

**INTERNATIONAL COLLABORATION STRATEGIES AND COMPETITIVE  
ADVANTAGE OF GEOTHERMAL DEVELOPMENT COMPANY, KENYA**

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## DECLARATION

I declare that this research project is my original work and has not in its entirety or in part been presented to this or any other university.

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This research project has been presented with my approval as the university supervisor

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## ABSTRACT

The objective of the study was to determine the relationship between international collaboration strategies and the competitive advantage of Geothermal Development Company, Kenya. The study investigated various dimensions of international collaboration strategies such as joint ventures, mergers and acquisition, informal networking plans as well as research and development collaborations and joint marketing strategies. The research employed a case study design and data was collected among staff dealing with promoting competitive advantage through the adoption of effective international collaboration strategies formulation, implementation as well as monitoring, control and evaluation at Geothermal Development Company. Primary data was collected through the use of interview method and the analysis was done using the content analysis. The findings revealed that Geothermal Development Company, Kenya has adopted various international collaboration strategies including joint marketing, informal networking, joint production, and joint research and development. The study also found that the various international collaboration strategies adopted by the company have resulted in improvement in the competitive advantage of the company in terms of brand reputation, improved market share, attraction of more customers, continuous innovation and flexibility of operations. The study concluded that companies should adopt international collaboration strategies to improve their competitive advantage. The research recommends that organizations top management and policy makers should make efforts to provide environment that encourages local companies to collaborate with international partners to gain competitive advantage and expand their productivity. This approach can have a significant impact on the local economy and productivity of the company in the long run.

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## **DEDICATION**

I dedicate this paper to my parents for loving and supporting me through thick and thin. I hope this achievement will complete the dream that you have had for me all those years when you chose to give me the best education you could.

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# CHAPTER ONE: INTRODUCTION

## 1.1 Background of the Study

Today, a number of countries are working with the aim of collaborating to fit the new environmental challenges. This is due to the rapid changes that have been seen in terms of technology and other global business models (Peloza & Falkenberg, 2009). This means that in order to be competitive and achieve profitability within the local and international market, companies have to adopt different competitive strategies. Some of the competitive strategies available include the use of international collaboration strategies. According to a study done by Søreide et al (2013), international collaboration plans are associated with business expansion and gaining of new experiences and this allow firms to enjoy high productivity, sales and competitive advantage in the different markets. Boekholt et al. (2009) noted that for firms to attain competitive advantage position, they must adopt international collaborative strategies, strategic alliances and partnership with firms outside their local market. The adoption of international collaboration plans has led to high competitive advantage of firms in almost all industries including banking, energy and the telecommunication sector (Arroyo et al., 2014). This means that firms should adopt international plans and partnership strategies in order to promote their competitive advantage (Indradewa, Tjakraatmadja & Dhewanto, 2015).

This study is based on three main theories. This includes the business network theory as well as the learning organization theory and the Michael Porter theory of competitive advantage. According to the business network theory firms must adopt different perspectives and collaboration in their multinational network and relationship with other

firms across the globe (Borgatti & Halgin, 2011). The theory also supports the view that international collaborations should support different aspects of networkings. This networking help to promote partnership in supporting international activities in organizations (Makkonen et al., 2012). However, learning organization theories indicate that firms must learn continuously and help its members adapts and transforms to achieve success in the long run (Christensen, Læg Reid & Rovik, 2020). The last theory is the Michael Porter's competitive theory which advocate for the need for companies to adopt differentiation, technology as well as focus activities and low-pricing in providing rare, unique and high-quality products. This results into the promotion of competitive advantage and success of the firm (Porter, 1985).

In Kenya, many companies within the health, banking and IT sector are currently using various strategies to achieve high success and performance in their operations. This has included the adoption of new technologies, the consideration of the unique products as well as the differentiation and focusing on unique markets (Mayo, 2014). The possession international collaboration models has enable some of the firms in the country to promote their success as well as to attract new customers from different parts of the world. This is because the international plans and partnership models have allowed these firms to stand out from the rest in the industry (Barrett, Crossley & Dachi, 2011). This is a clear indication that the adoption of international collaboration models may be associated with competitive advantage and success among firms within the energy sector in the country as well.

