a key driver of competitive advantage (Pierre & Fernandez, 2018).

2.3.4. Brand & Heritage Resources and Competitive Advantage

Branding takes two forms: Corporate branding and product branding. According to Elamin (2008), a corporate brand with a high complexity can be a name, term, sign, symbol or design, as well as a combination of these elements, which are intended to identify and thereafter differentiate the company's products from what competitors offer, in the minds of the subjects concerned. On the other hand, product branding

mainly deals with the product and the customer, as well as focuses on the marketing activity as a short, long, and tactical function (Faems, 2010).

Brand names continue to form part of the increasingly valuable assets for many companies (Maina, 2015). In a cluttered marketplace, brands continue to stand up as among the main source of differentiation and competitive advantage for providers of products and services, which can be quickly tracked given the easy access to technology and information (Odach, 2015). Many consumers therefore use brands as clues to be able to indicate product performances, instead of having to engage themselves in search for information when making decisions between competing brands.

Consumers are known to mostly use brands as cues in making decisions to purchase or try products (Barney, 2014). According to Arouri *et al*., (2012) a cue is defined as all informational stimuli which is available to the consumer before consumption, and can therefore be intrinsic or extrinsic. Few examples of intrinsic cues include taste and design, while extrinsic cues include brand, as well as price (Odach, 2015).

It is said that consumers tend to rely heavily on extrinsic cues (Jacoby & Dowling, 1977). Moreover, Odach (2015) assert that consumers most often utilize extrinsic cues when evaluating a brand because they often are unable to detect its true intrinsic quality. To a very large extent, a brand also speaks of familiarity and credibility about the product and service. In developing economies for instance, consumer choice is significantly increasing. However, in the junior stages of economic transformation, there is very little information available to the consumer. It means therefore that, consumers in transitioning economies rely heavily on cues from brands by default (Reardon & Gutman, 2005).

Faems (2010) argue that indeed the consumer brand knowledge determines how well a consumer thinks about a brand. Edge (2005) on the other hand asserts that, the indiscriminate value of a strong brand lies heavily on the impression left with any single individual who comes into contact with the organization. He further argues that indeed the most compelling reasons for an effective branding is to gain customer

loyalty as well as support a premium price given that purchasers rely mostly on experience and their long held attitudes about a brand; and also that successful brands are mostly focused on one specific market segment.

Maina (2015) state that change in customer brand preferences and spending patterns is likely to influence consumer's behaviour. Accordingly the study further revealed that consumers in the banking industry transferred their account to alternative providers because of lifestyle changes, such as marriage or moving house. Arouri et al., (2012) established that price followed by trust; service quality and the availability of a firm at a time of crisis are the most important criteria in the selection of product brands. On the other hand Riggal (2000) states that the convenience factor is the most important for customers; this is followed by friend's suggestions and finally low service charges for choice of banking brands.

According to Besanko, Dranove, Shanley, and Schaefer (2007), corporate brand preference influences consumption patterns. This is because consumers who have had a positive experience with a firm's brand will be reluctant to switch to competing brands if there is a chance that the competing brands will not work. Buyer uncertainty coupled with reputational effects can make a firm's brand name a powerful isolating mechanism (Besanko, et al., 2007) and hence a great source of sustainable competitive advantage. Sometimes unsatisfied customers are also loyal due to attachment and commitment with the supplier while satisfied customers, if they lack the trust commitment and attachment with the supplier's products and services will always deflect once they find a competitor with better quality of products and services.

It is evident that consumers would definitely go through the rigors and time consuming task of being able to determine what product to choose from the long list of unbranded products. There is also the likely event of choice of the wrong products from the several unbranded products, this simply because of the unscrupulous behavior of some middlemen. This assertion is therefore buttressed by Cressy (2000b) who argued that, consumers seeing a favoured brand (to which they may

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exhibit loyal behaviour), are likely to cut short the analysis of alternatives prior to the purchase decision, and proceed in a more rapid manner towards the purchase. This indicates the value of brands and branding with regards to competitive advantage.

Moreover, it is evident that a realization of the fact that branding on its own, as a marketing tool, is likely to affect other product management decisions, and it therefore confronts one with the fact that its impact on marketing activities as well as the perception of consumers cannot be over emphasized. (Odach, 2015) captures the very essence of branding when he states that apart from the herculean task that will be associated with trying to decide what manufacturers' product to buy from all the unbranded products, other product management decisions, based on market segmentation, promotion, product positioning, pricing etc, would have been practically impossible. From the foregoing discussions on the relevance of branding, marketers as well as producers alike are developing increasing interest in this subject of brands and branding and its impact on organizational strategy in driving sustainable competitive advantage in the market place.

An organization's heritage and their path to their current position is uniquely shaped by many different factors which cannot be replicated (Barney, 2014). No matter how closely a competitor can replicate an organization's resources, there is no substitute for the experience and the knowledge gained as a result of experiences, or the time and effort that have been invested into an organization. In particular the behaviours of the people are a crucial differentiator and can be better sources of competitive advantage as having the skills and abilities does not ensure that the behaviours will be demonstrated (Bookchin, 2007). Another aspect of the heritage of an organization that can provide competitive advantage is the organizational culture and norms that have been developed (Barney, 2011). Organizational culture, more importantly positive culture, cannot be established overnight, it will take many years to develop, with many aspects of the organization's history having an impact on it.

Social complexity is another way in which an organization's heritage can be a form of sustained competitive advantage. Unlike most resources employed by the

business, for example physical resources that are purchased and used, human resources are difficult to manage and influence (Barney, 2011). The people in an organization are what make it socially complex, a complexity that is amplified if there are variations in the cultures of the people in an organization. For example, the relationships the organization engages in, the relationships between people within the organization and the organizational culture. These attributes can be implemented by other organizations, however, they are very difficult to imitate exactly as all the people involved are inherently different (Barney, 2014).

Non-substitutability is also an aspect of non-imitability. This criterion for sustained competitive advantage is the requirement that there are no other resources in the market that are strategically equivalent, meaning that another resource cannot be substituted for the resource that is currently providing competitive advantage. In particular, if there are any resources available on the market as possible substitutes, they must also be rare and inimitable (Barney, 2007). While people's skills may be substitutable, the behaviours exhibited are not; furthermore the combination of human resources in an organization is even less substitutable. It is very difficult to substitute a different group of people into a situation and for them to come out with the same outcome. Individuals can be substituted, but the aggregate knowledge, skills and abilities in different groups which form part of an organization's heritage will vary.

These barriers to imitation must be maintained in order to continue to be a source of sustained competitive advantage, as over time the advantage will erode as competitors work hard to obtain the advantage (Porter, 2011; Bookchin, 2007). Organizations need to reinvest repeatedly in the competencies that provide them with competitive advantage in order to sustain it, in particular in the areas that are ambiguous to competitors as this is the major barrier to imitation. In terms of HR, this reinvestment should be aimed at providing support for the people that possess the tacit knowledge that is so vital to the organization and to make use of their valuable knowledge in other areas of the organization where possible (Barney, 2014). Secondly, organizations should also aim investment at training and development

practices in order to ensure the human resources in the organization remain at the top of their field.

The final criterion for sustained competitive advantage from an organization's heritage is whether the organization is organized so that they will be able to exploit their resources and capabilities to their full potential when opportunities to gain advantage arise (Barney, 2014). The organization must be organized and ensure that their people are correctly trained so that they have the necessary knowledge, skills and capabilities to grasp opportunities when they arise. In general, it is about having the right people in the right place at the right time (Cressy, 2006b).

2.3.5. Government Policy

The fierce competition in oil global markets, increasingly shorter product life cycles, and increasingly higher customer expectations with respect to product capability and reliability, delivery lead times, flexibility, and quality service had all led oil firms to focus on government regulations in the industry (Maina, 2015). The oil industry in Kenya witnessed significant government participation before the industry was liberalized in 1994. Consequently the Role of the private sector was minimal. However the industry currently boasts over 40 oil importing and marketing companies (Athman, 2016). Government regulations measures had various implications on the oil industry. Firstly the introduction of upfront tax led to major companies to exit the market with the argument that this affected their cash flow forcing some to take up bank loans in order to pay for the tax. Though this improved the Kenya Revenue Authority the efficiency to collect the tax it did hurt the economy through lost jobs (Maina, 2015).

The volatility in petroleum pricing necessitated the government to form a regulatory commission to cushion consumers from exploitation tendencies by the Petroleum and Gas providers (ERC, 2014). Ondari (2010) argues that the pricing regulation was to curtail the overzealous Oil and Gas providers who were utilizing the Oil volatility to make super normal profits. The ERC regulation mandate was placed in a special

gazette notice of December 15th 2010, and took effect forth with. According to ERC (2014), their mandate is review and regulate fuel prices on 14th of every month. As a result, Oil companies are required to set their pricing using ERC's price bench mark. Initially, before enactment of these regulations, Oil and Gas companies priced their products based on their interpretation of free market demand and supply. However, the demand and supply wasn't based on the market forces, and most of the Oil providers would collude to create shortages so as to spike demand hence higher pricing (Sambu, 2012).

Equally important, In the LPG market, ERC (2014) enforced regulations that required all LPG providers to have standardized gas cylinders. This was done to ensure that consumers can have an easier access to the product without the encumbrances initially caused by hoarding of product, unstandardized measures, and pricing. In as much as the uptake of cylinder standardization has been a success, PIEA (2016) report suggests that unscrupulous providers and agents are still fleecing unsuspecting customers by selling them substandard LPG products that doesn't meet ERC regulations.

2.3.6. Sustainable Competitive Advantage In Oil Industry in Kenya

In order to achieve a competitive advantage, strategy needs to focus on unique activities. Operational effectiveness is necessary but not sufficient for achieving a sustainable competitive advantage (Porter, 2011). As competitive intensity has increased, so has the rate of innovation (Barney, 2017). Companies strive to gain an advantage over their competitors by pioneering new products, processes and ways of doing business. The result has been to compress product life cycles and make it more vital for companies to stay of the leading edge of technology. Even though globalization has increased both the threat of entry and the intensity of rivalry within many formerly protected national markets, it has also created enormous opportunities for companies in those markets (Maina, 2015).

Changes in the business environment generally affect the long term viability and Profitability of organizations and thus require timely and appropriate strategic

responses in order for the firm to survive and prosper. The Oil Industry in Kenya and indeed the general business environment have undergone tremendous macro – environmental changes. Consequently, there has been pressure on organizations to respond with strategies formulated to propel them to retain their market share and competitive position (ERC, 2014). The oil industry in particular, has witnessed significant changes in the business environment. The changes that have occurred include; Government regulation of fuel prices, creation of a common exchange pool for LPG gas cylinders, expansion strategy by rival companies, discovery of oil in Kenya and Uganda, escalating international crude prices, crisis in oil producing countries, increased piracy in the Horn of Africa, among others (Munyae, 2015). Oil firms are operating under increasing competitive environment that puts them under pressure to continually reinvent themselves by becoming innovative and developing new strategies to remain relevant in the market. In pursuit to retain their operations oil marketing companies have embraced organizational resources which have not been without challenges (Sambu, 2012)

2.4 Empirical Review

2.4.1. Human Resources

In a study by Kahreh, Ahmadi and Hashemi (2011) on competitive advantage through employee empowerment, it was established that there is a strong relationship between employee empowerment and competitive advantage. As a critique many other key employee dimensions coaching & mentoring, training & development and remuneration could have been considered to make the study more robust. In a study by Jerab, Alper and Baslah (2009) on impact of core competencies on competitive advantage it was established that key staff skill, strategic focus and knowledge management are key in achievement of competitive advantage. In a study by Gupta and McDaniel (2007) on theoretical knowledge and application and competitive advantage it was established that better judgment and decision making are key to attainment of sustainable competitive advantage. In both studies as a critique resource base is important for competencies to deliver sustainable competitive

advantage. Zehir (2011) indicated the emergence of strategy literature both strategic aspect of human resource management and entrepreneurial activities in the organizations have been among the most remarkable subjects of many studies. In the literature the role of strategic human resource on firm performance has been extensively examined. Analyses results indicated that human resource influence firm performance.

2.4.2. Financial Resources

In a study by Lockett et, al. (2009) on the development of the resource-based view, a critical appraisal and another by Maina (2015) on the resource-based view and economics it was established that financial resources are key for all investments and all other resources need financial resources. Further, financial management is key for survival through retention and re-investment of earnings. As a critique financial resource must co-exist with all other resources to deliver competitive advantage. Previous studies of financing indicate that firms are reluctant to employ a high level of debt because of the reluctance to relinquish control by the firm owner. Cressy (2006a) argues that the psychological costs of borrowing outweigh the benefits, as the small firm owner dislikes interference from debt providers. Cognisant of the potential business risk posed by an inability to repay debt finance, the firm owner is reluctant to assume additional debt, particularly long-term debt (Cressy, 2006b). Firms with lower debt levels have a competitive advantage over firms with higher debt levels, due to the less risky profile, the reduced cost of lending, and the greater amount.

Empirical evidence from some SME studies suggests that firm size is an important factor in the cost of, and access to firm financing, particularly the level of gearing (Heyman *et al*., 2008). Additionally, profit generation is typically a function of scale, as firms possessing a larger asset base or generating greater sales revenue commonly earn larger absolute profits than smaller firms. Combining this tangible resource with a conscious strategic decision by the firm's managers (Berger & Udell, 2008; Lockett et al., 2009) to retain and reinvest earnings in positive NPV projects enables firms to

gain a competitive advantage over competitors. This clearly elaborates that financial resources are key to sustained competitive advantage of firms.

2.4.3. Plant & Equipment Resources

In a study by Morabito, Themistocleous and Serrano (2010) on integrated information systems and competitive advantage it was established that inimitable technology is hard to replicate by rivals, and that integrative framework is key for creativity, innovation and competition. As a critique plant & equipment resource must be combined with the right complementary resources to deliver competitive advantage. In a study by Walsh, Schubert and Jones (2010) on enterprise system investments and competitive advantage it was established that IT investments yield competitive advantage. As a critique the competitive advantage generated by IT investments is dependent on the firm's primary processes and activities and therefore not automatic.

Ismail, Rose and Abdullah (2012) empirically examined the importance of and emphasis placed on organizational resources (plants and equipment), capabilities and systems in their relationships with competitive advantage. The overall findings indicated significant, positive effects of organizational resources, capabilities and systems collectively on competitive advantage, providing support and corroboration to the resource-based view (RBV). The total variance in competitive advantage accounted for by the multiple linear regression (MLR) model was 56.2%. In short, the findings from this study have not only contributed to the literature on the issue of the relationship between organizational resources, capabilities, systems and competitive advantage, but also provided vital information to both practitioners and policy makers on the subject matter

2.4.4. Brand and Heritage Resources

In a study by Heese et, al. (2005) on competitive advantage through product take-back it was established that popular brand and size dominance provided competitive advantage. As a critique dependent on the firm's products, not all products can be

refurbished and resold at lower cost for competitive advantage against the rivals. In a study by Faems, et al (2010) on product and international diversification it was established that products & services are key for corporate image, differentiation and customer loyalty. As a critique the achieved competitive advantage is dependent on the firm's products and marketing activities. Grant (2007) pointed out that intangible resources are easily identified and evaluated because these resources are recorded in the firm's financial statements. Further, Inmyxai and Takahashi (2010) emphasized that the firm's brand and heritage resources boosted with sophisticated technology can be expected to increase production, services, and business operations. The true worth of resources is depicted by how the firms formulate and deploy their strategies to improve performance. Firms that have successfully employed it to gain competitive advantage were able to do so through a history of prudent choices about the acquisition and deployment of the resources. The brand and heritage resources of a firm have an impact on performance. Correspondingly, a firms propensity towards breakthrough transactions depends on the availability of financial resources, and conversely, a firm may be curtailed towards innovating strategies when financial resources are limited (Pirog, 2007).

2.4.5. Government Policy

Ndereva (2010) studied the responsive strategies adopted by Libya Oil (K) Ltd to cope with changes affecting the oil industry and to establish the challenges faced while implementing the response strategies. It was observed that the company developed new response strategies from time to time to match the external and internal environment. The response strategies were required to be simple, clear and easy to implement. In addition, the company faced major challenges while implementing the response strategies which at times made the organization not to achieve their goals and objectives.

 A recent survey conducted by PricewaterhouseCoopers (PwC) 'African oil & gas review, 2017', analyses the effects in the oil & gas industry since the government policy and decline of the oil price in late 2015, which has had a significant effect on

major and emerging African markets especially for the local oil marketing companies growth and investing in the sector.Whereas past empirical studies had shown varying degrees of the Role of organizational resources in sustainability of competitive advantage in various industries .

In their study of the factors that determine volatility in oil production, Metcalf and Wolfram (2010) found that political stability is one of the major drivers of oil production volatility in OPEC countries. Countries with very democratic political systems had less volatility in oil production than their counterparts with autocratic political systems. Fluctuations in oil production were found to affect global oil prices, thereby causing price volatility in countries that import oil. In addition, the level of oil consumption and the size of the economy determined oil import volatility (Metcalf & Wolfram, 2010). These results were based on data collected from OPEC and OECD countries. The dataset included oil production levels, oil import volumes, GDP, and the composite democracy index for the period 1970-2007. The two-stage least squares econometric technique was used for data analysis. However, the study failed to consider the possible causes of oil import volatility in the context of developing countries such as Kenya that heavily rely on oil as their main source of energy.

Wu and Wu (2009) used quarterly data for the period 1995 to 2006 to analyze the drivers of oil imports in China. The data set included crude oil price, domestic energy production, industrial output, and the total traffic volume in the transport sector. To determine the long-run relationship between these variables and oil import volatility, the researchers used Johansen co-integration tests and the vector error correction model (VECM) to analyze the data. Wu and Wu (2009) found that international oil price has no statistically significant long-run effect on oil import, suggesting that China is large enough to influence international oil prices. Industrial output and traffic volume had positive significant relationship with oil import. By contrast, domestic energy production had a negative relationship with oil imports. Although this study highlights the causes of oil import volatility, it does not link the

volatility to economic growth. In their study of the impact of oil consumption in India and China,

2.4.6. Sustainable Competitive Advantage in Oil Industry

Munyae (2015) sought to identify the influence of turnaround strategies employed by Kenol Kobil on its overall performance. Research findings from the study indicate that the biggest threat to the future survival and profitability of Kenol Kobil is government regulation on fuel prices. The second threat is expansion strategy by rival oil marketers. This study confirmed that Kenol Kobil had put in place strategies to position itself ahead of the competition. Since the biggest threat to KenolKobil was regulation of fuel prices, the company had embarked on a regional expansion strategy to become a Pan-African oil marketer. In view of the findings, the study recommended that Kenol Kobil together with other oil marketers to lobby the government to remove fuel price controls to allow free market dynamics and industry self-regulation. Equally, important was to get a strategic partner to inject capital for the regional expansion strategy, and/or issue corporate bond to finance the expansion strategy. Since the study was on one oil marketer, data gathered could differ from data that may be collected from other oil marketers. This is because different organizations even if operating in the same industry adopt different strategies even for a similar change in the business environment.

Athman (2012) focused on the role of government regulations on the supply chain performance of oil marketing companies in Kenya. The study was based on a survey of 50 Kenyan oil marketing firms with respondents mainly from supply and procurement departments. The findings clearly indicated that government regulations affected the supply chain performance of oil marketing companies thus affecting the sustainable competitive advantage in the oil industry in Kenya. The study recommended that oil marketing firms should investment in supply chain management strategies. The study also suggested that ERC should recognize macroeconomic factors affecting oil firms when formulating oil prices.

Tirop (2014), study sought to establish the strategies adopted by NOCK in the competitive oil industry in Kenya and whether in the execution of those strategies there were any challenges encountered and how the same challenges were being mitigated by NOCK in order to remain competitive and remain relevant in the eyes of the consumer. The study was carried out as a case study focussing on NOCK among the oil firms in the Oil Industry in Kenya. The research recommended that NOCK should concentrate on the human resource aspects in terms of systematic thinking to guide the planning, implementation and follow up of human resource up-skilling efforts in the company. With serious effort on its part, NOCK may be able to conduct systematic needs assessment procedures despite the expected difficulties originating from the absence of information about basic skill reservoir and career planning. This would empower unit managers and individual member staff which in turn would shorten the cycle time for decision making so as to allow anchoring of the competitive strategies and allow NOCK to stay ahead of its competition in the Oil Industry in Kenya.

2.5. Critique of Existing Literature Relevant to the Study

Nevo and Wade, 2010 on the Systems theory argue that the world consists of things, which are described by the set of properties they possess. It provides the basis for taking a broader view with regards to firm's competitive advantage which can be achieved by improving the information flow between the firm and each of the environmental elements. Difficult to explain the relationship between closed systems and competitive advantage as there is no interaction between the system and its environment considering that changes in system properties over time can be the driving force of competitive advantage.

A study of strategic focus and competitive advantage by Cousins (2005) discovered that firms defining their competitive advantage as being cost-focused will generally consider supply as playing merely a cost-reduction role, i.e. passive and supportive, whereas firms viewing their competitive advantage as being differentiated will see supply as strategic, i.e. as a distinctive capability. The variables were measured in terms of business development, market share, relationship development; cost focus,

differentiation and collaboration. In addition, Liao and Hu (2007) also further investigated the inter-relationships among environmental uncertainty, knowledge transfer (KT) and competitive advantage, which is conceptualized as ambiguity, complexity, partner protectiveness; organizational KT, group & procedural movements; reduce dependency, KT effect, technology development and technology transfer (TT).

Barney (2017), who studied the significant relationship between resources, entrepreneurial orientation and performance, argue that firm's performance should be based and measured on a wider dimension, namely organizational & procedural knowledge; innovativeness, proactiveness, risk-taking; net profit, sales growth, cash flow, product & process innovation, product & service quality & variety, and customer satisfaction. They further argued that resource-based view (RBV) research focuses mainly on the characteristics of resources, paying less attention to the relationship between these resources and the way firms are organized.

Kahreh, Ahmadi and Hashemi (2011) study the significant relationship between human resource management (HRM) system, work climate and firm's performance using measurements such as employee attributes, perceptions, utilization, participation and rating. They find a significant relationship in such that the strength of the HRM system can help explain how individual employee attributes accumulate to affect organizational effectiveness and firm's performance. In another study, Morgan, Kaleka and Katsikeas (2004) focus on the significant interaction among available resources and capabilities, competitive strategy decisions, competitive advantage and performance outcomes in the export venture. These variables are conceptualized in terms of experiential, financial, scale & physical resources; product-development, relationship-building & informational capabilities; cost leadership, marketing & service differentiation; service-based, product-based & cost-based advantage; economic, distributor & end-user. A study by Sirmon, Hitt and Ireland (2007) examine resources, capabilities and competitive advantage in terms of the resource management aspects (resource structuring, bundling & leveraging) and their significant relationship with value creation. This study addresses value creation

in dynamic environmental contexts in the management of firm's resources and capabilities.

2.6. Summary of the Literature

The preceding sections present a comprehensive review of available theoretical literature and empirical studies relating to organizational resources and competitive advantage; starting with review of available theoretical literature ending with review of empirical literature covering related and more recent studies in this area, critique of the literature and identification of the research gaps therefore necessitating this study. In the theoretical literature, several theories which explain the concepts of organizational resources, competitive advantage, and sustainable competitive advantage were reviewed. The theories not only described the concepts but also suggested the various ways they could be applied in practice. The concepts were incorporated in the formulation of the conceptual framework that was used in this study linking the dependent variable and the independent variables. Examining organizational competitive advantage from the RBV is indeed crucial as it can be used as a conceptual guideline for business organization in particular to enhance their competitive advantage position and performance via application and manipulation of identified internal organizational resources. Such a research can contribute to the body of knowledge by lending empirical support and further extending the RBV of competitive advantage by examining the relative magnitude of importance placed upon organizational resources towards attaining competitive advantage and enhancing firm' sustainable performance.

2.7. Research Gaps

Athman (2012) state that while much attention has been given to those attributes of resources that lead to competitive advantage of firms, a lot less attention has been given to the deployment of those resources and therefore their roles and how that would impact competitive advantage. This study addressed that gap by seeking to establish the role of selected organizational resources on the sustainability of competitive advantage though specific to the Oil industry in Kenya. Despite the wide

coverage of how the various organizational resources bring about competitive advantage to business organizations, there was limited literature and empirical studies reviewed that specifically focused on the oil industry and how oil marketing companies (OMCs) went about achieving sustainable competitive advantage leveraging on their various resources. The fiercely dynamic and competitive oil industry in Kenya has been confronted by various infrastructural and market changes as a result of changes in government policy significantly transforming the way oil marketing companies compete with their rivals leveraging their resource base and therefore necessitating studies like this one. This study addressed that gap by seeking to establish the role of selected organizational resources on the sustainability of competitive advantage and specific to the oil industry in Kenya.

According to Johnson et al, (2009) price war can be won if the organization has lower cost structures or it has 'deeper pocket' to finance short to medium term losses with the aim of driving out competitors in the long term. Kosom, (2011) on the competitive strategies employed by National Oil Corporation of Kenya showed that the company uses low cost strategy, differentiation, focus and resource based strategy in order to compete with other oil marketers. Tordo and Anouti (2013) on Nigerian Oil and Gas industry policy options and the National (Nov, 2013). The above studies were not categorical on the sustainable competitive advantage strategies adopted by oil marketers. Moreover none of the studies looked at organizational resources comprehensively and how to sustain them and the challenges faced in addressing those strategies. Further, there has been little in terms of detailed explanations concerning sustainable competitive advantage as a result of deployment of organizational resources as well as how it is created (Pirog, 2007). As a result, this study therefore sought to narrow these gaps because it approached the concept of competitive advantage on a continuing basis which therefore addressed the issue of sustainability with regards to competitive advantage.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The chapter sets out the methodology that was adopted in this study. The methodology includes research design, research population and the target population, the sampling frame, sample size and sampling technique, instruments for data collection, data collection procedure, pilot test and data processing and analysis. The chapter also describes the measurement of variables and the model estimation.

3.1.1. Research Philosophy

The research philosophy of this study is the positivist paradigm. The overall aim of the positivist research process is to construct a set of theoretical statements that are generalizable and service the development of universal knowledge. Positivists claim there is a single objective reality that can be observed and measured without bias using standardized instruments. This approach therefore tends towards the use of questionnaires for data collection and analytical statistical analysis such as hypotheses testing, random sampling, aggregation, precision and measurement (Creswell & Creswell, 2017). In this study, and as part of the research ethics adopted, there is independence and objectivity of the observer and the focus is on facts. The researcher is a neutral recorder. Hypotheses that was formulated was tested in order to show the relationship between variables (Easterby-Smith, Thorpe & Jackson, 2012)

3.2 Research Design

This study adopted a combination of the survey and correlational research designs. Survey design provides a quantitative or numeric description of trends, attitudes or opinions of a population by studying a sample of that population. From sample results, the researcher generalizes or makes claims about the population (Creswell,

2011). It entails the collection of data on more than one case and at a single point in time in order to collect a body of quantitative or quantifiable data in connection with two or more variables which are examined to detect patterns of association (Bryman & Bell, 2003; Floyd & Fowler, 2009).

The survey research designs were found to be appropriate by the researcher because the researcher was studying a sample in order to make generalizations about the population. There was therefore the advantage of identifying the attributes of the population from a small group of individuals. Secondly, the designs were found suitable because of enabling the researcher make quantitative descriptions of the opinions of the population. This was a cross sectional study as it involved the collection of data at a single point in time.

A correlational research design was necessitated by the fact that it was important to assess the relationship between variables through the correlation matrix. Correlational research is one in which variables of interest are not controlled or manipulated but measured as they naturally occur to help the researcher assess relationships between variables (Reaves, 1992). Correlational analysis provides an avenue to test for the existence and direction of relationship between variables. The higher the absolute correlation coefficient the stronger the association between the variables.

3.3. Target Population

The target population for the study was all the 63 licensed Oil Marketing Companies (OMCs) in Kenya with 3,444 employees from all levels, CEOs, head of departments, business line managers, middle level managers, supervisors and operatives as potential respondents. The 63 registered Oil Marketing Companies (OMCs) in Kenya are licensed by ERC and listed in Appendix (iv). The target population was identified based on the fact that 80% of all registered Oil Marketing Companies (OMCs) in Kenya licensed by ERC cover only downstream oil marketing companies in the Oil industry in Kenya especially those that have operations in major cities in Kenya, including Nairobi, Mombasa, Machakos, Garissa, Embu, Nakuru, Kisumu, Eldoret,

Bungoma, Kisii, Thika and Kitale; these being the major economic, trade and industrial cities or towns in Kenya, and most oil marketing companies with significant operations in the country are present in these areas or aspiring to be present in the long term at retail level.

Table 3.1: Target Population

Stratum	Population	Respondents	Percentage
Multinational Companies	4	711	20.65
Transnational Companies	16	1,168	33.91
Local Kenyan Companies	14	910	26.43
"Independent Kenyan Companies"	29	655	19.01
Total	**63**	**3,444**	**100**

Source: Energy Regulatory Commission (ERC, 2014)

3.4. Sampling Frame

The number of employees for all the divisions of the targeted oil marketing companies was obtained from the payroll as per the listing published by the Energy Regulatory Commission (ERC) and as indicated in Appendix (iii). A sample was drawn from this sampling frame which was composed of employees at operative, supervisory and management level.

3.5. Sample and Sampling Techniques

Polit and Beck (2013), strongly recommends that it is more practical and less costly to collect data from a sample than from the entire population. The risk, however, is that the sample might not adequately reflect the population's behaviours, traits, symptoms, or beliefs. A representative sample is therefore one that truly and accurately reflects and represents the population being sampled (Neuman, 2013; King'oriah, 2004). Kothari, (2004) advocates that a good sample should be representative of the population, result in a small sampling error, viable, economical, and systematic. According to Kothari, (2004), various sampling methods exist and vary in cost, effort and skills required, but the adequacy of the methods is assessed by the criterion of representativeness of the selected sample and that the quality of

the sample depends on how typical or representative the sample is of the population with respect to the variables of concern in the study.

For the purpose of this study and guided by the model proposed by Mugenda and Mugenda (2012) from a population of less than 10,000 objects:

$$n = (z^2pq)/d^2$$

Where:

n = is the desired sample size when the target population is > 10,000

z = standardized normal deviations at a confidence level of 93.28% which is 1.83

p = the proportion in the target population that assumes the characteristics being sought. In this study, a 50:50 basis was assumed which is a probability of 50% (0.5).

q = The balance from p to add up to 100%. That is 1-P, in this case will be 50% (0.5) = 0.5

d = measure of level of Significance, at 93.28% confidence interval, the level of significance is 0.0672

The effective target population for the study is derived as: $n = (1.83^2 \text{ X } 0.5 \text{ X } 0.5)/0.0672^2 = \mathbf{185}$.

To determine an adjusted target population Mugenda & Mugenda (2003) advises on use of an adjusted formula:

$$n_f = n/(1+n-1/N)$$

Where:

n_f is the desired sample size when target population is less than 10,000.

n is the sample size when the target population is more than 10,000.

N is the target population size in this case 3,444 being the total number of employees in the OMCs from the top management to the operative level.

Therefore, in determining a representative sample size:

$$\mathbf{n_f} = n/(1+n-1/N) = 185/(1+184/3{,}444) = 176$$

Sample size = **176**

Appendix (v) indicates the sample size categorization as drawn by OMC.

To determine the sample size of each category of employees working according to the levels of management, proportionate stratified sampling was used as follows; For Multinational Companies (MNCs);

$$MNCs = \frac{711 \times 176}{3444} = 36 \text{ employees}$$

For Transnational Companies (TNCs);

$$TNCs = \frac{1168 \times 176}{3444} = 60 \text{ employees}$$

For Local Kenyan Companies (LKCs);

$$LKCs = \frac{910 \times 176}{3444} = 47 \text{ employees}$$

For Independent Kenyan Companies (IKCs);

$$IKCs = \frac{655 \times 176}{3444} = 33 \text{ employees}$$

The respondents from every subgroup were then selected for inclusion in the sample size using simple random sampling. This ensured that the sampling units have equal chance in the study. The sample distribution is given as shown in Table 3.2;

Table 3.2: Sample Size Distribution

Stratum	No.	Respondents	Sample Size (n)
Multinationals	4	711	36
Transnationals	16	1168	60
Local Kenyan	14	910	47
"Independents"	29	655	33
Total	**63**	**3,444**	**176**

3.6. Data Collection Instruments

In this study, a questionnaire was seen as the most appropriate tool. A questionnaire is perceived as the most accurate tool for measuring self-sufficiency existing relationship, objects or events as well as self-reported beliefs and behaviour (Neuman, 2013). Further, the questionnaire is seen to be appropriate as it allows data to be collected in a quick and efficient manner. The use of questionnaire also makes it possible for descriptive, correlation and inferential statistical analysis (Saunders et al., 2007). The researcher developed the questionnaire to be used in this study on the basis of previous studies. The items used in this study were adopted and modified from a questionnaire. Use of previous questionnaire assists in the reliability and validity of the current instrument as well as saving much time spent in developing new questionnaire (Bryman & Bell, 2015).

A five-point likert scale was used for most questions in the survey except for the section dealing with firm background information. Five choices were provided for every question or statement. The choices represented the degree of agreement to the given question, 1. very low extent, 2. low extent, 3. average extent, 4. high extent and 5. very high extent; as relates to the roles played by the selected organizational resources on the sustainability of the organization's competitive advantage in the Kenyan market versus the rivals. The Likert type of questions enables the respondents to answer the questions easily. In addition, these allows the researcher to carry out the quantitative approach effectively with the use of statistics for data interpretation.

3.7. Pilot Study

Cooper and Schindler (2011) explain that pilot test is conducted to detect weaknesses in design, instrumentation and to provide proxy data for selection of probability sample. The procedures used in pre-testing the questionnaire were identical to those that were used during the actual study or data collection. The number in the pre-test should be small, about 1% to 10% of the target population (Mugenda & Mugenda,

2012). In this study the questionnaire was tested on 10% of the entire sample size, which translated to 17 respondents.

3.7.1. Reliability of Research Instruments

Three types of tests of reliability involving quantitative research have been identified and include the degree to which measurement given repeatedly remains the same; the stability of measurement over time and the similarity of measurement within a given time period (Kothari 2004). Stability, internal reliability and inter-observer consistency are prominent factors that should be displayed by a reliable measure (Zikmund, *et al.,* 2010). The coefficient alpha is an appropriate measure of variance attributable to subjects and variance attributable to the interaction between subjects and items (Zikmund, *et al.,* 2010). The coefficient alpha or Cronbach's alpha was used as a measure of internal reliability. A Cronbach's alpha of 0.70 as a minimum level is acceptable (Sekerean, 2003; Zikmund, *et al.,* 2010). In the pilot study, the value of the Cronbach's alpha for all measurement constructs was greater than or equal to the 0.7 value implying that the research instrument was reliable.

3.7.2. Validity of Research Instrument

A test of validity is whether the measure of a concept really measures that concept. The following conceptions of validity were considered: content-related validation; internal consistency; construct related validation; and criterion-related validation. The pilot results were checked to ensure validity of content. According to Tracy (2012), the contribution of internal consistency data to test validation is limited and in the absence of data external to the test itself, little can be learned about what a test measures. A test therefore can be reliable, but not valid. Internal reliability was measured and ensured to the extent that this supports internal consistency. The pilot results were also checked to ensure validity of the criteria and validity of the various constructs.

3.8. Data Collection Procedure

Survey questionnaires were administered to the respondents through the drop and pick method. The method was convenient for the research and the response rate was high (Neuman, 2013). The purpose and importance of the study was briefly explained to the respondents. A letter of introduction explaining that the data collected to be purely for academic purposes accompanied the questionnaire. The respondents were assured that their identity was to be kept confidential. Drop and pick approach proof to have advantages over mail or electronic questionnaires that have been found to have very low return rates (Mugenda & Mugenda, 2012).

3.9 Data Analysis and Presentation

The required data was collected from representatives of the sampled oil marketing companies at various levels of seniority using the structured questionnaire as specified in sub-section 3.6. A code book was then prepared for the various responses obtained. Thereafter, the data was cleaned to ensure completeness of the information. Data was then converted into the mode that could pick the necessary information based on the hypotheses to be tested. The organized data was analysed based on the research objectives. The data was analysed quantitatively using the Statistical Package for Social Scientists (SPSS) to obtain descriptive statistics and inferential statistics. Various diagnostic tests including normality test, model specification and heteroskedasticity were undertaken on the specified model. Correlation matrix was necessary to examine the level of multicollinearity between the independent variables.

3.9.1 Model Estimation and Inferences

The study was guided by a multiple linear regression model that represent the roles played by the selected organizational resources (independent Variables): Human Resources (x_1), Financial Resources (x_2), Plant & Equipment Resources (x_3), and Brand & Heritage resources (x_4) on the sustainability of competitive advantage (dependent variable). Multiple linear regressions are used where the independent

(Predictor) variables are more than one and the following assumptions are met by the data being analysed; the coefficients are linear in nature, the response errors follow a normal distribution and the errors have a common distribution (Tracy, 2012).

Multiple Linear Regression Analysis (MLRA) was used to estimate the relationship between the dependent (sustainability of competitive advantage) and independent variables (Role of organizational resources), and provide a means of objectivity in assessing the degree and character of the relationship between the dependent and independent variables. Further, Analysis of Variance (ANOVA) was carried out to test the significance of the overall model, while the t-test was used to determine the significance of the individual independent variables.

The study was guided by a model of the form:

$$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \varepsilon \ldots\ldots\ldots\ldots\ldots\text{(equation 1)}.$$

Where

Y - Represents the dependent variable (Sustainability of Competitive Advantage)

β_0 - The Constant, the value of Y when all X values are zero.

β_i - The regression coefficients (i = 1,2,3,4). The regression coefficients indicate the relative importance of each of the independent variables in prediction of the dependent variable.

x_i - The independent variables (i = 1,2,3,4) (The selected organizational resources), will explain the variation in sustainability of competitive advantage.

In this case:

x_1 = Human Resources

x_2 = Financial Resources

x_3 = Plant & Equipment Resources

x_4 = Brand & Heritage Resources

ε - The error term (To account for all other Variables or Organizational Resources not considered in the study), assumed to be normally distributed with mean zero and constant variance.

Definition of the Independent Variables:

HumanRes   : Human Resources (+) or (-)

FinRes   : Financial Resources (+) or (-)

PlantEquipt   : Plant & Equipment Resources (+) or (-)

BrandHer   : Brand & Heritage Resources (+) or (-)

NB: The symbols (+) or (-) indicate that, in theory, the independent variable potentially impacts the dependent variable either positively (+) or negatively (-).

Inferences were made by testing the significance of each of the partial regression coefficients, that is, test:

$$H_0: \beta_j = 0 \quad V_s \quad H_A: \beta_j \neq 0 \text{ for } j = 1,2,3,4.$$

Where

H_0 = Null hypothesis and H_A = Alternative hypothesis.

The test statistic under H_0 will be:

$$t_{calc} = \beta_j / S_{\beta j} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots \text{ (equation 2)}.$$

where

$S_{\beta j}$ is the standard error incurred when estimating β_j.

The critical value of t will be:

$$t_{crit} = t_{(n-k-1)} (1 - \alpha/2) \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots \text{ (equation 3)}.$$

H_0 shall be rejected if and only if $t_{calc} \geq t_{crit}$. If H_0 is not rejected, it implies that the variable x_j has no influence on Y, thus it shall be omitted from the model.

The test of significance of the overall model was tested using Analysis of Variance (ANOVA) for regression. That is test:

H_0: $\beta_1 = \beta_2 = \beta_3 = \beta_4 = 0$ Versus H_A: at least one of the $\beta_{'s} \neq 0$.

The test statistic for H_0 will be:

$$F_{calc} = \frac{R^2/K}{(1 - R^2)/(n-k-1)} \quad \text{.............…….…………….....} \text{(equation 4).}$$

Where:

R^2 is the multiple correlation coefficient where $0 \leq R^2 \leq 1$ and measures the strength of the linear relationship between Y and the variables x_1, x_2, x_3 and x_4.

The critical value was:

$$F_{crit} = F_{((k,\ (n-k-1))} (\alpha) \quad \text{.....……………………………………………}\text{(equation 5).}$$

H_0 shall be rejected if and only if $F_{calc} \geq F_{crit}$. If H_0 is rejected, it implies that at least one of the partial regression coefficients (one of the $\beta_{'s} \neq 0$) is not zero and thus the overall model will be considered significant.

Once the model is deemed significant, multiple regression analysis was carried out to determine the significance of the regression coefficients β_1, β_2, β_3, and β_4 and R^2 was used to assess the model's goodness of fit.

The study used the following interaction model to evaluate the moderating role of government policy on the Role of organizational resources on the sustainability of competitive advantage.

$$Y = \beta_0 + \beta_1 x_j + \beta_2 x_5 + \beta_3 x_j * x_5 + \varepsilon \quad \text{.....……………………………}\text{(equation 6).}$$

For j = 1,2,3 and 4

For example, when j = 1;

$$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_5 + \beta_3 x_1 * x_5 + \varepsilon \ldots\ldots\ldots\ldots\ldots\ldots\ldots \text{(equation 7)}.$$

If β_3 is significantly different from zero then x_5 will be said to have a significant moderating effect in the relationship between x_1 and Y.

3.9.2 Confidence Levels for Statistical Testing

In terms of testing the null hypotheses for significance, the significance level of 5 percent, or $\alpha = 0.05$ was used. According to this, the probability that a Type I error would be made, whereby a true null hypothesis is rejected in accordance with Zikmund, Babin, Carr, and Griffin (2010) is equal to $(1-\alpha) = 0.95$. Although a more stringent level of significance could be used, the 5 percent level was used due to the large range of variables tested. The chosen 5 percent level is above the minimum threshold level of 10 percent that is appropriate for including variables for quantitative analysis (Zikmund, *et al.,* 2010).

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSION

4.1 Introduction

This chapter presents the findings of the study, the interpretation and discussion of the study findings.

4.2 Response Rate

The study issued 176 questionnaires to the respondents for filling out of which 124 were duly filled and returned. This made a response rate of 70.45%. Mugenda and Mugenda (2008), posited that response rate of 50% is acceptable for analysis, while Chen (1996) argued that the larger the response rate, the smaller the non-response error. A response rate of over half is good while over 70% is very good (AAOPR, 2011). Therefore, at 70.45% the response rate was considered adequate for analysis to proceed.

Table 4.1: Response Rate

Response	Frequency	Percentage
Successful	124	70.45
Unsuccessful	52	29.55
Total	**176**	**100**

4.3. Pilot Study Results

Validity refers to the degree to which the research instrument measures correctly what it ought to measure. Validity is concerned with whether the findings are about what they appear to be about (Balta, 2008). Content validity should be established prior to any theoretical testing (Hair et al., 2007). In the current study, all of the measures were selected based on the existing scales for which validity was already established. Construct validity was also ensured by anchoring the constructs to the theory and empirical review of data from which they were derived. Further the study tested for construct validity through in-depth interviews with key informants (retired

managers and professors) prior to the construction of the questionnaire so as to solicit valid concepts. The key informants provided relevant information that was used to modify the questionnaire thereby coming up with constructs that were valid.

Pilot study was conducted to test the reliability and validity of the research instrument. The study used 10 percent of the sampled OMCs for pilot testing. Consequently, 10 percent of 176 translated into approximately 17 respondents. The study used random sampling to select 17 respondents of whom were not included in the main survey. The questionnaire was structured in such a way that it collected demographic characteristics of the respondents, data on sustainability of competitive advantage of the OMCs and organizational resources. With the exception of demographic characteristics, other variables were measured as constructs. These variables had several items that measured the same concept or phenomenon.

Reliability was tested based on the Cronbach's alpha values for each measurement construct and then for the overall items used in the questionnaire. The reliability results for each measurement construct are presented in Table 4.2. The result shows that the Cronbach's alpha for sustainability of competitive advantage constructs is 0.918 with a total of 6 items. This implies that the items included in measuring sustainability of competitive advantage constructs are indicative of the same underlying disposition. The Cronbach's alpha for human resources, financial resources, plant and equipment resources, brand and heritage, and government policy variables were 0.895, 0.901, 0.881, 0.931 and 0.856 respectively implying that the items in the construct are indicative of the same underlying disposition. The value of the Cronbach's alpha for all measurement constructs is greater than or equal to the 0.7 value implying that the research instrument was reliable.

Table 4.2: Reliability Test Results

Variable	Number of Items	Cronbach Alpha
Human Resources	8	.895
Financial Resources	8	.901
Plant & Equipment Resources	7	.881
Brand & Heritage Resources	7	.931
Government Policy	8	.856
Sustainability of Competitive Advantage	6	.918

Cronbach's alpha type of reliability test was used to measure the internal reliability of the dependent variable (Sustainability of Competitive Advantage), moderating variable (Government Policy) and the independent variables (Human Resources, Financial Resources, Plant & Equipment Resources and Brand & Heritage Resources). The findings were presented in Table 4.2 above. From the table, the Cronbach's Alpha of all the variables was higher than the threshold of .7 (Sekerean, 2003; Zikmund, *et al.,* 2010; Christensen, Johnson & Turner, 2011; Brown, 2006; Castillo, 2009). Therefore, all the variables were found to be internally consistent.