### **1.1.1 International Collaboration Strategies**

According to Hamel (2011), the critical international collaboration strategies include the adoption of joint marketing, joint selling/distribution, joint production as well as for design collaboration and technology licensing or sharing and promotion plans. In support of the above, Cousins (2015) noted that international collaboration strategies are associated with research and development contracts. Importantly, it should be noted that international collaboration strategies are also associated with the sharing of technology alliances and majority of global firms currently use technology to promote their marketing and sales, product and manufacturing plans as well as to improve their knowledge sharing and research development activities (Robinson, Savage & Campbell, 2013). However, the background and characteristics of the parties involved must be considered in managing international networking activities (Doh, 2010).

Other major international collaboration strategies include the adoption of non-formal ways of handling networks. This is because international activities may involve people from different socio-economic backgrounds in the society. This has led to other new dimensions such as the adoption of franchising in order to cut costs (Robinson, Savage & Campbell, 2013). There is also the use of mergers and acquisition plans that firms are employing after international collaboration strategies have been made successful and this has led to high profitability of some firms globally (Doh, 2010). At a global scale, joint ventures have also been used as a source of international collaboration plan in many countries (Cousins, 2015). In areas such as South Africa, international and global networking has been seen in the management of Woolworths Company where the firm is promoting franchise and other

joint venture programs in managing their working relationship with other firms (Bra, 2012). The firm has also managed to form collaborations with other organizations in Kenya and this is a clear indication that firms around the world have been adopting different international collaboration strategies to promote their success and operations around the world (Mugwe, 2013).

At Geothermal Development Company (GDC), some of the common international collaboration strategies that have been adopted include creation of shared learning activities or programs, adoption of joint ventures and technology sharing platforms with other companies outside the country (Robinson, Savage & Campbell, 2013). The top management of GDC also believes in international teamwork, collaborative policy making, enhancing strategic partnership business and brainstorming or benchmarking with other best companies in the global market. These strategies have enhanced and promoted the competitive advantage of GDC.

### **1.1.2 Competitive Advantage**

According to Powell (2001), the concept of competitive advantage refers to a situation where a firm is able to implement value creating strategies and plans, especially in the adoption of rare and unique strategies and operations in the world. Lado, Boyd and Wright (1992) noted that for any firm that aim at enjoying or gaining a competitive advantage must develop appropriate strategies and plans that will ensure that it stays ahead of competition in the industry by adopting rare, unique and new ways of conducting its operations. Additionally, Michael Porter noted that there are a number of strategies that can be adopted in managing sustainability in the organizations. According to Michael Porter firms that

want to enjoy competitive advantage must adopt cost leadership strategies, as well as differentiation plans and focus strategies.

However, a study done by Sigalas and Economou (2013) noted that the cost leadership strategies are important in promoting success of the firms. This is because it is associated with the management of low-cost products and dealing with rivals in the industry. This is important since it may allow the company to charge a premium price and deliver high quality goods and services to the customers within different markets. On the other hand, the concept of differentiation involves providing products that are unique and focusing on a particular market in the society. Powell (2001) argued that focus strategies are plans that firms use when creating unique and high-quality products and selling them in specific areas in the community.

According to David and David (2016), there has been new challenges facing business firms currently and this is due to changes within the external environment. This means that companies must consider new changes in the environment in all their operations. Companies should also evaluate the forces of globalization and adopt unique tactics in managing their threats. Adopting new and modern techniques of network can help the firms to achieve international collaboration models and competitive advantage in the long run.

### **1.1.3 Geothermal Development Company**

Geothermal Development Company (GDC) is one of the energy-based companies in Kenya. Importantly, GDC is fully owned by the Kenyan government and it was founded in late 2008. The Company was established with the aim of accelerating as well as

promoting the development of geothermal resources in Kenya (Geothermal Development Company, 2020). Currently, the firm promotes the exploration and selling geothermal steam for electricity generation to Kenya Electricity Generating Company PLC (Ken-Gen). Additionally, the company also sells geothermal steam to private investors (Geothermal Development Company, 2020).

In its working and plans, the GDC's activities revolve around the provision of thermal power and coordination of electricity systems in the country. The GDC programs and operations relate to the energy provision and sector (Geothermal Development Company, 2020). There is also coal which provide thermal power and nuclear model which provides nuclear energy. Despite this, the company mainly deals in geothermal power generation models and it sells the steam to other companies such as Ken-Gen and various Independent Power Producers (IPPs). These energy based companies' later convert the steam into electricity. Despite this, it should be noted that the firm GDC can also generate electricity although the current demand for steam is attractive and very viable (Geothermal Development Company, 2020).