4.4. Background Information of the Respondents and the Companies

4.4.1 Type of the Organization

The study sought to find out the type of organization that the respondents came from. The study findings were presented in Figure 4.1. From the figure 39.02% of the respondents were multinational corporations (MNCs), 28.46% were transnational corporations (TNCs), 19.51% were national Kenyan companies (NKCs) and 13.01% were independent Kenyan companies (IKCs). The study results indicate that firms were representative of the target population meant for the study.
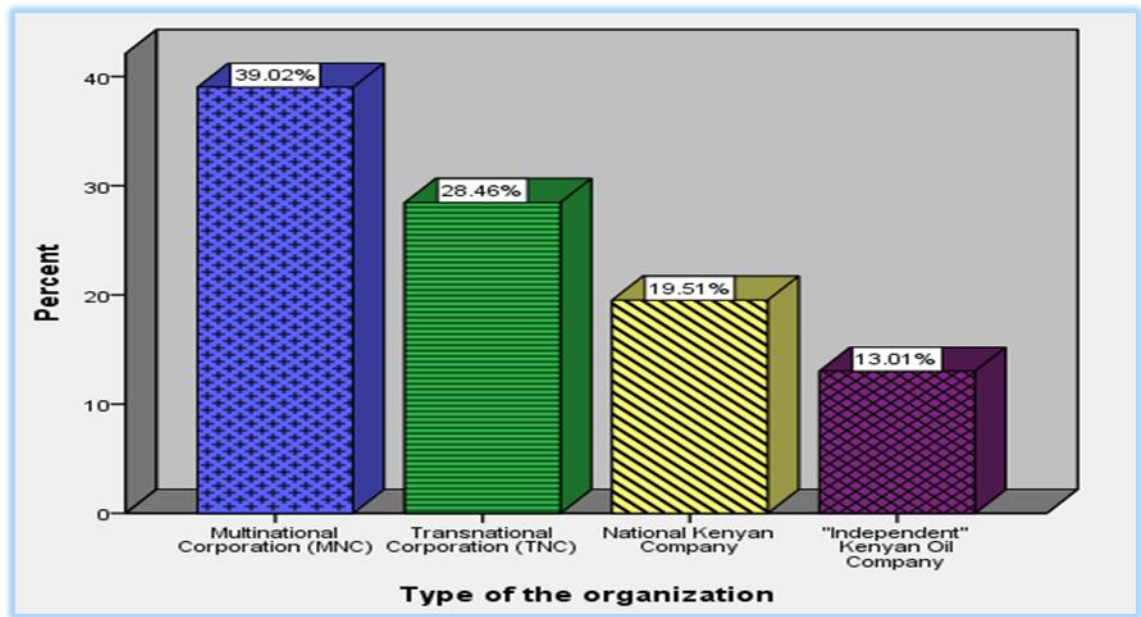
Figure 4.1: Organization Type

4.4.2 Years of Operation of the organization

The research sought to find out the number of years firms have been in operation in Kenya. The findings were presented in Figure 4.2. The figure shows that 73.17% of the firms had been in operation for 11 and above years, 13.01% had been in operation for 6-10 years, 12.20% had been in operation for 1-5 years and only 1.63% had been in operation for less than a year. The study findings imply that the firms had been operated long enough in the oil industry and the study could acquire adequate information about the issues that the study was looking for like the measures of sustainability of competitive advantage over the past five years. Since these businesses were operating in a highly competitive environment, these firms were relatively flexible in adjusting to these business environmental changes swiftly.
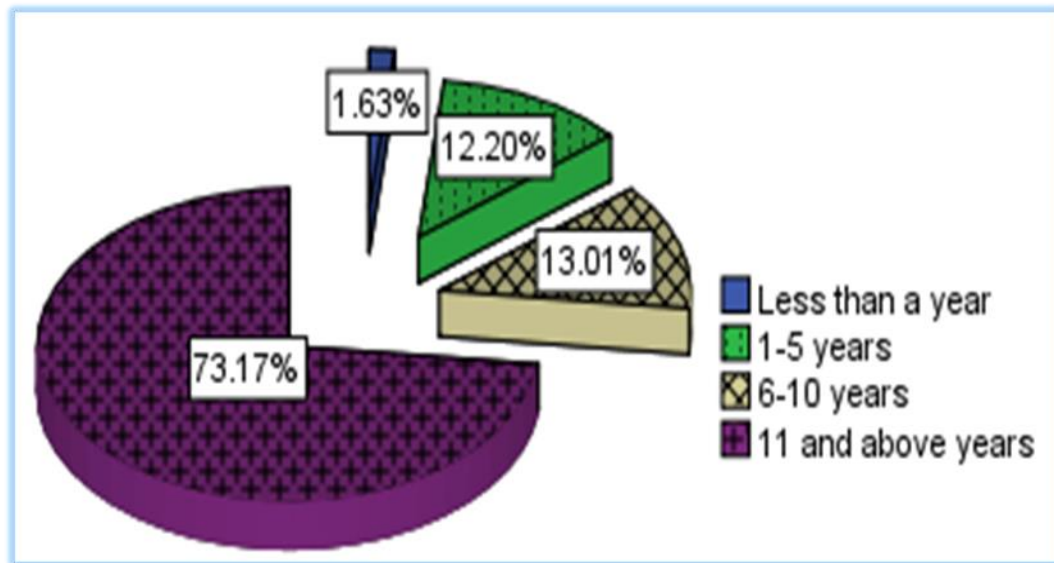
Figure 4.2: Years of operation of the organization in Kenya

4.4.3 Highest Level of Education of the Respondent

The study sought to find out the highest level of education of the respondents. The findings were summarized in Table 4.3. From the table 70.7% of the respondents had a Bachelor's degree, 26.0% had a Master's degree and only 3.3% had a Diploma level of education. This suggests that the respondents had wide experience in their work place consequently they were in a position to understand most of the organizational resources and sustainability of competitive advantage concepts. Further, the study findings imply that most of the respondents had a high level of education which could have contributed to accurate responses.

Table 4.3: Level of Education

	Frequency	Percent
Diploma	4	3.3
Bachelor	87	70.7
Masters	32	26.0
Total	**123**	**100.0**

4.4.4. Number of years worked in the organization

The research sought to establish the duration in years the respondents had worked with the organization. The findings were presented in Figure 4.3. From the figure

67

50.81% of the respondents had worked for 3-5 years, 18.55% had worked for less than 2 years, 15.32% had worked with the organization for 6-8 years and another 15.32% had worked for over 9 years in their respective organizations. The study findings implied that the respondents had worked long enough in the oil industry and had knowledge about the issues that the study was looking for. Since the organizations operated in a highly competitive environment, the respondents were relatively flexible in mastering, reacting and adjusting to the business environmental changes swiftly.

Figure 4.3: Duration worked in the organization

4.4.5 Designation of the respondents in the Organization

The study sought to find out the designations of the respondents in their respective organizations. The findings were presented in Table 4.4. From the findings in the table, 5.6% were CEOs/MDs/GMs, 15.3% were in the positions of senior management, 36.3% were in the middle level management positions, while 41.9% were serving as general staff in the organizations. Only 0.8% were in other positions in the organizations. The literature and real-life experience has it that it is the CEOs/MDs/GMs or their representatives who are the chief architects of strategies in organizations. It can be deduced from this finding that the current study collected

data from the right sources implying that the results gave a true picture of the happenings in the oil industry in Kenya.

Table 4.4: Designation of the respondent in the organization

	Frequency	**Percent**
CEO/MD/GM	7	5.6
Senior Management	19	15.3
Middle level Management	45	36.3
General Staff	52	41.9
Other	1	.8
Total	124	100.0

4.4.6 If the organization has offices Countrywide

The study sought to find out if the organization had offices countrywide. The findings were summarized in Figure 4.4. From the figure 79.51% of the respondents said their organizations had offices countrywide while 20.49% said their organizations had offices in other specific places in Kenya. The study findings imply that the study views collected were adequate and represent the situation across the country.
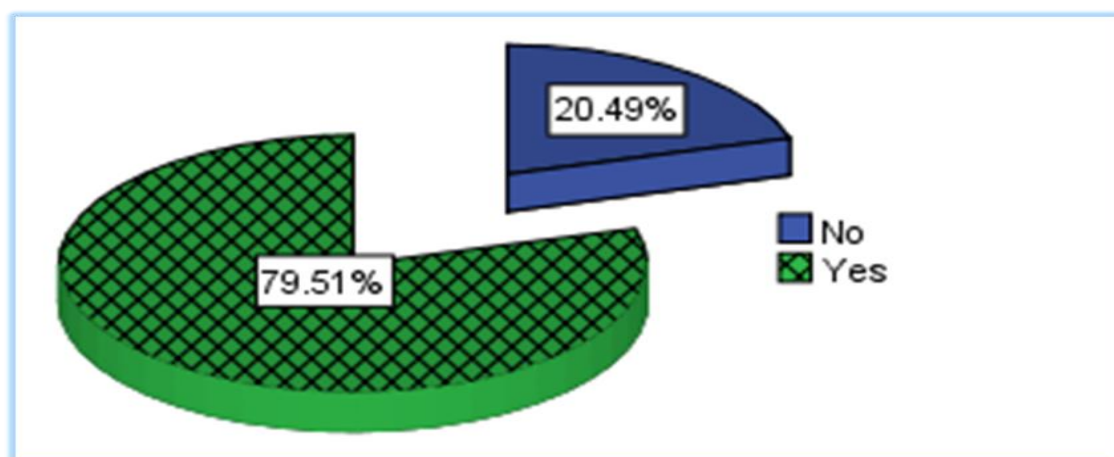
Figure 4.4: If the organizations had offices countrywide

The study also sought to find out the type of organizations' office locations in Kenya. The findings were summarized in Figure 4.5. From the figure 59.35% of the

respondents said they had private type of offices, 34.96% said they had KPC Location type of offices and 5.69% said they had Hospitality Location type of offices.
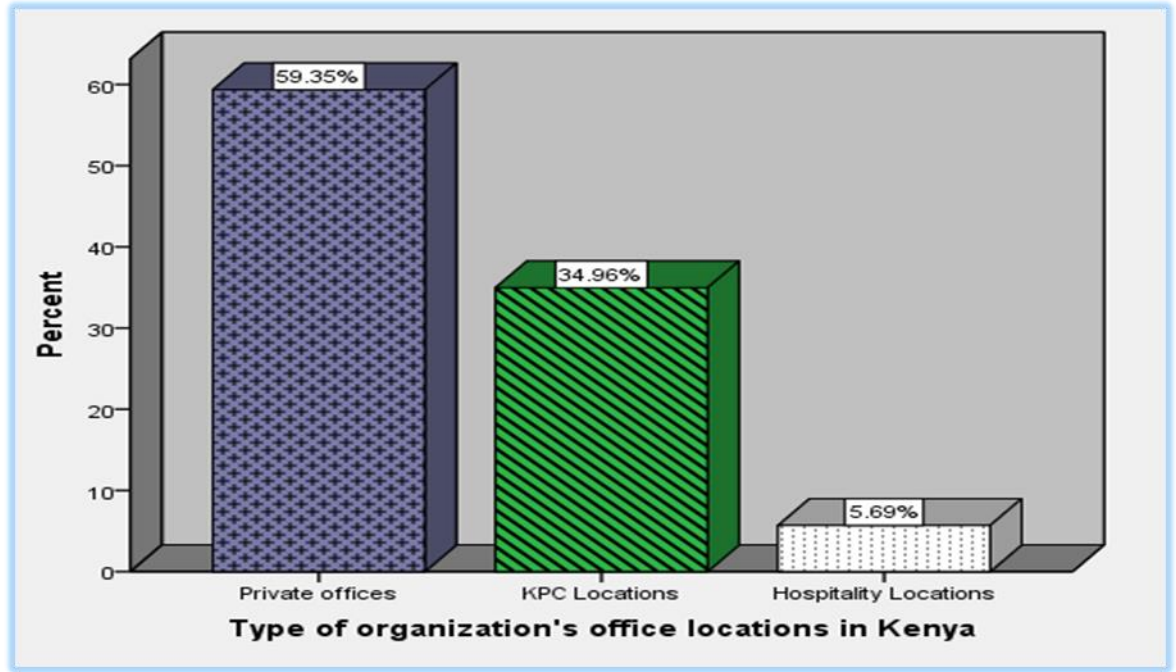
Figure 4.5: Type of organizations' offices in Kenya

4.4.7 If the organization had offices in selected towns and KPC locations

The study sought to find out if the organizations had offices in selected towns in Kenya. From the findings summarized in Table 4.5, 95.9% of the organizations had offices in Mombasa, 99.1% had offices in Nairobi, 93.9% had offices in Nakuru, 94.8% had offices in Eldoret and 93.9% had offices in Kisumu. The findings imply that the respondents came from organizations with offices in the major commercial cities and KPC locations around the country.

Table 4.5: If organizations had offices in major towns in Kenya

If the Organization has offices in:	No	Yes
Mombasa	4.1%	95.9%
Nairobi	0.9%	99.1%
Nakuru	6.1%	93.9%
Eldoret	5.2%	94.8%
Kisumu	6.1%	93.9%

The study sought to find out if the organizations had offices at KPC locations in Kenya. From the findings summarized in Table 4.6, 87.1% had offices at KPC in Nakuru, 87.9% had offices at KPC in Eldoret and 87.9% had offices at KPC in Kisumu. The findings imply that the respondents came from organizations with offices in KPC locations around the country.

Table 4.6: If organizations had offices at KPC Locations in Kenya

If the Organization has offices in	Not Applicable	No	Yes
Nakuru	1.6%	11.3%	87.1%
Eldoret	1.6%	10.5%	87.9%
Kisumu	1.6%	10.5%	87.9%

4.4.8 Company's Market presence

The study sought to find out company's market presence. The findings were summarized in Figure 4.6. From the figure 29.84% of the respondents said their companies had global presence, 13.71% said their companies had Africa wide presence, 20.97% said their companies had Sub-Sahara Africa presence, 16.94% said their companies had East African region presence only, while 18.55% of the respondents said their companies were in Kenya only.
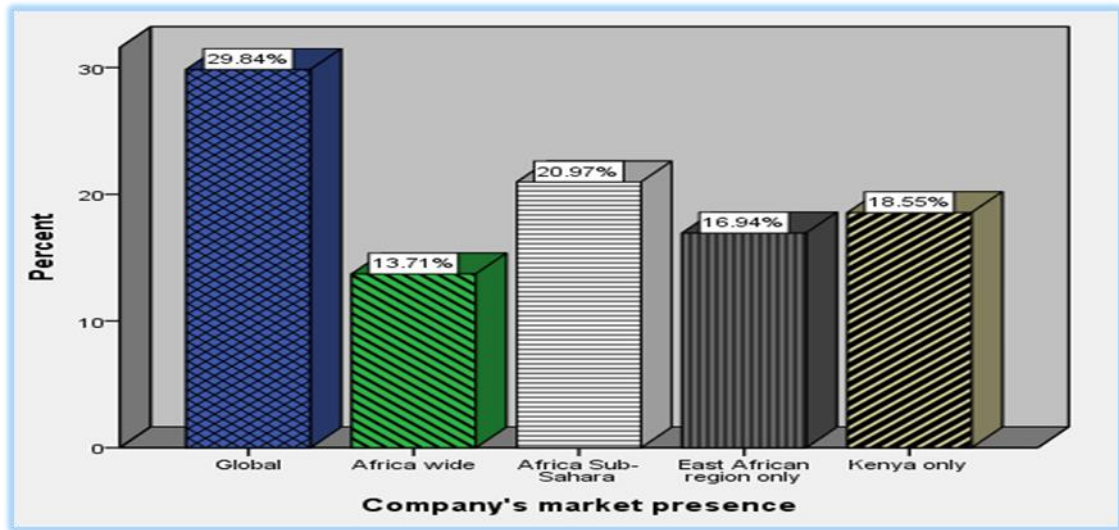
Figure 4.6: Company market presence

4.4.9 Local market segment

The study sought to find out the local market segments for the companies. The findings were presented in Table 4.7 The table shows that 26.6% of the respondents said they were in retail market segment, 17.7% said they were in industrial and wholesale (Consumer), 5.6% said they were in Distributor and Reseller segment, 7.3% said they were in aviation segment, 6.5% said they were in Lubricants segment, another 6.5% said they were in LPG segment, 13.7% said they were in supply trading segment, and 11.3% said they were in all the segments that the researcher had listed. Only 4.8% said they were in any other market segments.

Table 4.7: Main local market segment

	Frequency	Percent
Retail	33	26.6
Industrial & Wholesale (Consumer)	22	17.7
Distributor & Reseller	7	5.6
Aviation	9	7.3
Lubricants	8	6.5
LPG	8	6.5
Supply Trading	17	13.7
All of the listed	14	11.3
Any other	6	4.8
Total	**124**	**100.0**

4.5. Descriptive Analysis

This section presents descriptive analysis for variables used in the model. The section is divided into three sections namely; descriptive analysis for the independent variables, dependent variable and moderating variable. The independent variable of this study is organizational resources. Organizational resources has different constructs namely; human resources, financial resources, plant & equipment resources, and brand & heritage resources. The moderating variable is government policy. These constructs are discussed below.

4.5.1. Descriptive Statistics for Human Resources

The study sought to find out the descriptive statistics of the independent variable (human resources). The study findings were presented in Table 4.8. 50.8% of the respondents said to a very high extent their recruitment & staffing processes led to selection of Company's management who were experienced and capable of providing overall leadership. The findings of the study confirm that by Barney (1991) that states that human capital resources include the training, experience, judgement, intelligence, relationships, and insights of individual managers in a firm.

From the table 48.4% of the respondents said to a high extent their recruitment & staffing processes led to selection of company staff who understood their roles and fully responsible for task accomplishment in day-to-day operations. This finding confirms that of Mills, Platts and Bourne (2003) who stated that, because of their diverse attributes not all employees have a strategic value in organizations. Only those who are valuable, rare, unique, and properly organized can create competitive advantage in a way coherent with the resource-based view of the firm. Wright, McMahan and McWilliams (1994) echoed this study finding by stating that other employees performing secondary and repetitive tasks do not generate value for the firm.

From the table 50.8% said to a high extent their training & learning processes ensure that the organization has technical experts internally undertaking various tasks and performing according to the organization's mission, vision, goals, objectives and expectations. This finding confirms that of Penrose (1959) who affirmed that a company is more than an administrative unit, being also a grouping of productive resources divided in physical resources and human resources. The physical resources include the tangible goods such as plant, equipment, natural resources, raw material, half-finished products, discarded products and by-products and unsold supplies. The available human resources in the company are the professional, clerical, administrative, financial, legal, managerial and technical teams.

From the table 49.2% said to a high extent their employees are fully responsible for driving cutting edge innovative ideas leading to better goods and services. This finding was in harmony with that of Barney (1991; 1996) who postulated that, the ability to sustain competitive advantage of a firm stems from the nature of its resources such as their value, rareness, inimitability and organization, as well as reputation, innovation, architecture and strategic assets.

From the table 44.4% said that to a high extent their employees at all levels are well trained and share their knowledge, skills, experiences and competencies. This finding was in line with that in a study carried out in Tanzania, Uganda and Zimbabwe by

Chaharbaghi and Lynch (2009), that revealed that paying higher salaries and spending more resources on training of employees than the other companies resulted in increased productivity and innovation.

From the table 50.8% said that to a high extent their labour & employee relations ensure team working among their employees is deeply rooted in all areas of operation and responsible for better decision making. According to Barney (1997) companies have to learn to develop and manage relationships with a wide range of organizations, groups, and people that have a stake in their firms hence sustaining their competitive advantage.

From the table 40.3% said that to a high extent Problem solving in all areas of their operations ensures efficiency and effectiveness in providing better products and services to their customers. The findings confirm that by Line (1994) who considered competitive advantage as the necessity for every organization to be better in some way than its competitors. This refers to "better" in the functional quality of its products or services, in the products' attractiveness, in their reliability, in the speed, efficiency or convenience with which they are delivered, in the way they are marketed, in their cost to the consumer, or in other ways.

Further, 50.8% of the respondents said that to a high extent their employees are fully responsible for developing the organization being an employer of choice for most talented individuals. The findings confirm that by Pfeffer (1994) who concluded that human resource is vital for firm sustained performance. In knowledge economy, for instance the human resource is regarded as a strategic tool, which is necessary to organizational profitability as well as sustainability.

Table 4.8: Descriptive Statistics of Human Resources

Statement	Very Low Extent	Low Extent	Average Extent	High Extent	Very High Extent
1. Our recruitment & staffing processes lead to selection of Company's management who are experienced and capable of providing overall leadership.	0.0%	4.8%	15.3%	29.0%	50.8%
2. Our recruitment & staffing processes lead to selection of company staff who understand their roles and fully responsible for task accomplishment in day-to-day operations.	0.0%	4.8%	13.7%	48.4%	33.1%
3. Our training & learning processes ensure that the organization has technical experts internally undertaking various tasks and performing according to the organization's mission, vision, goals, objectives and expectations.	1.6%	3.2%	16.9%	50.8%	27.4%
4. Our employees are fully responsible for driving cutting edge innovative ideas leading to better goods and services.	2.4%	5.6%	24.2%	49.2%	18.5%
5. Our employees at all levels are well trained and share their knowledge, skills, experiences and competencies.	0.0%	6.5%	21.0%	44.4%	28.2%
6. Our labour & employee relations ensure team working among our employees is deeply rooted in all areas of operation and responsible for better decision making.	1.6%	6.5%	18.5%	50.8%	22.6%
7. Problem solving in all areas of our operations ensures efficiency and effectiveness in providing better products and services to our customers.	0.0%	7.3%	23.4%	40.3%	29.0%
8. Our employees are fully responsible for developing the organization being an employer of choice for most talented individuals	0.8%	5.6%	18.5%	50.8%	24.2%
Averages	**0.80%**	**5.54%**	**18.94%**	**45.46%**	**29.23%**

4.5.2. Descriptive Statistics for Financial Resources

The study carried out descriptive statistics on independent variable (financial resources). The findings of the study were tabulated in Table 4.9. From the table, 33.9% said to an average extent their Company's ability to finance employee compensation and benefits is the key to their success. The findings confirm that in a study done by Chaharbaghi and Lynch (2009) in which they found that the most advanced productive companies are those that had an edge in sustaining competitive advantage and invested a lot of financial resources in positioning themselves to compete effectively through creating good jobs for skilled people, paying higher salaries and spending more resources on training than the other companies which resulted in increased productivity and innovation.

From the table 41.9% of the respondents said to a high extent their organization's cash flow enabled timely payments to creditors/vendors – suppliers and contractors for goods and services delivered and another 37.1% of the respondents said to a high extent their financing arrangements enables the organization to extend better trading terms to their debtors securing profitable businesses. Nevo and Wade (2010) findings are confirmed by these study findings from the element of information flow. The authors state that an improved information flow between the firm and its suppliers will ensure that raw materials are available when needed; an improved flow between the firm and its stockholders and owners, and the financial community will ensure that funds are available when needed; an improved flow between the firm and labor unions will ensure a continuing supply of skilled workers; and so on.

From the table 37.9% of the respondents said to a very high extent their organization's working capital enabled financing of high levels of inventory – goods and services. Heyman et al., (2008) found out that firm size is an important factor in the cost of, and access to firm financing, particularly the level of gearing. Additionally, profit generation is typically a function of scale, as firms possessing a larger asset base or generating greater sales revenue commonly earn larger absolute profits than smaller firms. Combining this tangible resource with a conscious

strategic decision by the firm's managers (Berger & Udell, 1998; Lockett et al., 2009) to retain and reinvest earnings in positive NPV projects enables firms to gain a competitive advantage over competitors. 37.1% said to an average extent their liquid financial investments leads to their organization's healthy returns on investment enabling better rewards to shareholders. 54.8% majority of the respondents said to a very high extent their organization's financial strength enables timely payment of taxes to the government.

From the table 46.0% said to a high extent their organization's relations with banking institutions makes it easier to secure bid bonds and performance bonds for key tenders. Peteraf (1993) argues that, the distinctive differences that are consistently sustained over time are the ones that lead to higher firm's performance. For instance, if a firm consistently modernizes its plant, or develops more efficient distribution processes, or accesses cheaper financing or credit at any one time better than its rivals (Morgan et al., 2004).

Further, 44.4% said to a high extent their financial base enables the organization to market through discounts, incentives, promotions and develop goods and services. This is in line with the findings in the study by Kay (1996) which established that successful private sector firms use their resources to add value by using them in a proactive way and by demonstrating appropriability, or the ability to realize the benefits of a distinctive resource for the benefit of the firm itself, rather than its customers, suppliers or competitors.

Table 4.9: Descriptive Statistics for Financial Resources

	Very Low Extent	Low Extent	Average Extent	High Extent	Very High Extent
1. Our Company's ability to finance employee compensation and benefits is the key to our success.	8.1%	12.9%	33.9%	28.2%	16.9%
2. Our organization's cash flow enables timely payments to creditors/vendors – suppliers and contractors for goods and services delivered.	0.0%	8.1%	21.8%	41.9%	28.2%
3. Our financing arrangements enables the organization to extend better trading terms to our debtors securing profitable businesses.	6.5%	5.6%	29.0%	37.1%	21.8%
4. Our organization's working capital enables financing of high levels of inventory – goods and services.	4.0%	4.8%	22.6%	30.6%	37.9%
5. Our liquid financial investments leads to our organization's healthy returns on investment enabling better rewards to shareholders.	4.0%	9.7%	37.1%	32.3%	16.9%
6. Our organization's financial strength enables timely payment of taxes to the government.	0.0%	4.0%	4.8%	36.3%	54.8%
7. Our organization's relations with banking institutions makes it easier to secure bid bonds and performance bonds for key tenders.	6.5%	3.2%	12.1%	46.0%	32.3%
8. Our financial base enables the organization to market through discounts, incentives, promotions and develop goods and services.	7.3%	8.1%	15.3%	44.4%	25.0%
Averages	**4.55%**	**7.05%**	**22.08%**	**37.10%**	**29.23%**

4.5.3. Descriptive Statistics for Plant and Equipment Resources

The study generated the descriptive statistics of the independent variable (Plant & Equipment Resources). The results were presented in Table 4.10. From the table, 35.5% said to a high extent their Company's Head & Branch offices across the country are strategically located enabling easy access for their employees, customers and business partners. 32.3% of the respondents said to a very high extent their

presence through service station network in strategic business cities, towns and trading centres across the country presents them as reliable suppliers of oil industry products. The findings confirm that of Riggall (2000) who stated that the convenience factor is the most important for customers.From the table 42.7% of the respondents said to a high extent their Company's customer service centres across the country enables easy access to their customers and business partners making them a more reliable supplier. According to Abratt and Russell (1999), price followed by trust; service quality and the availability of a firm at a time of crisis are the most important criteria in the selection of product brands by the customer.

From the table 47.6% said to a very low extent their Lube Oil Blending Plant (LOBP) with modernized equipment provides an efficient and cost-effective manufacturing base for their lubricants. According to a study by Luce (1999), the industrial plants, machinery and equipment are becoming technologically more advanced and at the same time more complex and difficult to control. JIT management systems, lean and agile manufacturing and the use of automated and integrated systems have made production systems increasingly vulnerable to risks and susceptible to diverse consequential effects due to breakdowns.

From the table 46.0% said to a high extent their operations facilities with modernized equipment – Terminals, Depots, KPC offices, Storage facilities and warehouses enables the organization to provide goods and services more efficiently and effectively. According to Swanson (2001), without well-maintained equipment, a plant will be at a disadvantage in a market that requires low-cost products of a high quality to be delivered quickly. From the table 35.5% said to a high extent their investments in offices, operations facilities, and technology led to upholding good controls facilitating modern systems and processes that drive better business growth. Further, 37.9% said to a high extent their investments in service station assets, offices, operations facilities, sound controls and business processes provide a basis for adoption and transfer of technology enabling them to operate more efficiently. Luxhoj et al., (1997) stated that the manufacturing plant should be used effectively, efficiently, and provide high quality products at a competitive price in addition to

showing concern for the environment and safety. In the move towards world-class manufacturing many firms are realizing a critical need for the use of a proper, i.e. efficient and effective, maintenance of production facilities and systems.

Table 4.10: Descriptive Statistics of Plant & Equipment Resources

	Very Low Extent	Low Extent	Average Extent	High Extent	Very High Extent
1. Our Company's Head & Branch offices across the country are strategically located enabling easy access for our employees, customers and business partners.	8.9%	3.2%	21.0%	35.5%	31.5%
2. Our presence through service station network in strategic business cities, towns and trading centres across the country presents us as reliable suppliers of oil industry products.	15.3%	2.4%	28.2%	21.8%	32.3%
3. Our Company's customer service centres across the country enables easy access to our customers and business partners making us a more reliable supplier.	8.9%	5.6%	31.5%	42.7%	11.3%
4. Our Lube Oil Blending Plant (LOBP) with modernized equipment provides an efficient and cost-effective manufacturing base for our lubricants.	47.6%	2.4%	12.1%	17.7%	20.2%
5. Our operations facilities with modernized equipment – Terminals, Depots, KPC offices, Storage facilities and warehouses enables the organization to provide goods and services more efficiently and effectively.	1.6%	8.1%	22.6%	46.0%	21.8%
6. Our investments in offices, operations facilities, and technology leads to upholding good controls facilitating modern systems and processes that drive better business growth.	6.5%	8.9%	25.8%	35.5%	23.4%
7. Our investments in service station assets, offices, operations facilities, sound controls and business processes provide a basis for adoption and transfer of technology enabling to operate more efficiently	4.8%	14.5%	24.2%	37.9%	18.5%
Averages	**13.37%**	**6.44%**	**23.63%**	**33.87%**	**22.71%**

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4.5.4. Descriptive Statistics for Brand and Heritage Resources

The study generated the descriptive statistics of the independent variable (Brand & Heritage Resources). The findings were summarized in Table 4.11. From the table, 51.6% of the respondents said to a very high extent their corporate brand & heritage provides a secure company image to the customers therefore positioning their product brands and services above those of their competitors. This finding confirms that of Miller and Ross (2003) who stated that brand names continue to form part of the increasingly valuable assets for many companies.

From the table 43.5% said to a high extent their brand affiliation and duration in the oil industry in Kenya provides customers with more confidence in their products and services. Lim and O'Cass (2001) argue that in a cluttered marketplace, brands continue to stand up as among the main source of differentiation and competitive advantage for providers of products and services, which can be quickly tracked given the easy access to technology and information. 38.7% said to a very high extent their corporate brand and image provides their organization with leverage and being supplier of choice for customers. The findings confirm the findings of Keller and Huwaishel (2003) who argued that indeed consumer brand knowledge determines how well a consumer thinks about a brand. According to Rossiter and Percy (1987), brand awareness is a very important component of brand knowledge that is therefore reflected by a consumer's ability to identify a brand even if it is under different conditions and is therefore related to the strength of the brand node or to a larger extent trace in memory.

From the table 36.3% said to a high extent their parent company provides a leverage for their survival in the market. According to Miller and Ross (2003) a very effective branding has to do with a memorable name as well as a ubiquitous slogan which is combined with an instantly recognizable and thus a unique logo. They further state that the brand name is another crucial element of branding which needs to be both simply memorable and is therefore particular to a certain firm or product. This very

important for child/associated companies as they do not need to struggle much to get attention of the consumers. Just the brand name alone markets them.

A smaller majority (28.2%) said to a high extent their corporate brand and image is the basis for their ability to attract and retain solid and talented employees. This confirms the findings in a study by Huselid (1995) that looked at HR practices of high performance companies and established that indeed attracting and selecting the right employees helps to increase the employee productivity, while at the same time boosting the performance of the organization and contributing to reduced turnover. A majority (47.6%) said to a high extent their corporate brand and image is the basis for their ability to attract and retain highest quality of supply chain partners.

Further, 34.7% said to a high extent their brand presence in Retail market, in Industrial & Wholesale market, in Distributor & Reseller market, and in Aviation business presents their product identity and as supplier of choice for customers. Edge (2005) asserts that the indiscriminate value of a strong brand lies heavily on the impression left with any single individual who comes into contact with the organization. He further argues that indeed the most compelling reasons for an effective branding is to gain customer loyalty as well as support a premium price given that purchasers rely mostly on experience and their long-held attitudes about a brand; and also that successful brands are mostly focused on one specific market segment.

Table 4.11: Descriptive statistics of Brand & Heritage Resources

	Very Low Extent	Low Extent	Average Extent	High Extent	Very High Extent
1. Our corporate brand and heritage provides a secure company image to the customers therefore positioning our product brands and services above those of our competitors.	0.8%	9.7%	13.7%	24.2%	51.6%
2. Our brand affiliation and duration in the oil industry in Kenya provides customers with more confidence in our products and services.	6.5%	4.0%	21.8%	43.5%	24.2%
3. Our corporate brand and image provides our organization with leverage and being supplier of choice for customers.	6.5%	3.2%	16.1%	35.5%	38.7%
4. Our parent company provides a leverage for our survival in the market.	16.1%	16.9%	12.1%	36.3%	18.5%
5. Our corporate brand and image is the basis for our ability to attract and retain solid and talented employees.	0.8%	19.4%	27.4%	28.2%	24.2%
6. Our corporate brand and image is the basis for our ability to attract and retain highest quality of supply chain partners.	4.0%	8.1%	26.6%	47.6%	13.7%
7. Our brand presence in Retail market, in Industrial & Wholesale market, in Distributor & Reseller market, and in Aviation business presents our product identity and as supplier of choice for customers.	1.6%	14.5%	16.9%	34.7%	32.3%
Averages	**5.19%**	**10.83%**	**19.23%**	**35.71%**	**29.03%**

4.5.5. Descriptive Statistics for Government Policy

The researcher generated the descriptive statistics of the moderating variable (government policy). The findings of the study were presented and discussed in Table 4.12. From the table, 46.0% of the respondents said to a high extent the Kenyan government has created an enabling environment for the growth of the oil industry and existence of a competitive environment. 41.9% of the respondents said

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to a high the Ministry of Energy and Petroleum has its mandate and is responsible for putting in place policies, rules and regulations that govern the running of the oil industry in Kenya. There is evidence of the immense support from the Kenyan Government and especially the Ministry of Energy and Petroleum. For instance, according to a report by PIEA (2012), there exists a modest upstream oil industry as the Kenyan government in its investment incentives continues to encourage foreign interest in oil exploration and eventual production. Companies like Africa Oil and Tullow Oil have been working on some sites in Northern Kenya and have recently announced oil discoveries and embarked on establishing the commercial viability of the said discoveries, which if confirmed will endow the country with a precious resource.

From the table 41.1% of the respondents said to an average extent the Energy Regulatory Commission plays its role in maintaining a competitive environment and providing a level playing ground. This is evident in the ERC Report (2012) that says, the industry was liberalized from 1994 up to 2012 when due to public outcry on rapid escalation of oil products pricing the government introduced retail fuel price regulations changing the competitive landscape drastically to the disadvantage particularly of the high-cost multinational oil marketing companies but in a bid to level the playing ground for all.

From the table 71.0% of the respondents said either to a high extent or to an average extent the Kenya Pipeline Company (KPC) and its system (Pipeline and Depots) performs its mandate.. This is evidenced by the fact that the country has an installed oil pipeline of 800 km owned and managed by the Kenya Pipeline Company (KPC). This pipeline runs from Mombasa to Nairobi and Western Kenya with terminals in Nairobi, Nakuru, Eldoret and Kisumu (KPC, 2014; ERC, 2014). KPC offers primary transport of refined products for all oil marketing companies to Nairobi and Western Kenya meaning presence at all KPC depots countrywide has a bearing towards ability to compete effectively in the market and therefore providing direct support to the player's business.

From the table 60.5% said to a very low extent the Kenya Petroleum Refineries (KPRL) plays its role in the oil industry in Kenya. 33.1% of the respondents said to an average extent the Kenyan government has put in place policy to allow modern infrastructure that will support the growth of the Oil industry. These findings agree with the fact that the country has a defunct petroleum refinery owned and managed by the Kenya Petroleum Refineries Ltd (KPRL) which does not play its role, neither is it supportive to the industry players' business nor displays the government's commitment to putting in place infrastructure that will support the growth of the Oil industry.

From the table 41.9% of the respondents said to an average extent the Kenya Revenue Authority has its mandate and is responsible for putting in place tax policies, rules and regulations that govern tax collection. Further, 46.0% of the respondents said to a high extent the Kenyan government has created the upstream oil sector and put in place policies, rules and regulations to govern exploitation of oil reserves for the growth of the industry. According to PIEA (2014), there exists a modest upstream oil industry as the Kenyan government in its investment incentives continues to encourage foreign interest in oil exploration and eventual production.

Table 4.12: Descriptive Statistics of Moderator (Government Policy)

	Very Low Extent	Low Extent	Average Extent	High Extent	Very High Extent
1. The Kenyan government has created an enabling environment for the growth of the oil industry and existence of a competitive environment.	0.8%	2.4%	25.8%	46.0%	25.0%
2. The Ministry of Energy and Petroleum has its mandate and is responsible for putting in place policies, rules and regulations that govern the running of the oil industry in Kenya.	0.8%	4.8%	32.3%	41.9%	20.2%
3. The Energy Regulatory Commission plays its role in maintaining a competitive environment and providing a level playing ground.	0.8%	16.1%	41.1%	29.8%	12.1%
4. The Kenya Pipeline Company (KPC) and its system (Pipeline and Depots) performs its mandate.	3.2%	19.4%	35.5%	35.5%	6.5%
5. The Kenya Petroleum Refineries (KPRL) plays its role in the oil industry in Kenya.	60.5%	14.5%	14.5%	6.5%	4.0%
6. The Kenyan government has put in place policy to allow modern infrastructure that will support the growth of the Oil industry	2.4%	20.2%	33.1%	29.8%	14.5%
7. The Kenya Revenue Authority has its mandate and is responsible for putting in place tax policies, rules and regulations that govern tax collection.	4.0%	12.9%	41.9%	33.9%	7.3%
8. The Kenyan government has created the upstream oil sector and put in place policies, rules and regulations to govern exploitation of oil reserves for the growth of the industry.	1.6%	10.5%	32.3%	46.0%	9.7%
Averages	**9.26%**	**12.60%**	**32.06%**	**33.68%**	**12.41%**

4.6. Diagnostic Tests

The study carried out various statistical diagnostic tests to ensure especially that the various assumptions of regression analysis are not violated. The findings of the study were therefore presented and discussed under this section. This section presents the results for factor analysis, sampling adequacy test, normality tests and autocorrelation test.

4.6.1. Sampling Adequacy

To examine whether the data collected was adequate and appropriate for inferential statistical tests such as the factor analysis, regression analysis and other statistical tests, two main tests were performed namely; Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity. For a data set to be regarded as adequate and appropriate for statistical analysis, the value of KMO should be greater than 0.5 (Koul, 2009).

Findings in Table 4.13 showed that the KMO statistic was 0.765 which was significantly high; that is greater than the critical level of significance of the test which was set at 0.5 (Koul, 2009). In addition to the KMO test, the Bartlett's Test of Sphericity was also highly significant (Chi-square = 235.567 with 123 degrees of freedom, at $p < 0.05$). The results of the KMO and Bartlett's Test are summarized in Table 4.13. These results provide an excellent justification for further statistical analysis to be conducted.

Table 4.13: Sampling Adequacy

Test	Coefficient
Kaiser-Meyer-Olkin Measure	.765
Bartlett's Chi- Square	235.567
Bartlett's df	123
Bartlett's Sig.	.000

4.6.2. Factor Analysis

Factor analysis was carried out on the dependent variable (Sustainability of Competitive Advantage) and the findings were summarized in Table 4.14. The principal component matrix table shows that, all the items experienced a factor loading above the threshold of .4 (Kothari, 2004). Hair, Black and Babin (2010) proposed that, variable statements scoring more than a value of 0.3 qualify to be included into the final model. Therefore, none of the items in the dependent variable was dropped from the research questionnaire. All the statements attracted coefficients of more than 0.4 hence all the statements were retained for analysis. According to Rahn (2010) and Zandi (2006) a factor loading equal to or greater than 0.4 is considered adequate. This is further supported by Black (2002) who asserts that a factor loading of 0.4 has good factor stability and deemed to lead todesirable and acceptable solution.

Table 4.14: Factor Analysis on Dependent Variable (Sustainability of competitive advantage)

<table>
<thead>
<tr><th colspan="2">Component Matrix^a</th></tr>
<tr><th></th><th>Component</th></tr>
</thead>
<tbody>
<tr><td>1. The organization's total number of customers has increased over the past five years.</td><td>.876</td></tr>
<tr><td>2. The organization's total business profitability has increased over the past five years.</td><td>.871</td></tr>
<tr><td>3. The organization's brand equity for the diversified products & services has increased over the past five years.</td><td>.860</td></tr>
<tr><td>4. The organization's total capital employed has increased over the past five years.</td><td>.856</td></tr>
<tr><td>5. The organization's overall market share has increased due to the growing sales turnover over the past five years.</td><td>.823</td></tr>
<tr><td>6. The organization has reported higher returns on capital employed in investments over the past five years.</td><td>.803</td></tr>
</tbody>
</table>

Factor analysis was carried out on the independent variable (Human Resources) and the findings were summarized in Table 4.15 The principal component matrix table shows that, all the items experienced a factor loading above the threshold of .4 (Kothari, 2004). Therefore, none of the items in the independent variable (Human Resources) was dropped from the research questionnaire.

Table 4.15: Factor Analysis on Independent Variable (Human Resources)

Component Matrix[a]

	Component
1. Our labour & employee relations ensure team working among our employees is deeply rooted in all areas of operation and responsible for better decision making.	.811
2. Our recruitment & staffing processes lead to selection of Company's management who are experienced and capable of providing overall leadership.	.807
3. Our employees are fully responsible for developing the organization being an employer of choice for most talented individuals.	.793
4. Problem solving in all areas of our operations ensures efficiency and effectiveness in providing better products and services to our customers.	.751
5. Our employees at all levels are well trained and share their knowledge, skills, experiences and competencies.	.747
6. Our recruitment & staffing processes lead to selection of company staff who understand their roles and fully responsible for task accomplishment in day-to-day operations.	.738
7. Our training & learning processes ensure that the organization has technical experts internally undertaking various tasks and performing according to the organization's mission, vision, goals, objectives and expectations.	.726
8. Our employees are fully responsible for driving cutting edge innovative ideas leading to better goods and services.	.703

Factor analysis was carried out on the independent variable (Financial Resources) and the findings were summarized in Table 4.16. The principal component matrix table shows that all the items experienced a factor loading above the threshold of .4 (Rahim & Magner, 2005). Therefore, none of the items in the independent variable (Financial Resources) was dropped from the research questionnaire.

Table 4.16: Factor Analysis on Independent Variable (Financial Resources)

Component Matrix[a]

	Component
1. Our financing arrangements enables the organization to extend better trading terms to our debtors securing profitable businesses.	.836
2. Our financial base enables the organization to market through discounts, incentives, promotions and develop goods and services.	.825
3. Our liquid financial investments leads to our organization's healthy returns on investment enabling better rewards to shareholders.	.810
4. Our organization's financial strength enables timely payment of taxes to the government.	.805
5. Our organization's relations with banking institutions makes it easier to secure bid bonds and performance bonds for key tenders.	.770
6. Our organization's working capital enables financing of high levels of inventory – goods and services.	.763
7. Our Company's ability to finance employee compensation and benefits is the key to our success.	.757
8. Our organization's cash flow enables timely payments to creditors/vendors – suppliers and contractors for goods and services delivered.	.604

Factor analysis was carried out on the independent variable (Plant & Equipment Resources) and the findings were summarized in Table 4.17 below. The principal component matrix table shows that, all the items had a factor loading above the threshold of .4 (Hair, Black & Babin, 2010). Therefore, none of the items in the independent variable (Plant & Equipment Resources) was dropped from the research questionnaire.

Table 4.17: Factor Analysis on Independent Variable (Plant & Equipment Resources)

Component Matrix[a]

	Component
1. Our operations facilities with modernized equipment – Terminals, Depots, KPC offices, Storage facilities and warehouses enables the organization to provide goods and services more efficiently and effectively.	.854
2. Our presence through service station network in strategic business cities, towns and trading centres across the country presents us as reliable suppliers of oil industry products.	.842
3. Our investments in offices, operations facilities, and technology leads to upholding good controls facilitating modern systems and processes that drive better business growth.	.837
4. Our Company's customer service centres across the country enables easy access to our customers and business partners making us a more reliable supplier.	.836
5. Our Company's Head & Branch offices across the country are strategically located enabling easy access for our employees, customers and business partners.	.833
6. Our investments in service station assets, offices, operations facilities, sound controls and business processes provide a basis for adoption and transfer of technology enabling to operate more efficiently.	.768
7. Our Lube Oil Blending Plant (LOBP) with modernized equipment provides an efficient and cost-effective manufacturing base for our lubricants.	.540

Factor analysis was carried out on the independent variable (Brand & Heritage Resources) and the findings were summarized in Table 4.18. The principal component matrix table shows that, all the items experienced a factor loading above the threshold of .4 (Myers, 2003). Therefore, none of the items in the independent variable (Brand & Heritage Resources) was dropped from the research questionnaire.

Table 4.18: Factor Analysis on independent variable (Brand & Heritage Resources)

Component Matrix[a]

	Component
1. Our brand presence in Retail market, in Industrial & Wholesale market, in Distributor & Reseller market, and in Aviation business presents our product identity and as supplier of choice for customers.	.883
2. Our brand affiliation and duration in the oil industry in Kenya provides customers with more confidence in our products and services.	.879
3. Our corporate brand and image provides our organization with leverage and being supplier of choice for customers.	.867
4. Our corporate brand and heritage provides a secure company image to the customers therefore positioning our product brands and services above those of our competitors.	.861
5. Our corporate brand and image is the basis for our ability to attract and retain highest quality of supply chain partners.	.851
6. Our corporate brand and image is the basis for our ability to attract and retain solid and talented employees.	.805
7. Our parent company provides a leverage for our survival in the market.	.785

Factor analysis was carried out on the moderating variable (Government Policy) and the findings were summarized in Table 4.19. The principal component matrix table shows that, all the items experienced a factor loading above the threshold of .4 (Kothari, 2004). Therefore, none of the items in the moderating variable (Government Policy) was dropped from the research questionnaire.

Table 4.19: Factor Analysis on moderating Variable (Government Policy)

Component Matrixᵃ

	Component
1. The Energy Regulatory Commission plays its role in maintaining a competitive environment and providing a level playing ground.	.781
2. The Kenyan government has created the upstream oil sector and put in place policies, rules and regulations to govern exploitation of oil reserves for the growth of the industry	.778
3. The Ministry of Energy and Petroleum has its mandate and is responsible for putting in place policies, rules and regulations that govern the running of the oil industry in Kenya.	.775
4. The Kenyan government has created an enabling environment for the growth of the oil industry and existence of a competitive environment.	.774
5. The Kenya Pipeline Company (KPC) and its system (Pipeline and Depots) performs its mandate.	.758
6. The Kenya Revenue Authority (KRA) has its mandate and is responsible for putting in place tax policies, rules and regulations that govern tax collection.	.730
7. The Kenyan government has put in place policy to allow modern infrastructure that will support the growth of the Oil industry	.664
8. The Kenya Petroleum Refineries (KPRL) plays its role in the oil industry in Kenya.	.472

4.6.3. Normality of Sustainability of Competitive Advantage

The research carried out a normal Q-Q Plot to find out if the data of the dependent variable (Sustainability of Competitive Advantage) was normally distributed. From the findings in Figure 4.7, most of the dots fell within or near the line of best fit and therefore, the dependent variable data was considered to be normally distributed.