Accordingly, the company provides an environmentally friendly geothermal steam products and services and it is regarded as one of the major sources of various raw material used for electricity generation in the country. In its major operations, the firm has partnered with various local and international agencies to promote the geothermal exploration and drilling (Geothermal Development Company, 2020). The firm partnership models have been effective in reducing the financial risks in the energy exploration sector. Evidently, the mission of the company is to be the leading firm in development of green energy for Kenya and beyond from geothermal resources. As a result, the firm believes in

international collaboration and partnerships and conducts all its operations in a professional manner with the highest level of integrity (Geothermal Development Company, 2020).

## **1.2 Research Problem**

As business operations environment becomes more turbulence, international collaboration models can be used to help firms to develop good partnership with other firms outside their local market (Sigalas, 2015). Firms around the world can promote international collaboration through integration, joint planning, technology sharing, knowledge sharing, partnership and building of multi-cultural networks (Cousins, 2015). With international collaboration abilities, firms can achieve a high competitive advantage since they get the opportunity to attract international customers and develop international brand image and reputation (Christensen, Læg Reid & Rovik, 2020). International collaboration strategies provide local and global firms with the opportunity to compete in a large scale especially within the international market (Arroyo et al., 2014). Through adoption of international plans, local firms are able to adopt cost effective measures, make right choices, avoid problems as well as control their research spending and attract international customers and all these results into high competitive advantage in the long run (Li et al., 2015).

A number of companies within the energy sector have realized that the adoption of international collaboration plans promote their firm competitive advantage and improve their organization performance in general (Muteshi & Awino, 2018). This is because international collaboration plans have been associated with firm's ability to learn from other non-local firms and achieve proper decision-making plans. It has also been noted that firms with international collaboration plans have the ability to adopt innovative products

offerings to their customers across the world (Mayo, 2014). Additionally, firms in the country currently enjoy good relationship with their partners outside the country due to good their good international collaboration plans. This means that effective international collaboration plans are important towards the success of firms within the energy sector in the country as well (Kinyanjui & Juma, 2014).

Various studies have done regarding the subject of international plans and competitive advantage. Globally, Zhang and Huxham (2009) evaluated how international networks improve success of the firms. They noted that international collaboration and network systems promoted the success of over 1000 firms within the Australian market. Li et al. (2015) did a study in China also noted that the success of inter-organizational collaborations depends on the size of the firm and the rules adopted by the partnering companies. Sinkovics & Kim (2014) also investigated a sample of 50 electronic collaborative firms in the telecommunications industry in 34 countries and aimed at establishing the link between research and productivity of firms in China. The inquiry noted that networking's and close collaborations are also associated with success and high levels of diversity among companies in China.. However, the study concentrated in companies outside African and mainly focused on the organizations within the telecommunications industry.

In Kenya, Dachi (2011) looked at the international models and competitive strategies in real estate firms. Kinyanjui and Juma (2014) investigated how strategic management and training can help improve collaboration and success of firms, especially within the higher



education sector in Kenya. The findings indicated that international collaborations and alliances promote the performance of the university. Gichuru, Iravo and Arani (2015) carried out a survey of collaborative supply chain models and performance of firms within the food industry and noted that collaborative models promote the performance of companies within the food industry. Additionally, Muteshi and Awino (2018) also determine the strategic alliances and performance of companies in Kenya and found out that partnership and strategic alliances improve performance of the companies. Muthoka and Oduor (2014) investigated the strategic alliances operation strategies applied for competitiveness of Kenyan large firms such as supermarkets and found similar results. Additionally, Gumboh and Gichira (2015) studied supply chain strategic alliances and competitive advantage of SMEs in the country and used the resource-based view of competitiveness. The study noted that international plans and collaborations are important towards the promotion of SMEs success in the country. However, these past studies failed to focus on the energy sector in Kenya.

Evidently, it is true that few past studies have been evaluated to show the link between international collaboration strategies and the competitive advantage of Geothermal Development Company, Kenya. Furthermore, no research has been conducted with respect to the energy sector in Kenya. Therefore, this inquiry helped to fill the gap by conducting a study to determine the relationship between international collaboration strategies and the competitive advantage of Geothermal Development Company, Kenya. The researcher will answer the question- What is the relationship between international collaboration strategies and the competitive advantage of Geothermal Development Company, Kenya?

### **1.3 Objectives of the Study**

The objective of this study was to determine the relationship between international collaboration strategies and the competitive advantage of Geothermal Development Company, Kenya.