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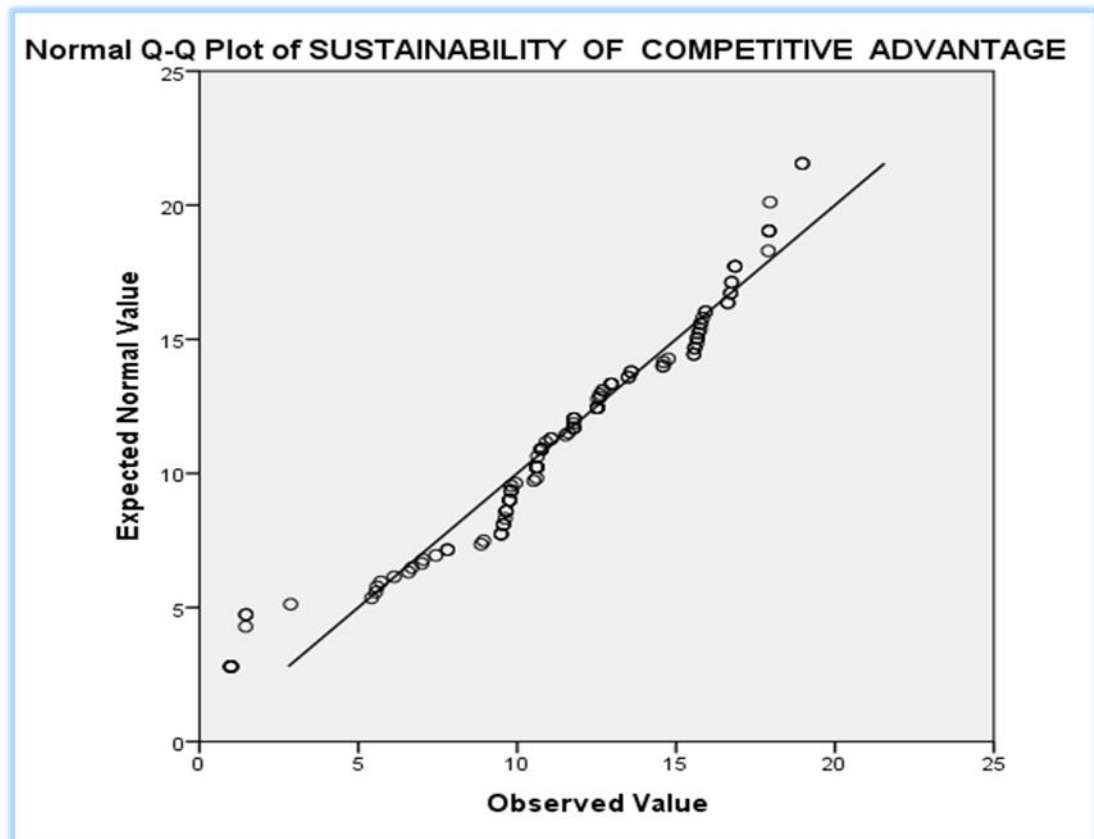
Figure 4.7: Q-Q Plot for the dependent variable (Sustainability of Competitive Advantage)

The one sample Kolmogorov-Smirnov test was also performed and results in Table 4.20 below implied that the dependent variable sustainability of competitive advantage was normal. Given H_0 and H_1, $\alpha=0.05$; the rule is that reject H_0 if P-value is less than α else fail to reject H_0: where H_0: Data is Normal and H_1: Data is not normal. Since a P value of 0.208 was above 0.05 we fail to reject the null hypothesis. Therefore, the data was normally distributed meaning that the probability of outliers was minimal. The findings imply that the responses were lying close to the line of normality. Furthermore, it implied that the data was ideal for all type of analysis, including parametric and regression analysis.

Table 4.20: One-Sample Kolmogorov-Smirnov Test

		Organizational Performance
Normal Parameters [a]	Mean	13.05041
	Std. Deviation	3.7635
Most Extreme Differences	Absolute	0.765
	Positive	0.057
	Negative	-0.05
Kolmogorov-Smirnov Z	1.1323	
Asymp. Sig. (2-tailed) 0	0.208	
a. Test distribution is Normal		

4.6.4 Normality Test for All Variables

The regression analysis can only be accurately estimated if the basic assumptions of multiple regression are met. To test the normality assumption Kolmogorov-Smirnov and Shapiro tests were carried out for all independent variables. The criterion is to reject the null hypothesis if the p-value of the Shapiro-Wilk statistic is less than 0.05. From the Shapiro-Wilk test for normality, the p-values<0.001 confirmed that the residuals for the fitted Sustainability of competitive advantage regression model were normally distributed. The results are shown in Table 4.21 below.

Table 4.21: Normality Test for independent variables

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Human Resources	.142	123	.000	.950	123	.000
Financial resources	.086	123	.000	.969	123	.000
Plant & Equipment resources.	.081	123	.000	977	123	.000
Brand & Heritage Resources	.531	123	.000	.985	123	.000

4.6.5. Checking for Heteroscedasticity

A check for presence of heteroscedasticity was done on the dependent variable (sustainability of competitive advantage) by use of a scatter plot as it was easy to observe any systematic pattern on the scatter diagram. From the findings presented in Figure 4.8, there was no observed systematic pattern on the scatter dots. Therefore, there was no heteroscedasticity in the dependent variable (sustainability of competitive advantage) as the scatter dots were randomly distributed in the diagram. This implied that the dependent variable is normally distributed.
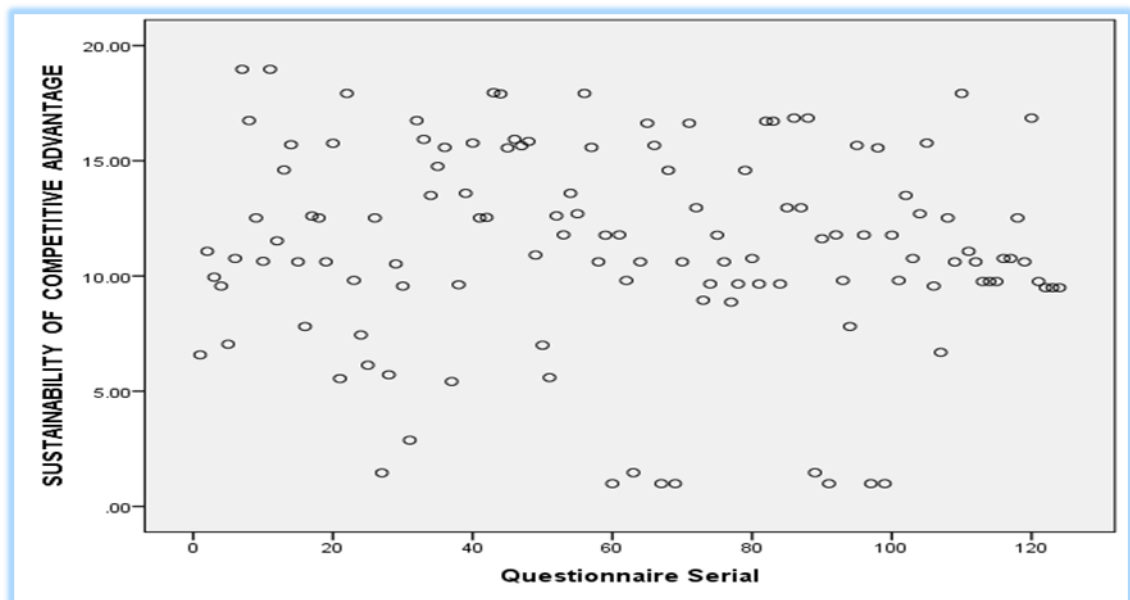
Figure 4.8: Scatter diagram to check for heteroscedasticity on the dependent variable (sustainability of competitive advantage).

4.6.6. Check for Outliers in the Dependent Variable

The study conducted an analysis to establish if the dependent variable had a presence of outliers. A box plot was generated from the data and was presented in Figure 4.9. From the figure, there was no observed presence of outliers in the dependent variable (sustainability of competitive advantage) implying that the results of analysis can be relied on. Results can be highly sensitive to the treatment of outliers.
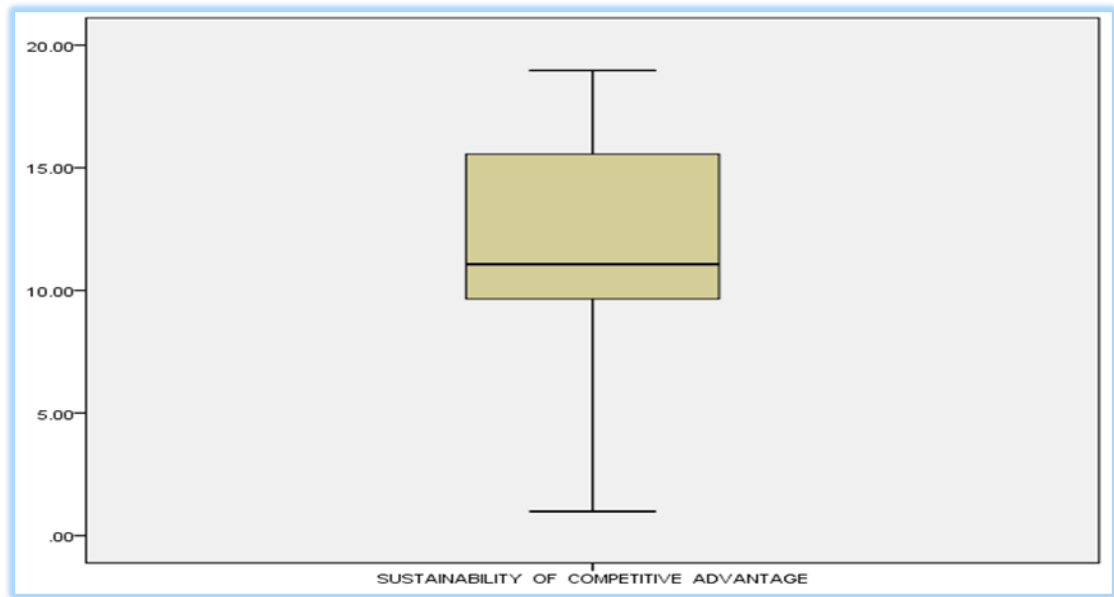
Figure 4.9: Check for outliers on dependent variable

4.6.7. Autocorrelation

The study used Durbin-Watson Statistic to check for autocorrelation between the variables. The null hypothesis of Durbin-Watson test is that the residuals from multiple linear regression model are independent. According to Greene, (2012) rule of thumb, Durbin-Watson values close to 2 indicate rejection of the alternative hypothesis. The findings show the Durbin-Watson values for variables are all close to 2. This implies that the residuals from the regression model with the dependent variable and the independent variables are independent. Further, A Durbin-Watson Statistic table was generated and presented in Table 4.22. From the table, the Durbin-Watson Statistic was 1.888, a value in the range of 1.5-2.5 indicating that there was no autocorrelation between the variables and therefore multiple regression of the data produced reliable results.

Table 4.22: A check for autocorrelation between the variables

Model Summary[b]

Model	Durbin-Watson
2	1.888[a]

4.6.8. Multicollinearity

The study sought to establish the presence of multicollinearity between the independent variables. The findings summarized in Table 4.23, show that none of the independent variables had a tolerance value less than .1 or a VIF value above 10 for both models (Montgomery, 2001; Draper & Smith, 2011; Draper & Smith, 2003), and hence, there was no multicollinearity between the independent variables of the study. Multicollinearity causes imprecise estimates of coefficient values and large errors hence leading to incorrect conclusions about the relationship between the dependent and independent variables.

Table 4.23: A Check for Multicollinearity

Coefficients[a] Model		Collinearity Statistics	
		Tolerance	VIF
1	Human Resources	.441	**2.267**
	Financial Resources	.412	**2.429**
	Plant & Equipment Resources	.348	**2.873**
	Brand & Heritage Resources	.316	**3.166**
2	Human Resources	.434	**2.305**
	Financial Resources	.399	**2.504**
	Plant & Equipment Resources	.347	**2.879**
	Brand & Heritage Resources	.315	**3.171**
	Government Policy	.841	**1.189**

4.7. Regression Analysis

The study used Ordinary Least Squares (OLS) estimation method to test the significance of organizational resources on sustainability of competitive advantage

with government policy moderating the relationship. The study calculated the factor scores for each construct and used the factor scores in the regression analysis. Factor scores have been widely used to represent a construct in regression analysis (Eyduran, et al., 2009; Sharma, 1996; Tabachnick & Fidell, 2001; Johnson & Wichern, 2002). To account for the moderating role of government policy, the study introduced the interaction terms between the moderator and each independent variable. The regression results are discussed as follows.

4.7.1. Role of Human Resources on Sustainability of Competitive Advantage

The study sought to investigate the role of human resources on sustainability of competitive advantage. Regression analysis was done with sustainability of competitive advantage as the dependent variable and human resources as tested predictor variable. Data from 124 respondents were tested. The research sought to establish how well the model fitted the data. Therefore, a line of best fit was generated from the data and presented in Figure 4.10. From the figure, it was observed that most of the scatter dots lay within the regression line, implying that the model fitted the data. Also, the diagonal regression line showed that there is a positive relationship between sustainability of competitive advantage and human resources. According to a study by Kahreh, Ahmadi and Hashemi (2011) on competitive advantage through employee empowerment, it was established that there is a strong relationship between employee empowerment and competitive advantage.
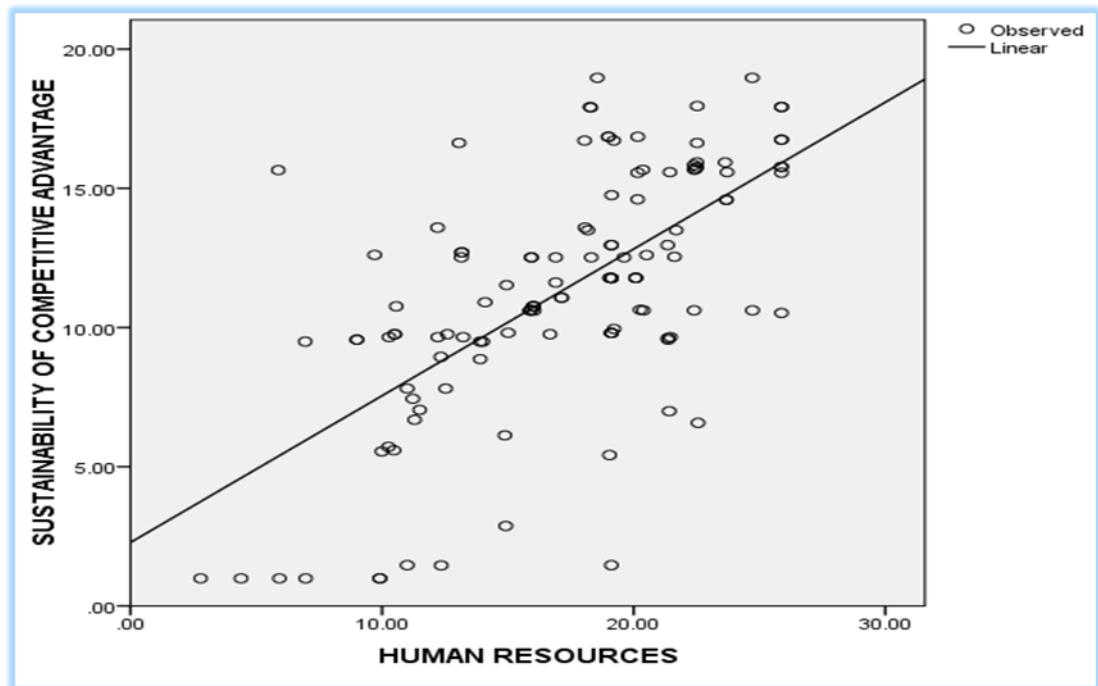
Figure 4.10: Line of best fit for sustainability of competitive advantage against human resources

Under objective one, the study sought to determine the relationship between human resources and sustainability of competitive advantage. The regression analysis was used to test the amount of variance in sustainability of competitive advantage accounted for by human resources. It was hypothesized that:

H_{01}: There is no role played by Human Resources on the sustainability of Competitive Advantage in the Oil industry in Kenya.

The regression results shown in Table 4.24 revealed that there existed a significant relationship between human resources and sustainability of competitive advantage (F(1,122=83.337, p-value<0.001). The coefficient of determination (R squared) of 0.406 showed that 40.60% of sustainability of competitive advantage could be explained by human resources. The adjusted R-square of 40.10% indicated that human resources in exclusion of the constant variable explained the change in sustainability of competitive advantage by 40.10%, the remaining percentage could be explained by other factors excluded from the model. R of 0.637 showed that there is positive correlation between sustainability of competitive advantage and human

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resources. The standard error of estimate (3.35973) showed the average deviation of the independent variable from the line of best fit.

The study hypothesized that human resources had no significant influence on sustainability of competitive advantage. The study findings indicated that there was a positive significant relationship between human resources and sustainability of competitive advantage (β=0.527 and t=9.129) which had a (p-value <0.001). Further, the linear regression analysis coefficients showed that the model Y= $\beta 0 + \beta_1 X_1$, was significantly fit. The general form of the equation to predict sustainability of competitive advantage from X_1= Human resources; becomes = 2.277 + 0.527X_1. This indicates that Sustainability of competitive advantage = 2.277 + 0.527*Human Resources. The model Sustainability of competitive advantage = β (Human Resources) holds as suggested by the test above. This confirmed that there is a positive linear relationship between human resources and sustainability of competitive advantage. Therefore, a unit increase in use of human resources index led to an increase in sustainability of competitive advantage index by 0.527. Since the p-value was less than 0.05 as shown in Table 4.24, the null hypothesis was rejected and could then be concluded that there is role played by human resources on the sustainability of competitive advantage in the Oil industry in Kenya. The findings confirm that of Pfeffer (1994) who concluded that human resource has been vital for firm sustained performance. In a similar study, Gooderham, Ringdal and Parry (2006) found out that if indeed an organization continuously generates value which is greater as compared to competitors, they have to be exploiting at least one rare resource and mostly it is human resource.

Table 4.24: Regression Analysis (Human Resources)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.637[a]	.406	.401	3.35973

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	940.696	1	940.696	83.337	.000[b]
	Residual	1377.113	122	11.288		
	Total	2317.808	123			

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.277	1.033		2.205	.029
	Human Resources	.527	.058	.637	9.129	.000

4.7.2. Role of Financial Resources on Sustainability of Competitive Advantage

In order to establish how well the model fitted the data, a line of best fit was generated from the data and the findings were presented in Figure 4.11. From the figure, it was observed that most of the scatter dots lay within the regression line, an indication that the model fitted the data. Further, the diagonal linear regression line showed that there existed a positive linear relationship between sustainability of competitive advantage and financial resources. This finding confirmed the findings of studies by Wernerfelt (1984); Lockett and Thompson (2001) who argued that financial resources are directly related to competitive advantage as well as the past

activities of the firm, which is especially true in respect of managerial and organizational capabilities.
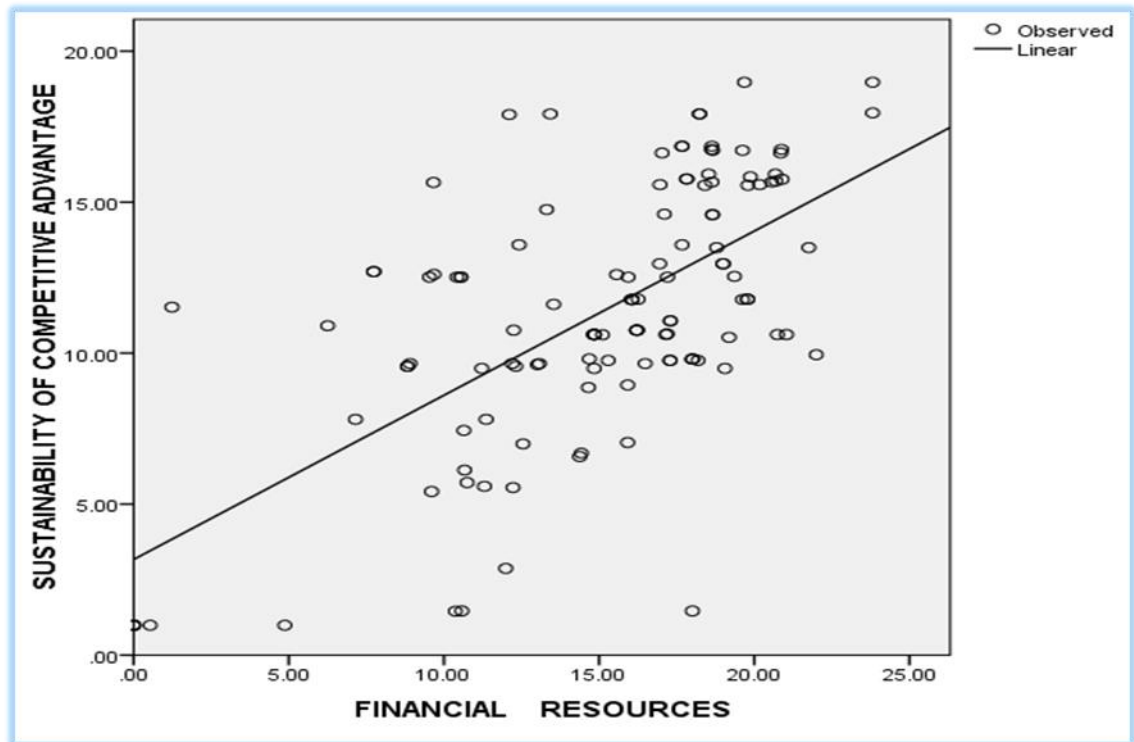
Figure 4.11: Line of best fit for sustainability of competitive advantage against financial resources

Under objective two, the study sought to determine the relationship between financial resources and sustainability of competitive advantage. The regression analysis was used to test the amount of variance in sustainability of competitive advantage accounted for by financial resources. It was hypothesized that:

H_{02}: There is no role played by financial Resources on the sustainability of Competitive Advantage in the Oil industry in Kenya.

The regression results shown in Table 4.25 revealed that there existed a significant relationship between financial resources and sustainability of competitive advantage $(F(1,122=85.376, \text{p-value}<0.001)$. The coefficient of determination (R squared) of 0.412 showed that 41.20% of sustainability of competitive advantage could be explained by financial resources. The adjusted R-square of 40.70% indicated that financial resources in exclusion of the constant variable explained the change in sustainability of competitive advantage by 40.70%, the remaining percentage could be explained by other factors excluded from the model. R of 0.642 showed that there is positive correlation between sustainability of competitive advantage and financial resources. The standard error of estimate (3.34318) showed the average deviation of the independent variable from the line of best fit.

The study hypothesized that financial resources had no significant influence on sustainability of competitive advantage. The study findings indicated that there was a positive significant relationship between financial resources and sustainability of competitive advantage $(\beta=0.544$ and $t=9.240)$ which had a (p-value <0.001). Further, the linear regression analysis coefficients showed that the model $Y = \beta_0 + \beta_2 X_2$, is significantly fit. The general form of the equation to predict sustainability of competitive advantage from $X_2 =$ Financial resources; becomes $= 3.167 + 0.544 X_2$. This indicated that Sustainability of competitive advantage $= 3.167 + 0.544 *$ Financial Resources. The model Sustainability of competitive advantage $= \beta$ (Financial Resources) holds as suggested by the test above. This confirmed that there is a positive linear relationship between financial resources and sustainability of competitive advantage. Therefore, a unit increase in use of financial resources index led to an increase in sustainability of competitive advantage index by 0.544. Since the p-value was less than 0.05 as shown in Table 4.25, the null hypothesis was rejected and could then be concluded that there is role played by financial resources on the sustainability of competitive advantage in the Oil industry in Kenya.

According to a study by Lockett and Thompson (2001), financial resources are key in the development of human capital resources and are both key for sustainable competitive advantage of organizations. This finding confirmed those by Lockett, et

al., (2009) and Lockett and Thompson (2001) who established that financial resources are key for all investments and all other resources need financial resources. Berger and Udell (1998) and Lockett, et al., (2009) found out that firms gain a competitive advantage over competitors by combining tangible resource with a conscious strategic decision by the firm's managers to retain and reinvest earnings in positive NPV projects.

Table 4.25: Regression Analysis (Financial Resources)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.642[a]	.412	.407	**3.34318**

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	954.235	1	954.235	85.376	**.000[b]**
	Residual	1363.573	122	11.177		
	Total	2317.808	123			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	**Std. Error**	**Beta**		
1	(Constant)	3.167	.929		3.407	**.001**
	Financial Resources	.544	.059	.642	9.240	**.000**

4.7.3. Role of Plant and Equipment Resources on Sustainability of Competitive Advantage

A line of best fit was generated from the data so as to establish how well the model fitted the data. The findings were presented in Figure 4.12. The figure showed that

most of the scatter dots lay within the regression line and therefore, the model fitted the data. The diagonal regression line indicated that there was positive linear relationship between sustainability of competitive advantage and plant & equipment resources. Zhu, Gelders and Pintelon (2002) captured the essence of this relationship when they argued that the maintenance process adds to customer value in terms of profit, quality, time and service. Therefore, the maintenance function became more essential for a manufacturing organisation's ability to maintain its competitiveness.

Figure 4.12: Line of best fit for sustainability of competitive advantage against plant & equipment resources

Under objective three, the study sought to determine the relationship between plant and equipment resources and sustainability of competitive advantage. The regression analysis was used to test the amount of variance in sustainability of competitive advantage accounted for by plant and equipment resources. It was hypothesized that:

H₀₃: There is no role played by plant and equipment Resources on the sustainability of Competitive Advantage in the Oil industry in Kenya.

The regression results shown in Table 4.26 revealed that there existed a significant relationship between plant and equipment resources and sustainability of competitive advantage ($F(1,122=135.218$, p-value<0.001). The coefficient of determination (R squared) of 0.526 showed that 52.60% of sustainability of competitive advantage could be explained by plant and equipment resources. The adjusted R-square of 52.20% indicated that plant and equipment resources in exclusion of the constant variable explained the change in sustainability of competitive advantage by 52.20%, the remaining percentage could be explained by other factors excluded from the model. R of 0.725 showed that there is positive correlation between sustainability of competitive advantage and plant and equipment resources. The standard error of estimate (3.0018) showed the average deviation of the independent variables from the line of best fit.

The study hypothesized that plant and equipment resources had no significant influence on sustainability of competitive advantage. The study findings indicated that there was a positive significant relationship between plant and equipment resources and sustainability of competitive advantage (β=0.666 and t=11.628) which had a (p-value <0.001). Further, the linear regression analysis coefficients showed that the model Y= β0 + β₃X₃, is significantly fit. The general form of the equation to predict sustainability of competitive advantage from   X₃= Plant and equipment resources; becomes = 3.508 + 0.666X₃. This indicated that Sustainability of competitive advantage = 3.508 + 0.666* plant and equipment resources. The model Sustainability of competitive advantage = β (plant and equipment resources) holds as suggested by the test above. This confirms that there is a positive linear relationship between plant and equipment resources and sustainability of competitive advantage. Therefore, a unit increase in use of plant and equipment resources index led to an increase in sustainability of competitive advantage index by 0.666. Since the p-value was less than 0.05 as shown in Table 4.26, the null hypothesis was rejected and could

then be concluded that there is role played by plant and equipment resources on the sustainability of competitive advantage in the Oil industry in Kenya.

According to Al-Najjar (2001), more emphasis has been put on plant maintenance as a profit generating function and a key driver of competitive advantage. The findings confirm that of Morabito, Themistocleous and Serrano (2010) who established that inimitable technology is hard to replicate by rivals, and that integrative framework is key for creativity, innovation and competition, and thus creating a competitive advantage for the firm. These findings confirm those by Walsh, Schubert and Jones (2010) on enterprise system investments and competitive advantage where it was established that IT investments yield competitive advantage.

Table 4.26: Regression Analysis (Plant & Equipment Resources)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.725[a]	.526	.522	**3.00184**

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1218.460	1	1218.460	135.218	**.000[b]**
	Residual	1099.348	122	9.011		
	Total	2317.808	123			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.508	.722		4.860	**.000**
	Plant & Equipment Resources	.666	.057	.725	11.628	**.000**

4.7.4. Role of Brand and Heritage Resources on Sustainability of Competitive Advantage

A line of best fit was generated from the data in order to find out if the model fitted the data. From the findings that were presented in Figure 4.13, most of the scatter dots lay within the regression line and this implied that the model fitted to the data. Also, the diagonal regression line showed that sustainability of competitive advantage and brand & heritage resources have a positive linear relationship. Besanko, et al., (2007) argued that buyer uncertainty coupled with reputational effects can make a firm's brand name a powerful isolating mechanism and hence a great source of sustainable competitive advantage. An organization's heritage and their path to their current position is uniquely shaped by many different factors which cannot be replicated (Barney, 1991), and thus creates competitive advantage for the firm.
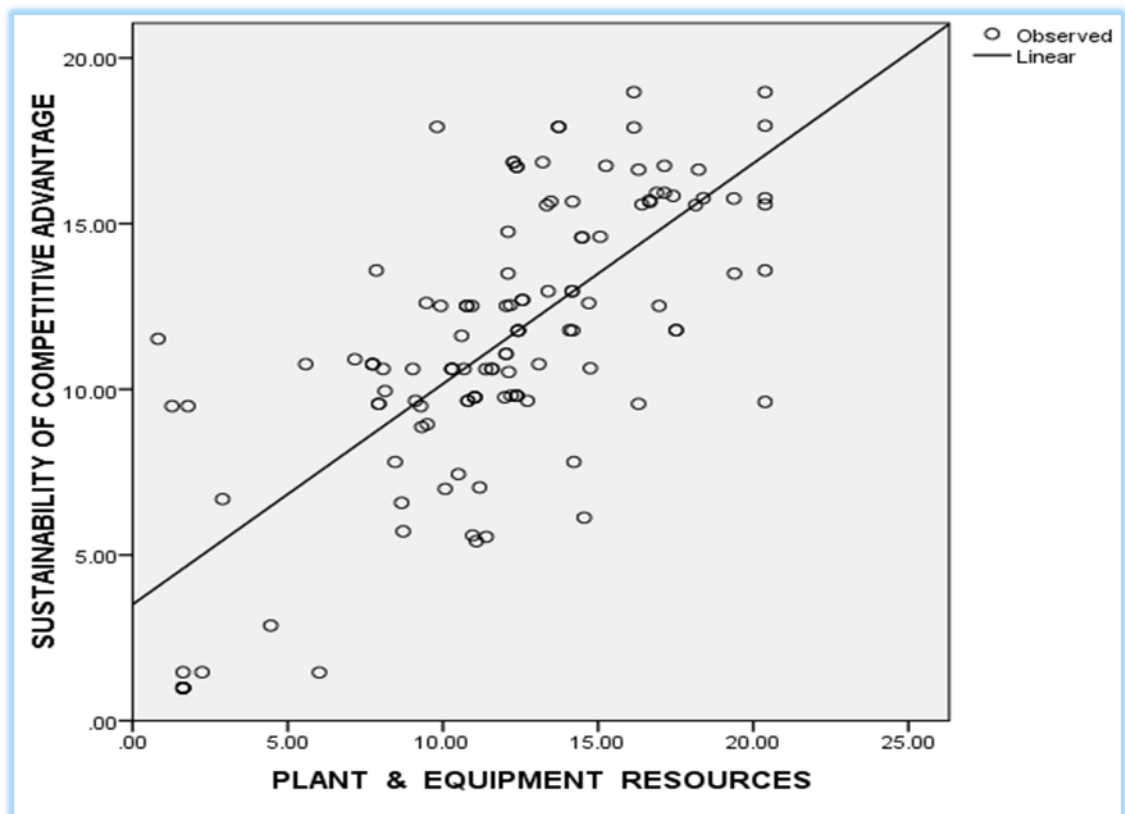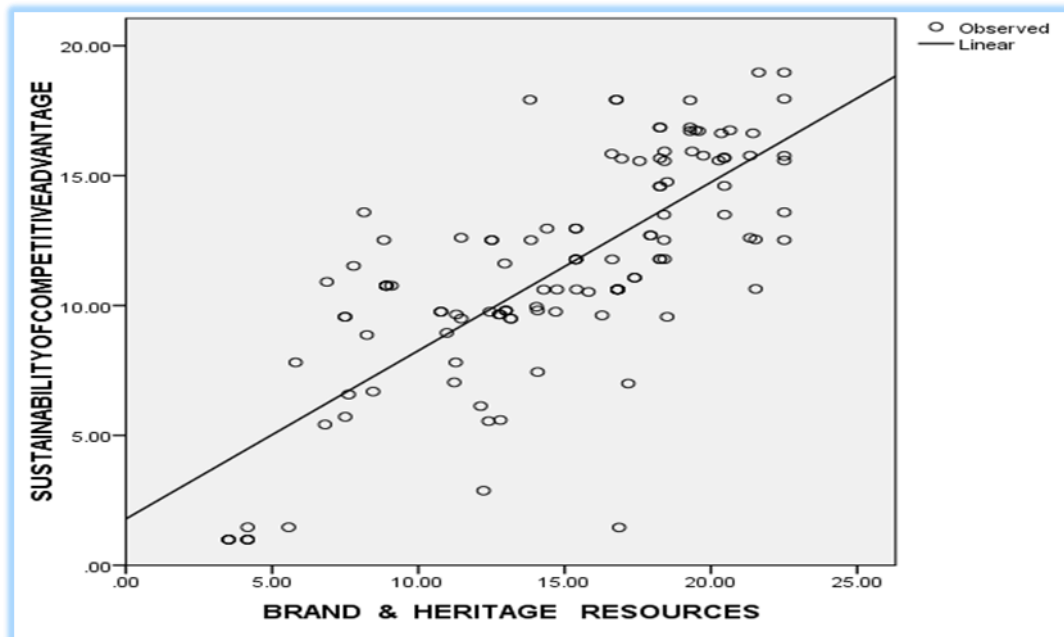

Figure 4.13: Line of best fit for sustainability of competitive advantage against brand & heritage resources

Under objective four, the study sought to determine the relationship between brand and heritage resources and sustainability of competitive advantage. The regression analysis was used to test the amount of variance in sustainability of competitive advantage accounted for by brand and heritage resources. It was hypothesized that:

H_{04}: There is no role played by brand and heritage resources on the sustainability of Competitive Advantage in the Oil industry in Kenya.

The regression results shown in Table 4.27 revealed that there exists a significant relationship between brand and heritage resources and sustainability of competitive advantage $(F(1,122=165.094, \text{p-value}<0.001)$. The coefficient of determination (R squared) of 0.575 showed that 57.50% of sustainability of competitive advantage could be explained by brand and heritage resources. The adjusted R-square of 57.20% indicated that brand and heritage resources in exclusion of the constant variable explained the change in sustainability of competitive advantage by 57.20%, the remaining percentage could be explained by other factors excluded from the model. R of 0.758 showed that there is positive correlation between sustainability of competitive advantage and brand and heritage resources. The standard error of estimate (2.8414) showed the average deviation of the independent variables from the line of best fit.

The study hypothesized that brand and heritage resources had no significant influence on sustainability of competitive advantage. The study findings indicated that there was a positive significant relationship between brand and heritage resources and sustainability of competitive advantage $(\beta=0.648$ and $t=12.849)$ which has a (p-value <0.001). Further, the linear regression analysis coefficients showed that the model $Y= \beta 0 + \beta_4 X_4$, is significantly fit. The general form of the equation to predict sustainability of competitive advantage from X_4 = Brand and heritage resources; becomes= $1.783 + 0.648 X_4$. This indicated that Sustainability of competitive advantage = $1.783 + 0.648*$ brand and heritage resources. The model Sustainability of competitive advantage = β (brand and heritage resources) holds as suggested by the test above. This confirmed that there is a positive linear relationship between brand and heritage resources and sustainability of competitive advantage.

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Therefore, a unit increase in use of brand and heritage resources index led to an increase in sustainability of competitive advantage index by 0.648. Since the p-value was less than 0.05 as shown in Table 4.27, the null hypothesis was rejected and could then be concluded that there is role played by brand and heritage resources on the sustainability of competitive advantage in the Oil industry in Kenya. The findings of the study confirm findings of Heese, et al., (2005) on competitive advantage through product take-back. They established that popular brand and size dominance provided competitive advantage.

Table 4.27: Regression Analysis (Brand & Heritage Resources)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.758[a]	.575	.572	**2.84136**

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1332.861	1	1332.861	165.094	**.000**[b]
	Residual	984.947	122	8.073		
	Total	2317.808	123			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.783	.783		2.277	**.025**
	Brand & Heritage Resources	.648	.050	.758	12.849	**.000**

4.7.5. Overall Regression Analysis and Moderating Effects

The study sought to find out if government policy had a moderating role in the relationship between organizational resources and the sustainability of competitive advantage. Therefore, regression analysis was carried out to find the moderating Role of government policy. The findings were presented and discussed under this section.

From the model summary, the moderated regression results in Table 4.28 (F = 622.883, p-value< 0.001) shows that there is a statistically significant relationship between organizational resources (Human Resources, Financial Resources, Plant & Equipment Resources, Brand & Heritage Resources) and sustainability of competitive advantage in the Oil industry in Kenya. The coefficient of determination (R-squared) of 0.954 showed that 95.40% of sustainability of competitive advantage in the Oil industry in Kenya could be explained by Human Resources, Financial Resources, Plant & Equipment Resources, and Brand & Heritage Resources. The adjusted R square of 95.30% depicts that the organizational resources in exclusion of the constant variable explained the change in sustainability of competitive advantage in the Oil industry in Kenya by 95.30%, the remaining percentage could be explained by other factors not included in the model. The correlation coefficient of organizational resources (R=0.977) in Table 4.28 showed that there is a moderate positive relationship between sustainability of competitive advantage in the Oil industry in Kenya and organizational resources. The standard error of estimate (2.63532) shows the average deviation of the independent variable from the line of best fit.

In the second model, the government policy strengthened the relationship between organizational resources and sustainability of competitive advantage. However, it became statistically insignificant as shown in Table 4.28 (F = 2.695, p-value= 0.103). The adjusted R-squared of 0.953 which is equal to the adjusted-R squared in the first model (0.953) shows that 95.30% of sustainability of competitive advantage could be explained by organizational resources (Human Resources, Financial Resources, Plant & Equipment Resources, and Brand & Heritage Resources), government policy and moderated organizational resources (Organizational resources*Government policy).

Further, the model summary, showed that 95.3% of the variability in sustainability of competitive advantage could be explained by only the independent variables while 95.5% of the variability in the dependent variable (sustainability of competitive advantage) could be explained by both the independent and the moderating variable. This represented an R-Square change of .001, and hence, government policy has a moderating role on the relationship between organizational resources and sustainability of competitive advantage. However, the moderating role is not statistically significant (Sig. F Change = .103).

Table 4.28: Model Summary (Moderating Effects)

Model	R	R Square[b]	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
					Change Statistics				
1	.977[a]	.954	.953	2.63532	.954	622.883	4	120	.000
2	.977[c]	.955	.953	2.61690	.001	2.695	1	119	.103

From the ANOVA results (Moderating Effects), Table 4.29 in model one shows that there is a significant relationship between sustainability of competitive advantage and organizational resources (F=622.883, p-value <0.001). Similarly, the F- statistics for the second model was (F=505.885, p-value<0.001) implying that there is a significant relationship between sustainability of competitive advantage and moderated organizational resources (Organizational resources *Government policy). It can then be concluded that all the two models are valid. Further, From the ANOVA Table, both models were statistically significant for the data as the p-value<0.001. Furthermore, the null hypothesis Government Policy does not play any Moderating Role on the Role of Organizational Resources on the sustainability of Competitive Advantage in the Oil industry in Kenya, is rejected and instead the

alternative hypothesis Government Policy has a Moderating Role on the Role of Organizational Resources on the sustainability of Competitive Advantage in the Oil industry in Kenya is accepted (p-value<0.001).

Table 4.29: ANOVA

ANOVA[a,b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17303.489	4	4325.872	622.883	.000[c]
	Residual	833.390	120	6.945		
	Total	18136.880[d]	124			
2	Regression	17321.946	5	3464.389	505.885	.000[e]
	Residual	814.933	119	6.848		
	Total	18136.880[d]	124			

4.7.6. Multiple Regression Analysis (Combined Effect)

Table 4.30 presents the model 1 with the beta coefficients of all independent variables versus sustainability of competitive advantage. As observed from Table 4.30, human resources (X_1) had a coefficient of 0.126 which is greater than zero. The t statistic was 2.010 which had a p-value = 0.047 implied that the coefficient of X_1 was significant at 0.05 level of significance. This showed that human resources had a significant positive influence on sustainability of competitive advantage. Further, from the coefficients in Table 4.30, for every unit increase in sustainability of competitive advantage, human resources contribute .126 and the contribution is statistically significant as p-value (Sig. = .047) is less than .05. However, the coefficient of human resources reduces to .091 and the value is not statistically significant (P-value = .170) when the moderating variable is included in the second model. This shows that government policy plays a negative moderating role between sustainability of competitive advantage and human resources.

The coefficient of financial resources (X_2) was 0.094 which was greater than zero. The t statistic of this coefficient was 1.315 with a p value = 0.191. This implied that the coefficient 0.094 was insignificant. Since the coefficient of X_2 is insignificant, it shows that financial resources have an insignificant influence on sustainability of competitive advantage. Further, financial resources contribute .094, for every unit increase in sustainability of competitive advantage. However, the contribution is not statistically significant (P-value. = .191). Nevertheless, financial resources coefficient reduces to .066 and it is statistically insignificant (P-value = .364) when the moderating variable is incorporated in the second model. This shows that government policy has a negative moderating effect between sustainability of competitive advantage and financial resources.

Table 4.30 also shows that the coefficient of plant and equipment resources (X_3) was 0.239 which was greater than zero. The t statistic of this coefficient is 2.813 with a p value<0.006. This implies that the coefficient 0.239 is significant. Since the coefficient of X_3 is significant, it shows that plant and equipment resources have a significant influence on sustainability of competitive advantage. According to the study findings, Plant & equipment resources contributes .239 for every unit increase in sustainability of competitive advantage and the contribution is statistically significant (p-value = .006). On the other hand, the coefficient of plant & equipment resources increases to .249 and the coefficient is statistically significant (Sig. = .004) when the moderating variable is included in the second model. This shows that government policy plays a positive moderating role between sustainability of competitive advantage and plant & equipment resources.

Table 4.30 further showed that brand and heritage resources (X_4) had a coefficient of 0.334 which is greater than zero. The t statistic is 4.091 which has a p-value < 0.001 implies that the coefficient of X_4 is significant at 0.05 level of significance. This showed that brand and heritage resources have a significant positive influence on sustainability of competitive advantage. Further, for every unit increase in sustainability of competitive advantage, brand & heritage resources contribute the highest as compared to other independent variables with .334 and the contribution is

statistically significant (P-value<0.000). However, the coefficient of brand & heritage resources reduces to .316 and it has a high statistical significance (P-value<0.001) when the moderating variable is incorporated in the second model. This showed that government policy has a significant negative moderating role between sustainability of competitive advantage and brand & heritage resources.

In addition, from Table 4.30 the regression model equation (7);

$$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_{4} + \varepsilon \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots$$
(7)

Without the moderating variable (government policy) becomes;

$$Y = .126x_1 + .239x_3 + .334x_4$$

And with the moderating variable (government policy);

$$Y = .249x_3 + .316x_4.$$

Table 4.30: Coefficient Results

<div align="center">Coefficients^{a,b}</div>

Model		B	Std. Error	Beta	T	Sig.
		Unstandardized Coefficients		Standardized Coefficients		
1	Human Resources	.126	.063	.187	2.010	.047
	Financial Resources	.094	.071	.123	1.315	.191
	Plant & Equipment Resources	.239	.085	.249	2.813	.006
	Brand & Heritage Resources	.334	.082	.429	4.091	.000
2	Human Resources	.091	.066	.135	1.380	.170
	Financial Resources	.066	.073	.087	.911	.364
	Plant & Equipment Resources	.249	.085	.260	2.944	.004
	Brand & Heritage Resources	.316	.082	.406	3.862	.000
	Government Policy	.070	.043	.105	1.642	.103

4.7.7. Discussion on the Overall Regression Model

The study investigated the Role of organizational resources on the sustainability of competitive advantage in the Oil industry in Kenya. The analysis showed that the three organizational resources variables of human resources, plant and equipment resources, and, brand and heritage resources were significant predictors of sustainability of competitive advantage in the Oil industry in Kenya. The study findings agree with generic strategy research which suggested that for the sustainability of competitive advantage in the Oil industry in Kenya are appropriate strategies in dynamic environment (Chew, et al., 2004; Tang, et al., 2007). The study further investigated the moderating role of government policy on the relationship between organizational resources and sustainability of competitive advantage in the Oil industry in Kenya. The results of the study revealed that government policy had significant effect on sustainability of competitive advantage in the Oil industry in Kenya. This result is congruent with Porter's (1980) assertion that government policy is an important determinant of firm profitability in a given industry. Similarly, it was established from the findings of the study, that government policy had significant moderating effect between organizational resources and sustainability of competitive advantage in the Oil industry in Kenya.

These findings are consistent with those of other scholars. Shigang (2010) in his study investigating government policy and business environment on performance of Small Enterprises in China found a relationship between government policy and SMEs performance. Sorensen (2009) also argued that government policy within the industry may lead to firm performance. Jaworski and Kohli (1993) similarly explained that higher government policy will give customers more options leading to lesser market dominance of the firm and reduced sales.

4.7.8. Optimal Model

From the findings the study established that brand and heritage resources is the first important factor, followed by plant and equipment resources, human resources and

financial resources in driving sustainability of competitive advantage of oil marketing firms in Kenya. Figure 4.15 below presents the optimal model.
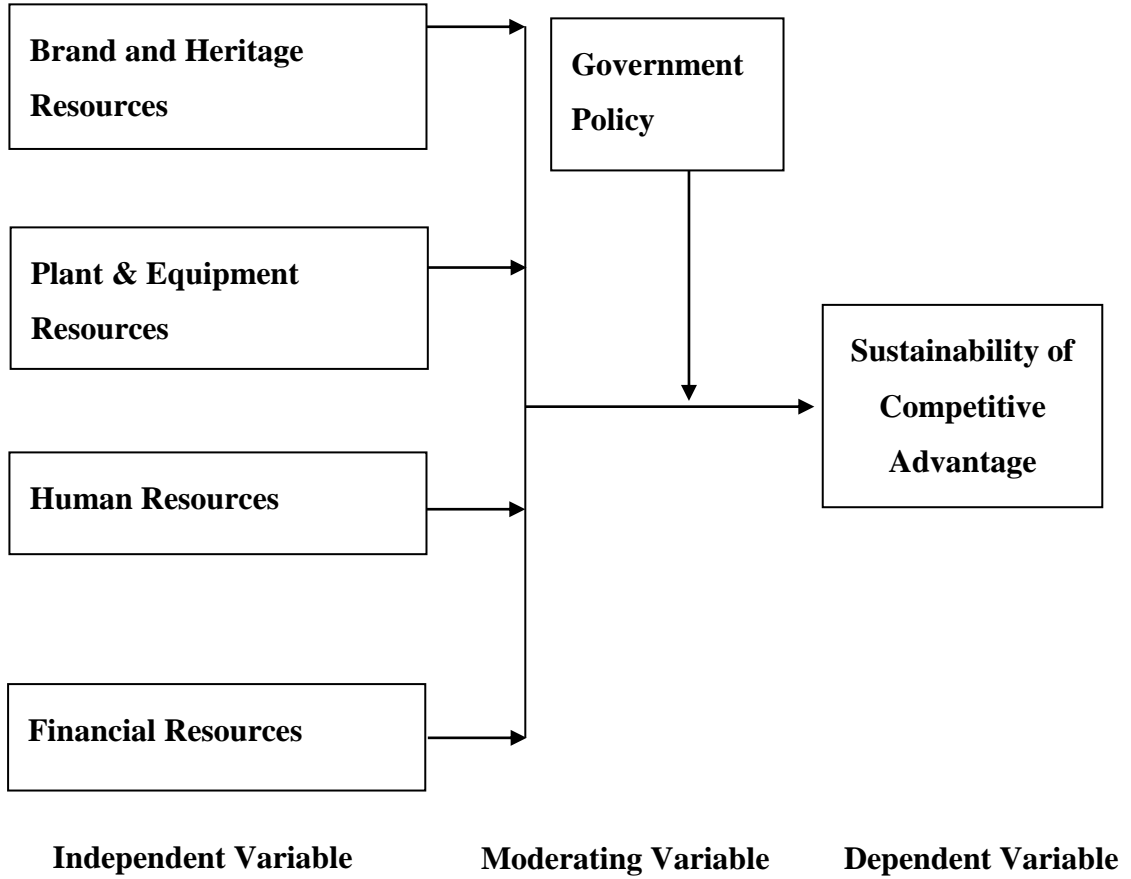
Figure 4.14: Optimal Model

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents; a summary of the findings of the study, discusses the implications of the findings on the reviewed theories, offers a summary on data collection and analysis, discussion of the findings on each research objective and the logical interpretation emanating from the findings and conclusions. Finally, the chapter makes recommendations for further research.

5.2 Summary of the Findings

From the theoretical and empirical literature reviewed, it was established that various organizational resources played varying roles on the sustainability of competitive advantage. The study findings also established that the selected organizational resources played varying roles on the sustainability of competitive advantage in the Oil industry in Kenya. The study intended to achieve five specific objectives and based on these specific objectives, research hypotheses were formulated for testing in response. The specific findings relating to the study objectives are summarized in the following section.

5.2.1 Role of Human Resources on the Sustainability of Competitive Advantage

This objective was built on the hypothesized statement that 'human resources do not play a significant role on the sustainability of competitive advantage in the oil industry in Kenya.' The study findings rejected the null hypothesis and established that human resources had a significant positive influence on the sustainability of competitive advantage in the oil industry in Kenya. Through effective recruitment and staffing, employee training and learning, human resources were responsible for

leadership and decision making, task accomplishment, technical expertise, innovations, knowledge, skills, experiences & competencies sharing. Through effective labour and employee relations there was enhanced teamworking, problem solving and improved organizational development.

5.2.2. Role of Financial Resources on the Sustainability of Competitive Advantage

This objective was based on the hypothesized statement that 'Financial resources do not play a significant role on the sustainability of competitive advantage in the oil industry in Kenya.' The study findings rejected the null hypothesis and established that financial resources had a significant positive influence on the sustainability of competitive advantage in the oil industry in Kenya. Financial resources in the form of cash, bank facilities and short term bank deposits were responsible for the organization's ability to finance employee compensation and benefits, timely payments to creditors/vendors because of good cashflow, better trading terms to debtors because of financing arrangements, high levels of inventory of goods and services because of good working capital, healthy returns on investments, timely payment of taxes to the government, banking relations ensuring availability of bid and performance bonds, marketing through discounts, incentives and promotions and for developing goods and services.

5.2.3 Role of Plant & Equipment Resources on the Sustainability of Competitive Advantage

This objective was centred on the hypothesized statement that 'Plant and equipment resources do not play a significant role on the sustainability of competitive advantage in the oil industry in Kenya.' The study findings rejected the null hypothesis and established that Plant and Equipment resources had a significant positive influence on the sustainability of competitive advantage in the oil industry in Kenya. Plant and equipment resources positively influenced sustainability of competitive advantage through strategically located head and branch offices enabling easy access for

employees, customers and business partners, presence through service station network providing reliable suppliers of oil industry products, strategic customer service centres countrywide, modernized equipment providing an efficient and cost-effective manufacturing base for the lubricants enabling the organizations to compete more favourably, storage facilities and warehouses enabling the organizations to provide products and services more efficiently and effectively compared to their rivals.

5.2.4 Role of Brand & Heritage Resources on the sustainability of Competitive Advantage

This objective was founded on the general null hypothesis that 'Brand and heritage resources do not play a significant role on the sustainability of competitive advantage in the oil industry in Kenya.' The study findings rejected the null hypothesis and established that brand and heritage resources had a significant positive influence on the sustainability of competitive advantage in the oil industry in Kenya. This finding implies that an improvement in brand and heritage resources would lead to an increase in mean index of brand and heritage resources hence positively impacting the sustainability of competitive advantage in the oil industry in Kenya.

Brand and heritage resources positively influenced sustainability of competitive advantage through the corporate brand and heritage providing secure company image and hence positioning the product brands and services above those of competition, brand affiliation and duration in the oil industry in Kenya providing customers with more confidence in the Company's products and services, corporate brand and image providing leverage being supplier of choice, ability to attract and retain solid and talented employees, ability to attract and retain highest quality of supply chain partners and firm product identity in the market place providing customers and business partners more confidence in their products and services.

5.2.5. The Moderating role of Government Policy on the Role of Organizational Resources on the sustainability of Competitive Advantage

This objective was founded on the hypothesized statement that "Government Policy does not play any significant moderating role on the Role of organizational resources on the sustainability of competitive advantage in the Oil industry in Kenya." The study sought to establish the moderating role of government policy on the relationship between organizational resources and sustainability of competitive advantage in the Oil industry in Kenya. Based on the results from analysis, government policy construct was interacted with each independent variable and the findings showed that government policy significantly moderated the Role of individual organizational resources on the sustainability of competitive advantage in the Oil industry in Kenya. Therefore, the null hypothesis that 'Government Policy does not play any significant moderating role on the Role of organizational resources on the sustainability of competitive advantage in the Oil industry in Kenya." was rejected. This implied that all independent variables studied when moderated by government policy had a significant positive influence on the sustainability of competitive advantage in the Oil industry in Kenya. However, with all the four independent variables in play, and moderated by government policy, financial resources turned out to have insignificant influence on the Role of organizational resources on the sustainability of competitive advantage in the Oil industry in Kenya.

5.3 Conclusions of the study

From the findings, the study concluded that human resources played a significant positive role on the sustainability of competitive advantage in the oil industry in Kenya. The study established that financial resources played a statistically significant positive role on the sustainability of competitive advantage in the oil industry in Kenya. The study findings indicated that plant and equipment resources played a significant positive role on the sustainability of competitive advantage in the oil industry in Kenya. The study established that brand and heritage resources played a significant positive role on the sustainability of competitive advantage in the oil industry in Kenya. On the other hand, the study concluded that government policy

insignificantly moderated the relationship between organizational resources and sustainability of competitive advantage in the oil industry in Kenya.

This study findings provide fresh insight about organizational resources and sustainability of competitive advantage in the oil industry in Kenya. Overall, the organizational resources studied were found to be collectively significantly positively influencing the sustainability of competitive advantage in the oil industry in Kenya. Subsequently, the study had a basis to conclude that, collectively, organizational resources play a significant role on the sustainability of competitive advantage in the oil industry in Kenya.

5.4 Recommendations

According to the optimal study results, the study established that brand and heritage resources is the first important factor, followed by plant and equipment resources, human resources and financial resources in driving sustainability of competitive advantage of oil marketing firms in Kenya. Based on the study findings, the following recommendations are given under the study specific objectives:

The empirical evidence from this study infers that human resources played a significant positive role on the sustainability of competitive advantage in the oil industry in Kenya. The results of this study thus provide a valuable reference for firms in Kenya in terms of enhancing human resource as this would help them achieve competitiveness and improve the sustainability of competitive advantage. The firms should recruit, employ, train and develop experienced and organized managers and employees to earn the firm sustainable competitive advantage.

It is evident from the literature also that financial resources have a significant role on sustainability of competitive advantage in the oil industry in Kenya. It is recommended that the firms pay attention to strive to invest and allocate more funds to increase their profitability and working capital as this ensures funds are available when needed either to buy raw materials or to expand the firm.

The findings indicated that plant and equipment resources played a significant positive role on the sustainability of competitive advantage in the oil industry in Kenya. Therefore, the study recommends that firms intending to gain competitive advantage should invest in modern efficient and effective production facilities and systems. Firms should also be strategically located to enable easy access to their employees, customers and business partners making the firm more reliable as compared to their rivals.

The study findings showed that more than any other individual resource, brand and heritage resources accounted the highest to the variability of sustainability of competitive advantage in the oil industry in Kenya. Therefore, the study recommends that firms that want to gain and sustain competitive advantage should promote a positive brand image in the market to their customers and therefore position their product brands and services above those of their competitors.

Finally, it is important that the managers of the oil marketing firms in Kenya continuously assess their organizational resources in terms of appropriateness albeit changing environment. Firms should be aware that achieving strategic fit between organizational resources and government policy may lead to higher sustainability of competitive advantage. Therefore, the resources should match environment for sustainable competitive advantage. A focus on more ways of dealing with the other challenges faced is also imperative for maximum profitability of the firms other than just use of organizational resources.

5.4.1. Study's Contribution to Theory

Contribution of the current study would include the addition to knowledge of strategic management. The exploration of the linkage between organizational resources and sustainability of competitive advantage in the oil industry particularly in developing countries would provide not only significant contribution to the strategic management literature but also enable managers to employ the right organizational resources for their firms to compete in the fast-changing environment.

In the context of strategic management on the Resource Based View Theory widely used theoretical frameworks in the management literature, remains outstanding because of how it focuses on the internal forces of the firm and internal strengths and weaknesses to enhance competitive advantage by employing the right resources.

Another major contribution is the introduction of critical element of government policy in the relationship between organizational resources and firm performance. This study contributed to the knowledge by investigating the moderating role of government policy as an environmental variable in order to analyse the reactions of oil firms in their choice of resources when the environment is intense. Despite the known fact that external environment impacts on organizational resources choice and the need to have a fit between the resources and the environment, there had been a gap in the empirical knowledge in literature. Therefore, the findings of this study have contributed to filling this knowledge gap.

5.4.2. Recommendations for Policy

The underlying assumption of Resource Based View Theory as used in this study is that organizational resources of human, financial, plant and equipment, brand and heritage positively influence sustainability of competitive advantage in the oil industry in Kenya when used exclusively and for firms to achieve competitiveness they must choose either of these resources. The findings of this study equally revealed that human, financial; plant and equipment, brand and heritage resources positively influenced sustainability of competitive advantage in the Oil industry in Kenya. The findings further revealed that brand and heritage resources was the most preferred resources by the oil firms and that generally the oil firms employed dual strategy.

The study also found out that government policy had insignificant negative moderating effect on the relationship between organizational resources and sustainability of competitive advantage in the Oil industry in Kenya except plant & equipment resources where government policy had insignificant positive moderating

effect. The study recommends that policy managers of these firms pay careful consideration to aligning their organizational resources and in consideration with the government policy as one of the environmental variables so as to remain competitive in this ever-changing global business world.

5.5 Recommendations for Further Research

This study focused on the Role of organizational resources on the sustainability of competitive advantage in the Oil industry in Kenya. A replica of this study can be carried out with a further scope to include more oil marketing companies or focus on other industries. The study can also be enhanced by considering other aspects of external environmental factors since the current study limited itself to government policy as the moderating variable.

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APPENDICES

Appendix I: Introduction Letter for Data Collection

P.O. Box 64566 - 00620

NAIROBI, Kenya

TEL: + 254-722/733 803 508

Dear Respondent,

<u>RE: PARTICIPATION IN RESEARCH</u>

I am a postgraduate student pursuing doctoral degree at Jomo Kenyatta University of Agriculture and Technology. I am currently conducting research study entitled *"Role of Organizational Resources on the sustainability of Competitive Advantage in the Oil industry in Kenya"*. You have been randomly selected to take part in this study as a respondent your Company being one of the Selected Oil Marketing Companies in Kenya.

Please fill all items to reflect your opinions and experiences. The data collected will be used for the purpose of this academic research only.

Thank you for your participation.

Yours Sincerely,

E.Wekesa Mukuusi
Reg. No HD 433-C004-1601/2011
PhD Student – JKUAT CBD Campus

Appendix II: Questionnaire

INSTRUCTION: *Please answer all the questions by putting a tick (√) in the appropriate box that closely matches your view or alternatively writing in the spaces provided where necessary.*

_____

NB: This information will be used strictly for academic purposes only and will be treated with utmost confidence.

Section I: Demographic Characteristics

Provide the appropriate response from the alternatives provided

i. **Name   of   the   Organization   (Optional)**

   _____

ii. **Please specify the type of organization by ticking in the box.**

   a. Multinational Corporation (MNC)   [ ]

   b. Transnational Corporation (TNC)   [ ]

   c. National Kenyan Company (NKC)   [ ]

   d. "Independent" Kenyan Oil Company (IKC)   [ ]

   e. Other (Please specify) _____

iii. **Years of Operation of the organization in Kenya.**

   a. Less than a year   [ ]

b. 1 – 5   [ ]

c. 6 – 10   [ ]

d. 11 and above   [ ]

iv. **What is your highest level of education?**

a. Certificate   [ ]

b. Diploma   [ ]

c. Bachelor   [ ]

d. Masters   [ ]

e. Doctorate   [ ]

f. Other (Please specify) _____

v. **Number of years worked in the Organization.**

a. Less than 2 years   [ ]

b. 3 – 5 years   [ ]

c. 6 – 8 years   [ ]

d. 9 years and above   [ ]

vi. **What is your designation in the Organization?**

a. CEO / MD / GM   [ ]

b. Senior Management   [ ]

c. Middle level Management   [ ]

d. General staff   [ ]

e. Other (Please specify) _____

vii.   **Does your Organization has offices Countrywide?**

    a. Yes   [ ]

    b. No   [ ]

viii. **Tick (√) as appropriate the type of your Organization's office locations in Kenya.**

    a. Private offices   [ ]

    b. KPC Locations   [ ]

    c. Hospitality Locations   [ ]

    d. Don't Know   [ ]

ix.   **Tick (√) as appropriate if your Organization has offices in the following towns in Kenya.**

    a. Mombasa   [ ]

    b. Nairobi   [ ]

    c. Nakuru   [ ]

    d. Eldoret   [ ]

    e. Kisumu   [ ]

    f. Any other town (Please specify) _____

x.   **Tick (√) as appropriate if your Organization has offices in the following KPC locations in Kenya.**

    a. Nakuru   [ ]

    b. Eldoret   [ ]

    c. Kisumu   [ ]

    d. Don't Know   [ ]

xi. **ick (√) as appropriate your company's market presence.**

a. Global   [ ]

b. Africa   [ ]

c. Sub-Sahara Africa   [ ]

d. East Africa   [ ]

e. Kenya   [ ]

f. Any other (Please specify) _____

xii. **Tick (√) as appropriate your local market segments.**

a. Retail   [ ]

b. Industrial & Wholesale (Consumer)   [ ]

c. Distributor & Reseller   [ ]

d. Aviation   [ ]

e. Lubricants   [ ]

f. LPG   [ ]

g. Supply Trading   [ ]

h. Any other (Please specify) _____

Section II: Organizational Resources

Using a scale of 1 – 5 tick the appropriate answer from the alternatives provided for each of the questions. 1. **Very Low Extent 2. Low Extent 3. Average Extent 4.**

High Extent 5. Very High Extent; being indicative of the roles played by the selected organizational resources in the sustainability of your organization's competitive advantage.

a) **Human Resources**

	(1)	(2)	(3)	(4)	(5)
1. Our recruitment & staffing processes lead to selection of Company's management who are experienced and capable of providing overall leadership.					
2. Our recruitment & staffing processes lead to selection of company staff who understand their roles and fully responsible for task accomplishment in day-to-day operations.					
3. Our training & learning processes ensure that the organization has technical experts internally undertaking various tasks and performing according to the organization's mission, vision, goals, objectives and expectations.					
4. Our employees are fully responsible for driving cutting edge innovative ideas leading to better goods and services.					
5. Our employees at all levels are well trained and share their knowledge, skills, experiences and competencies.					
6. Our labour & employee relations ensure team working among our employees is deeply rooted in all areas of operation and responsible for					

	(1)	(2)	(3)	(4)	(5)
better decision making.					
7. Problem solving in all areas of our operations ensures efficiency and effectiveness in providing better products and services to our customers.					
8. Our employees are fully responsible for developing the organization being an employer of choice for most talented individuals.					

Using a scale of 1 – 5 tick the appropriate answer from the alternatives provided for each of the questions. 1. **Very Low Extent 2. Low Extent 3. Average Extent 4. High Extent 5. Very High Extent;** being indicative of the roles played by the selected organizational resources in the sustainability of your organization's competitive advantage.

b) **Financial Resources**

	(1)	(2)	(3)	(4)	(5)
1. Our Company's ability to finance employee compensation and benefits is the key to our success.					
2. Our organization's cash flow enables timely payments to creditors/vendors – suppliers and contractors for goods and services delivered.					
3. Our financing arrangements enables the organization to extend better trading terms to our debtors securing profitable businesses.					

	(1)	(2)	(3)	(4)	(5)
4. Our organization's working capital enables financing of high levels of inventory – goods and services.					
5. Our liquid financial investments leads to our organization's healthy returns on investment enabling better rewards to shareholders.					
6. Our organization's financial strength enables timely payment of taxes to the government.					
7. Our organization's relations with banking institutions makes it easier to secure bid bonds and performance bonds for key tenders.					
8. Our financial base enables the organization to market through discounts, incentives, promotions and develop goods and services.					

Using a scale of 1 – 5 tick the appropriate answer from the alternatives provided for each of the questions. 1. **Very Low Extent 2. Low Extent 3. Average Extent 4. High Extent 5. Very High Extent;** being indicative of the roles played by the selected organizational resources in the sustainability of your organization's competitive advantage.

c) **Plant & Equipment Resources**

	(1)	(2)	(3)	(4)	(5)
1. Our Company's Head & Branch offices across the country are strategically located enabling easy access for our employees,					

customers and business partners.					
2. Our presence through service station network in strategic business cities, towns and trading centres across the country presents us as reliable suppliers of oil industry products.					
3. Our Company's customer service centres across the country enables easy access to our customers and business partners making us a more reliable supplier.					
4. Our Lube Oil Blending Plant (LOBP) with modernized equipment provides an efficient and cost-effective manufacturing base for our lubricants.					
5. Our operations facilities with modernized equipment – Terminals, Depots, KPC offices, Storage facilities and warehouses enables the organization to provide goods and services more efficiently and effectively.					
6. Our investments in offices, operations facilities, and technology leads to upholding good controls facilitating modern systems and processes that drive better business growth.					
7. Our investments in service station assets, offices, operations facilities, sound controls and business processes provide a basis for adoption and transfer of technology enabling to operate more efficiently					

Using a scale of 1 – 5 tick the appropriate answer from the alternatives provided for each of the questions. 1. **Very Low Extent 2. Low Extent 3. Average Extent 4. High Extent 5. Very High Extent;** being indicative of the roles played by the selected organizational resources in the sustainability of your organization's competitive advantage.

d) Brand & Heritage Resources

	(1)	(2)	(3)	(4)	(5)
1. Our corporate brand and heritage provides a secure company image to the customers therefore positioning our product brands and services above those of our competitors.					
2. Our brand affiliation and duration in the oil industry in Kenya provides customers with more confidence in our products and services.					
3. Our corporate brand and image provides our organization with leverage and being supplier of choice for customers.					
4. Our parent company provides a leverage for our survival in the market.					
5. Our corporate brand and image is the basis for our ability to attract and retain solid and talented employees					
6. Our corporate brand and image is the basis for our ability to attract and retain highest quality of supply chain partners.					

	(1)	(2)	(3)	(4)	(5)
7. Our brand presence in Retail market, in Industrial & Wholesale market, in Distributor & Reseller market, and in Aviation business presents our product identity and as supplier of choice for customers.					

Using a scale of 1 – 5 tick the appropriate answer from the alternatives provided for each of the questions. 1. **Very Low Extent 2. Low Extent 3. Average Extent 4. High Extent 5. Very High Extent;** being indicative of the moderating Role of government policy on the Role of organizational resources in the sustainability of your organization's competitive advantage.

e) **Government Policy**

	(1)	(2)	(3)	(4)	(5)
1. The Kenyan government has created an enabling environment for the growth of the oil industry and existence of a competitive environment.					
2. The Ministry of Energy and Petroleum has its mandate and is responsible for putting in place policies, rules and regulations that govern the running of the oil industry in Kenya.					
3. The Energy Regulatory Commission plays its role in maintaining a competitive environment and providing a level playing ground.					
4. The Kenya Pipeline Company (KPC) and its					

system (Pipeline and Depots) performs its mandate.					
5. The Kenya Petroleum Refineries (KPRL) plays its role in the oil industry in Kenya.					
6. The Kenyan government has put in place policy to allow modern infrastructure that will support the growth of the Oil industry					
7. The Kenya Revenue Authority has its mandate and is responsible for putting in place tax policies, rules and regulations that govern tax collection.					
8. The Kenyan government has created the upstream oil sector and put in place policies, rules and regulations to govern exploitation of oil reserves for the growth of the industry.					

Using a scale of 1 – 5 tick the appropriate answer from the alternatives provided for each of the questions. 1. **Very Low Extent 2. Low Extent 3. Average Extent 4. High Extent 5. Very High Extent;** being indicative of the measures of sustainability of your organization's competitive advantage.

f) Sustainability of Competitive Advantage

	(1)	(2)	(3)	(4)	(5)
1. The organization's overall market share has increased due to the growing sales turnover over the past five years.					
2. The organization's total business profitability has increased over the past five years.					
3. The organization's total capital employed has increased over the past five years.					
4. The organization has reported higher returns on capital employed in investments over the past five years.					
5. The organization's total number of customers has increased over the past five years.					
6. The organization's brand equity for the diversified products & services has increased over the past five years.					

Thank you for taking your time to fill this questionnaire.

Appendix III: List of 63 Licensed Oil Marketing Companies (OMCs) in Kenya

Serial No.	Licence No.	Oil Marketing Company (OMC)	Strata	CEOs	Head Of Departments	Business line Managers	Middle Level Managers	Supervisors	Operatives	TOTAL EMPLOYEES
1	ERC/PET/01435	Essar Petroleum (East Africa) Limited	1	1	5	8	3	7	15	39
2	ERC/PET/1514	ORYX ENERGIES KENYA LIMITED	1	1	6	12	0	15	36	70
3	ERC/PET/1543	Total Kenya Limited	1	1	13	35	15	50	268	382
4	ERC/PET/01404	Vivo Energy Kenya Limited	1	1	10	30	20	65	94	220
		Sub-Total MNCs		**4**	**34**	**85**	**38**	**137**	**413**	**711**
5	ERC/PET/01415	Afrioil International Limited	2	1	3	5	0	3	8	20
6	ERC/PET/01383	Bakri International Energy Company	2	1	6	5	3	10	35	60
7	ERC/PET/1511	Engen Kenya Limited	2	1	5	8	5	12	29	60
8	ERC/PET/01356	GAPCO KENYA LIMITED	2	1	8	20	15	15	51	110
9	ERC/PET/1494	Hashi Energy Limited	2	1	8	12	14	15	30	80
10	ERC/PET/01389	Hass Petroleum Kenya Limited	2	1	5	5	10	15	44	80
11	ERC/PET/1696	Kencor Petroleum Limited	2	1	3	5	2	3	7	21
12	ERC/PET/01298	KENOLKOBIL LIMITED	2	1	15	40	25	50	150	281
13	ERC/PET/01419	Libya Oil Kenya Limited	2	1	6	30	8	35	84	164
14	ERC/PET/1513	Mogas Kenya Limited	2	1	5	4	8	12	35	65
15	ERC/PET/1312	Oilcom (K) Limited	2	1	5	5	8	15	25	59
16	ERC/PET/01432	Petro Oil Kenya Limited	2	1	5	5	15	15	59	100
17	ERC/PET/1722	PICCALILLY INTERNATIONAL LTD	2	1	3	4	2	3	5	18
18	ERC/PET/01311	Prospects International Limited	2	1	3	4	2	3	4	17
19	ERC/PET/01327	STABEX INTERNATIONAL LTD	2	1	2	2	2	3	3	13
20	ERC/PET/01455	Trojan International Limited	2	1	3	2	4	3	7	20
		Sub-Total TNCs		**16**	**85**	**156**	**123**	**212**	**576**	**1168**
21	ERC/PET/01399	Galana Oil Kenya Limited	3	1	6	4	3	8	28	50
22	ERC/PET/1498	Gulf Energy Limited	3	1	8	10	3	15	73	110
23	ERC/PET/1641	KENYA PETROLEUM REFINERIES	3	1	15	20	11	50	153	250
24	ERC/PET/1508	NATIONAL OIL CORPORATION OF KENYA	3	1	14	20	8	20	101	164
25	ERC/PET/1493	One Petroleum Limited	3	1	5	3	0	5	6	20
26	ERC/PET/01439	Riva Petroleum Dealers Limited	3	1	7	5	8	11	25	57
27	ERC/PET/1566	Tecaflex Limited	3	1	5	5	13	13	50	87
28	ERC/PET/01426	Topaz Petroleum Limited	3	1	2	2	2	3	3	13
29	ERC/PET/1506	Tosha Petroleum (Kenya) Limited	3	1	2	2	4	5	8	22
30	ERC/PET/01340	Ainushamsi Energy Limited	3	1	3	2	5	5	10	26
31	ERC/PET/01391	Alba Petroleum Limited	3	1	5	8	5	5	26	50
32	ERC/PET/01315	AMANA PETROLEUM (KENYA)	3	1	3	2	4	5	6	21
33	ERC/PET/01446	Banoda Oil Limited	3	1	3	5	0	3	8	20
34	ERC/PET/1712	Cape Suppliers Limited	3	1	3	5	0	3	8	20
		Sub-Total LKCs		**14**	**81**	**93**	**66**	**151**	**505**	**910**
35	ERC/PET/01324	CELION INVESTMENTS LIMITED	4	1	4	7	4	5	20	41
36	ERC/PET/01434	City Oil (K) Limited	4	1	3	5	0	3	5	17
37	ERC/PET/01307	Dalbit Petroleum Limited	4	1	3	5	3	5	23	40
38	ERC/PET/1730	East African Gasoil Limited	4	1	3	5	0	3	7	19
39	ERC/PET/1695	Fast Energy Limited	4	1	3	4	0	3	8	19
40	ERC/PET/01414	Finejet Limited	4	1	3	3	0	3	11	21
41	ERC/PET/01453	Fossil Fuels Limited	4	1	3	5	0	3	9	21
42	ERC/PET/1719	FUTURES ENERGY COMPANY	4	1	4	5	0	3	7	20
43	ERC/PET/01462	Global Petroleum Products Kenya	4	1	3	5	0	3	9	21
44	ERC/PET/01316	Heller Petroleum Limited	4	1	4	5	0	3	6	19
45	ERC/PET/1561	Jade Petroleum Limited	4	1	3	5	0	3	9	21
46	ERC/PET/01351	Keroka Petroleum Limited	4	1	3	5	0	5	16	30
47	ERC/PET/1643	Luqman Petroleum Limited	4	1	3	5	0	3	5	17
48	ERC/PET/01365	Milio Energy Kenya Limited	4	1	5	8	5	5	26	50
49	ERC/PET/01296	Muloil Limited	4	1	3	5	0	5	16	30
50	ERC/PET/01294	Ocean Energy Limited	4	1	3	5	0	3	11	23
51	ERC/PET/01398	Olympic Petroleum Limited	4	1	3	5	0	3	9	21
52	ERC/PET/1698	Petrocam Kenya Ltd	4	1	3	5	0	3	8	20
53	ERC/PET/01303	PETROGAS DISTRIBUTORS LIMITED	4	1	3	5	0	3	5	17
54	ERC/PET/1716	Petrokenya Oil Co. Limited	4	1	3	5	0	3	8	20
55	ERC/PET/1690	Prime Regional Supplies Limited	4	1	3	5	0	3	4	16
56	ERC/PET/01337	Ramji Haribhai Devani Limited	4	1	3	4	0	3	8	19
57	ERC/PET/1645	Ranway Traders Limited	4	1	3	5	0	3	7	19
58	ERC/PET/1665	Regnol Oil (K) Limited	4	1	3	4	0	3	8	19
59	ERC/PET/1490	Royal Energy (K) Limited	4	1	3	5	0	3	7	19
60	ERC/PET/1701	Safari Petroleum Ltd	4	1	3	3	0	3	8	18
61	ERC/PET/01433	Shiloh Petroleum Limited	4	1	3	5	0	3	8	20
62	ERC/PET/1694	TOWBA PETROLEUM COMPANY	4	1	3	4	0	3	7	18
63	ERC/PET/1687	Tradiverse Kenya Limited	4	1	3	5	0	3	8	20
		Sub-Total IKCs		**29**	**92**	**142**	**12**	**97**	**283**	**655**
				63	**292**	**476**	**239**	**597**	**1,777**	**3,444**

KEY:
1. MNCs - Multinational Companies; 2. TNCS - Transnational Companies; 3. LKCs - Local Kenyan Companies and 4. IKCs - "Independent" Kenyan Companies

Source: Energy Regulatory Commission (ERC, 2014)

Appendix IV: Categorization of the Target Population

Serial No.	Licence No.	Oil Marketing Company (OMC)	Strata	CEOs	Head Of Departments	Business line Managers	Middle Level Managers	Supervisors	Operatives	TOTAL EMPLOYEES
1	ERC/PET/01435	Essar Petroleum (East Africa) Limited	1	1	5	8	3	7	15	39
2	ERC/PET/1514	ORYX ENERGIES KENYA LIMITED	1	1	6	12	0	15	36	70
3	ERC/PET/1543	Total Kenya Limited	1	1	13	35	15	50	268	382
4	ERC/PET/01404	Vivo Energy Kenya Limited	1	1	10	30	20	65	94	220
		Sub-Total MNCs		**4**	**34**	**85**	**38**	**137**	**413**	**711**
5	ERC/PET/01415	Afrioil International Limited	2	1	3	5	0	3	8	20
6	ERC/PET/01383	Bakri International Energy Company	2	1	6	5	3	10	35	60
7	ERC/PET/1511	Engen Kenya Limited	2	1	5	8	5	12	29	60
8	ERC/PET/01356	GAPCO KENYA LIMITED	2	1	8	20	15	15	51	110
9	ERC/PET/1494	Hashi Energy Limited	2	1	8	12	14	15	30	80
10	ERC/PET/01389	Hass Petroleum Kenya Limited	2	1	5	5	10	15	44	80
11	ERC/PET/1696	Kencor Petroleum Limited	2	1	3	5	2	3	7	21
12	ERC/PET/01298	KENOLKOBIL LIMITED	2	1	15	40	25	50	150	281
13	ERC/PET/01419	Libya Oil Kenya Limited	2	1	6	30	8	35	84	164
14	ERC/PET/1513	Mogas Kenya Limited	2	1	5	4	8	12	35	65
15	ERC/PET/1312	Oilcom (K) Limited	2	1	5	5	8	15	25	59
16	ERC/PET/01432	Petro Oil Kenya Limited	2	1	5	5	15	15	59	100
17	ERC/PET/1722	PICCALILLY INTERNATIONAL LTD	2	1	3	4	2	3	5	18
18	ERC/PET/01311	Prospects International Limited	2	1	3	4	2	3	4	17
19	ERC/PET/01327	STABEX INTERNATIONAL LTD	2	1	2	2	2	3	3	13
20	ERC/PET/01455	Trojan International Limited	2	1	3	2	4	3	7	20
		Sub-Total TNCs		**16**	**85**	**156**	**123**	**212**	**576**	**1168**
21	ERC/PET/01399	Galana Oil Kenya Limited	3	1	6	4	3	8	28	50
22	ERC/PET/1498	Gulf Energy Limited	3	1	8	10	3	15	73	110
23	ERC/PET/1641	KENYA PETROLEUM REFINERIES	3	1	15	20	11	50	153	250
24	ERC/PET/1508	NATIONAL OIL CORPORATION OF KENYA	3	1	14	20	8	20	101	164
25	ERC/PET/1493	One Petroleum Limited	3	1	5	3	0	5	6	20
26	ERC/PET/01439	Riva Petroleum Dealers Limited	3	1	7	5	8	11	25	57
27	ERC/PET/1566	Tecaflex Limited	3	1	5	5	13	13	50	87
28	ERC/PET/01426	Topaz Petroleum Limited	3	1	2	2	2	3	3	13
29	ERC/PET/1506	Tosha Petroleum (Kenya) Limited	3	1	2	2	4	5	8	22
30	ERC/PET/01340	Ainushamsi Energy Limited	3	1	3	2	5	5	10	26
31	ERC/PET/01391	Alba Petroleum Limited	3	1	5	8	5	5	26	50
32	ERC/PET/01315	AMANA PETROLEUM (KENYA)	3	1	3	2	4	5	6	21
33	ERC/PET/01446	Banoda Oil Limited	3	1	3	5	0	3	8	20
34	ERC/PET/1712	Cape Suppliers Limited	3	1	3	5	0	3	8	20
		Sub-Total LKCs		**14**	**81**	**93**	**66**	**151**	**505**	**910**
35	ERC/PET/01324	CELION INVESTMENTS LIMITED	4	1	4	7	4	5	20	41
36	ERC/PET/01434	City Oil (K) Limited	4	1	3	5	0	3	5	17
37	ERC/PET/01307	Dalbit Petroleum Limited	4	1	3	5	3	5	23	40
38	ERC/PET/1730	East African Gasoil Limited	4	1	3	5	0	3	7	19
39	ERC/PET/1695	Fast Energy Limited	4	1	3	4	0	3	8	19
40	ERC/PET/01414	Finejet Limited	4	1	3	3	0	3	11	21
41	ERC/PET/01453	Fossil Fuels Limited	4	1	3	5	0	3	9	21
42	ERC/PET/1719	FUTURES ENERGY COMPANY	4	1	4	5	0	3	7	20
43	ERC/PET/01462	Global Petroleum Products Kenya	4	1	3	5	0	3	9	21
44	ERC/PET/01316	Heller Petroleum Limited	4	1	4	5	0	3	6	19
45	ERC/PET/1561	Jade Petroleum Limited	4	1	3	5	0	3	9	21
46	ERC/PET/01351	Keroka Petroleum Limited	4	1	3	5	0	5	16	30
47	ERC/PET/1643	Luqman Petroleum Limited	4	1	3	5	0	3	5	17
48	ERC/PET/01365	Milio Energy Kenya Limited	4	1	5	8	5	5	26	50
49	ERC/PET/01296	Muloil Limited	4	1	3	5	0	5	16	30
50	ERC/PET/01294	Ocean Energy Limited	4	1	3	5	0	3	11	23
51	ERC/PET/01398	Olympic Petroleum Limited	4	1	3	5	0	3	9	21
52	ERC/PET/1698	Petrocam Kenya Ltd	4	1	3	5	0	3	8	20
53	ERC/PET/01303	PETROGAS DISTRIBUTORS LIMITED	4	1	3	5	0	3	5	17
54	ERC/PET/1716	Petrokenya Oil Co. Limited	4	1	3	5	0	3	8	20
55	ERC/PET/1690	Prime Regional Supplies Limited	4	1	3	5	0	3	4	16
56	ERC/PET/01337	Ramji Haribhai Devani Limited	4	1	3	4	0	3	8	19
57	ERC/PET/1645	Ranway Traders Limited	4	1	3	5	0	3	7	19
58	ERC/PET/1665	Regnol Oil (K) Limited	4	1	3	4	0	3	8	19
59	ERC/PET/1490	Royal Energy (K) Limited	4	1	3	5	0	3	7	19
60	ERC/PET/1701	Safari Petroleum Ltd	4	1	3	3	0	3	8	18
61	ERC/PET/01433	Shiloh Petroleum Limited	4	1	3	5	0	3	8	20
62	ERC/PET/1694	TOWBA PETROLEUM COMPANY	4	1	3	4	0	3	7	18
63	ERC/PET/1687	Tradiverse Kenya Limited	4	1	3	5	0	3	8	20
		Sub-Total IKCs		**29**	**92**	**142**	**12**	**97**	**283**	**655**
				63	**292**	**476**	**239**	**597**	**1,777**	**3,444**

KEY:
1. MNCs - Multinational Companies; 2. TNCS - Transnational Companies; 3. LKCs - Local Kenyan Companies and 4. IKCs - "Independent" Kenyan Companies

Source: Original compilation from direct inquiries 2015

Appendix V: Sample Size Categorization

Serial No.	Licence No.	Oil Marketing Company (OMC)	Strata	CEOs	Head Of Departments	Business line Managers	Middle Level Managers	Supervisors	Operatives	Total Respondents
1	ERC/PET/01435	Essar Petroleum (East Africa) Limited	1	1	0	0	0	0	1	2
2	ERC/PET/1514	ORYX ENERGIES KENYA LIMITED	1	1	0	1	0	1	1	4
3	ERC/PET/1543	Total Kenya Limited	1	1	2	1	1	2	10	17
4	ERC/PET/01404	Vivo Energy Kenya Limited	1	1	1	1	1	3	6	13
		Sub-Total MNCs		**4**	**3**	**3**	**2**	**6**	**18**	**36**
5	ERC/PET/01383	Bakri International Energy Company	2	1	0	1	0	1	1	4
6	ERC/PET/1511	Engen Kenya Limited	2	1	0	1	0	1	1	4
7	ERC/PET/01356	GAPCO KENYA LIMITED	2	1	0	1	1	0	3	6
8	ERC/PET/1494	Hashi Energy Limited	2	1	1	1	0	1	1	5
9	ERC/PET/01389	Hass Petroleum Kenya Limited	2	1	1	1	0	1	1	5
10	ERC/PET/1696	Kencor Petroleum Limited	2	1	0	0	0	0	0	1
11	ERC/PET/01298	KENOLKOBIL LIMITED	2	1	1	2	1	3	4	12
12	ERC/PET/01419	Libya Oil Kenya Limited	2	1	1	1	1	1	3	8
13	ERC/PET/1513	Mogas Kenya Limited	2	1	0	1	0	1	1	4
14	ERC/PET/1312	Oilcom (K) Limited	2	1	0	1	0	1	1	4
15	ERC/PET/01432	Petro Oil Kenya Limited	2	1	1	1	1	1	1	6
16	ERC/PET/01455	Trojan International Limited	2	1	0	0	0	0	0	1
		Sub-Total TNCs		**12**	**5**	**11**	**4**	**11**	**17**	**60**
17	ERC/PET/01399	Galana Oil Kenya Limited	3	1	0	0	0	1	1	3
18	ERC/PET/1498	Gulf Energy Limited	3	1	1	1	1	1	2	7
19	ERC/PET/1641	KENYA PETROLEUM REFINERIES	3	1	1	1	2	2	4	11
20	ERC/PET/1508	NATIONAL OIL CORPORATION OF KENYA	3	1	1	1	1	1	2	7
21	ERC/PET/1493	One Petroleum Limited	3	1	0	0	0	0	0	1
22	ERC/PET/01439	Riva Petroleum Dealers Limited	3	1	0	0	0	1	1	3
23	ERC/PET/1566	Tecaflex Limited	3	1	1	1	1	1	0	5
24	ERC/PET/01426	Topaz Petroleum Limited	3	1	0	0	0	0	0	1
25	ERC/PET/1506	Tosha Petroleum (Kenya) Limited	3	1	1	0	0	0	0	2
26	ERC/PET/01340	Ainushamsi Energy Limited	3	1	0	0	0	0	1	2
27	ERC/PET/01391	Alba Petroleum Limited	3	1	0	1	0	1	0	3
28	ERC/PET/01446	Banoda Oil Limited	3	1	0	0	0	0	0	1
29	ERC/PET/1712	Cape Suppliers Limited	3	1	0	0	0	0	0	1
		Sub-Total LKCs		**13**	**5**	**5**	**5**	**8**	**11**	**47**
30	ERC/PET/01434	City Oil (K) Limited	4	1	1	1	1	0	0	4
31	ERC/PET/01307	Dalbit Petroleum Limited	4	1	1	0	0	0	1	3
32	ERC/PET/1730	East African Gasoil Limited	4	1	1	0	0	0	0	2
33	ERC/PET/01453	Fossil Fuels Limited	4	1	1	0	0	0	0	2
34	ERC/PET/01462	Global Petroleum Products Kenya	4	1	1	0	0	0	0	2
35	ERC/PET/01351	Keroka Petroleum Limited	4	1	1	1	1	0	0	4
36	ERC/PET/1698	Petrocam Kenya Ltd	4	1	1	0	0	0	0	2
37	ERC/PET/01303	PETROGAS DISTRIBUTORS LIMITED	4	1	1	0	0	0	0	2
38	ERC/PET/1716	Petrokenya Oil Co. Limited	4	1	1	1	1	1	0	5
39	ERC/PET/1665	Regnol Oil (K) Limited	4	1	1	1	1	1	0	5
40	ERC/PET/1687	Tradiverse Kenya Limited	4	1	1	0	0	0	0	2
		Sub-Total IKCs		**11**	**11**	**4**	**4**	**2**	**1**	**33**
	TOTAL			**40**	**24**	**23**	**15**	**27**	**47**	**176**
KEY:										
1. MNCs - Multinational Companies; 2. TNCS - Transnational Companies; 3. LKCs - Local Kenyan Companies and 4. IKCs - "Independent" Kenyan Companies										

Source: Original compilation from direct inquiries 2015

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Appendix VI: List of Respondents by Oil Marketing Company (OMCs) in Kenya

Serial No.	Licence No.	Oil Marketing Company (OMC)	Strata	CEOs	Head Of Departments	Business line Managers	Middle Level Managers	Supervisors	Operatives	Total Respondents
1	ERC/PET/01435	Essar Petroleum (East Africa) Limited	1	1	0	0	0	0	1	2
2	ERC/PET/1514	ORYX ENERGIES KENYA LIMITED	1	1	0	1	0	1	1	4
3	ERC/PET/1543	Total Kenya Limited	1	1	2	1	1	2	10	17
4	ERC/PET/01404	Vivo Energy Kenya Limited	1	1	1	1	1	3	6	13
		Sub-Total MNCs		**4**	**3**	**3**	**2**	**6**	**18**	**36**
5	ERC/PET/01383	Bakri International Energy Company	2	1	0	1	0	1	1	4
6	ERC/PET/1511	Engen Kenya Limited	2	1	0	1	0	1	1	4
7	ERC/PET/01356	GAPCO KENYA LIMITED	2	1	0	1	1	0	3	6
8	ERC/PET/1494	Hashi Energy Limited	2	1	1	1	0	1	1	5
9	ERC/PET/01389	Hass Petroleum Kenya Limited	2	1	1	1	0	1	1	5
10	ERC/PET/1696	Kencor Petroleum Limited	2	1	0	0	0	0	0	1
11	ERC/PET/01298	KENOLKOBIL LIMITED	2	1	1	2	1	3	4	12
12	ERC/PET/01419	Libya Oil Kenya Limited	2	1	1	1	1	1	3	8
13	ERC/PET/1513	Mogas Kenya Limited	2	1	0	1	0	1	1	4
14	ERC/PET/1312	Oilcom (K) Limited	2	1	0	1	0	1	1	4
15	ERC/PET/01432	Petro Oil Kenya Limited	2	1	1	1	1	1	1	6
16	ERC/PET/01455	Trojan International Limited	2	1	0	0	0	0	0	1
		Sub-Total TNCs		**12**	**5**	**11**	**4**	**11**	**17**	**60**
17	ERC/PET/01399	Galana Oil Kenya Limited	3	1	0	0	0	1	1	3
18	ERC/PET/1498	Gulf Energy Limited	3	1	1	1	1	1	2	7
19	ERC/PET/1641	KENYA PETROLEUM REFINERIES	3	1	1	1	2	2	4	11
20	ERC/PET/1508	NATIONAL OIL CORPORATION OF KENYA	3	1	1	1	1	1	2	7
21	ERC/PET/1493	One Petroleum Limited	3	1	0	0	0	0	0	1
22	ERC/PET/01439	Riva Petroleum Dealers Limited	3	1	0	0	0	1	1	3
23	ERC/PET/1566	Tecaflex Limited	3	1	1	1	1	1	0	5
24	ERC/PET/01426	Topaz Petroleum Limited	3	1	0	0	0	0	0	1
25	ERC/PET/1506	Tosha Petroleum (Kenya) Limited	3	1	1	0	0	0	0	2
26	ERC/PET/01340	Ainushamsi Energy Limited	3	1	0	0	0	0	1	2
27	ERC/PET/01391	Alba Petroleum Limited	3	1	0	1	0	1	0	3
28	ERC/PET/01446	Banoda Oil Limited	3	1	0	0	0	0	0	1
29	ERC/PET/1712	Cape Suppliers Limited	3	1	0	0	0	0	0	1
		Sub-Total LKCs		**13**	**5**	**5**	**5**	**8**	**11**	**47**
30	ERC/PET/01434	City Oil (K) Limited	4	1	1	1	1	0	0	4
31	ERC/PET/01307	Dalbit Petroleum Limited	4	1	1	0	0	0	1	3
32	ERC/PET/1730	East African Gasoil Limited	4	1	1	0	0	0	0	2
33	ERC/PET/01453	Fossil Fuels Limited	4	1	1	0	0	0	0	2
34	ERC/PET/01462	Global Petroleum Products Kenya	4	1	1	0	0	0	0	2
35	ERC/PET/01351	Keroka Petroleum Limited	4	1	1	1	1	0	0	4
36	ERC/PET/1698	Petrocam Kenya Ltd	4	1	1	0	0	0	0	2
37	ERC/PET/01303	PETROGAS DISTRIBUTORS LIMITED	4	1	1	0	0	0	0	2
38	ERC/PET/1716	Petrokenya Oil Co. Limited	4	1	1	1	1	1	0	5
39	ERC/PET/1665	Regnol Oil (K) Limited	4	1	1	1	1	1	0	5
40	ERC/PET/1687	Tradiverse Kenya Limited	4	1	1	0	0	0	0	2
		Sub-Total IKCs		**11**	**11**	**4**	**4**	**2**	**1**	**33**
	TOTAL			**40**	**24**	**23**	**15**	**27**	**47**	**176**
KEY:										
1. MNCs - Multinational Companies; 2. TNCS - Transnational Companies; 3. LKCs - Local Kenyan Companies and 4. IKCs - "Independent" Kenyan Companies										

Source: Original compilation from direct inquiries 2015