### **1.4 Value of the Study**

This study would be important to various stakeholders within the electricity and energy production industry. For example, it will help the top management of the Geothermal Development Company, Kenya to understand how they can adopt international collaboration strategies and improve their competitive advantage levels in the long run. Evidently, by understanding the various international collaboration strategies, it would encourage the top management of the Geothermal Development Company, Kenya to adopt the best plans in promoting their competitive advantage and performance in general. Additionally, this study would also be very useful in helping managers of various energy production firms to improve their competitive advantage capabilities and enjoy sustainable success in their major operations and plans.

The study would also benefit various government agencies and policy makers. For example, the policy makers dealing with international collaborations and partnership issues within the country and beyond will find the results of this study very valuable in the process of formulating and implementing policies associated with international collaboration strategies and competitive advantage with the aim of promoting high performance and success within the firms. This would be imperative towards the promotion of success of operations within the energy production industry in the country and beyond.

Furthermore, the study would also benefit future researchers, scholars and academicians. This is because the future academicians and scholars will use the study results and findings to conduct further studies dealing with the determination of the relationship between international collaboration strategies and the competitive advantage of companies within the energy industry across the globe. In that sense, the results of this study would be very important and useful to future students as well as researchers and scholars as it would form a basis for their further future research related to the topic of the study.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Introduction**

The primary aim and objective of this section is to provide effective analysis of theoretical and empirical literature related to the topic of study which is on determining the relationship between international collaboration strategies and the competitive advantage of companies within the energy sector. The section will include the analysis of the past and current literature related to the study topic. The chapter will also include literature review on the types of international collaboration strategies and how they contribute to the competitive advantage of companies. Theoretically, the section specifically discusses the business network theory as well as the learning organization theory and Michael Porter theory of competitive advantage. The study will provide analysis of these theories to help guide the study findings and results. Additionally, this segment will also include analysis of the knowledge gaps and empirical review of the past studies associated with the study topic.

### **2.2 Theoretical Foundation**

A theory is a guide that explains how variables relate. The theory is part of theoretical systems and it indicates how researcher can explain different variables. It is also true that theory support or may fail to support study findings (Kombo and Tromp, 2016). In this inquiry, the researcher adopted the analysis of the business network theory as well as the learning organization theory and Michael Porter theory of competitive advantage.

### **2.2.1 Business Network Theory**

This theory was founded by Axelsson (2010). The theory supports the view that business systems are built through networks and partnership systems. According to the theory proponents, successful business must include networks and must learn important issues through collaborative with other firms (Hamel, 2011). This means that organizations must built networks and consider various activities in managing their programs and activities (Robinson, Savage & Campbell, 2013). Through networking, firms are able to learn new ways of handling their operations (Cousins, 2015).

Accordingly, one of the main assumptions of the theory is that it provides a good standpoint in managing international collaborations and the concept of interaction between organizations. It is assumed that organizations must identify complexity, continuity, informality as well as symmetry plans in their international collaboration activities (Doh, 2010). This is important in managing the relationship between the partners. However, complex relationship and networks in business must be managed by different partners to achieve the set goals and plans (Robinson, Savage & Campbell, 2013).

In this study, the theory will be used to interrogate the international collaborations between GDC and other firms in the world. The management of the GDC Company can adopt the theory assumptions to widen their international collaboration networks and form new partnerships (Robinson, Savage & Campbell, 2013). This is important towards the future success of the company.

### **2.2.2 Learning Organization Theory**

This theory is associated with Chris Argyris, Peter Senge and Donald Schon. According to their books and findings, learning is important in organizations. Through learning organizations have the ability to create shared values and what they want to achieve. This is because learning organizations is associated with team work and continuous training. Learning also allows the employees to manage change and to have new ways of thinking leading to success and competitive advantage in the firm (Doh, 2010).

Moreover, it should be noted that learning organizations value change and it is based on making conscious decisions to help change perspectives and outcome in the long run (Cousins, 2015). However, the learning systems are associated with new training and ability to form mental models (Doh, 2010). When collaborating with other firms, organizations can learn new ways of doing things (Robinson, Savage & Campbell, 2013). This means that organizations must learn from others and form new ways of managing their activities (Hamel, 2011).

In this study, the theory can help DGC to adopt learning in collaborative improvement and promote their partnerships levels as well as their performance (Cousins, 2015). The theory can be used by the partnering firms to learn and adopt successful collaboration. Organizational learning theory parallels models of individual learning grounded in cognitive and social psychology and firms must adopt learning as organizational change process. This can improve their ability to acquire new values and skills beginning from the individual learning of its members to organizational learning (Doh, 2010). Individuals in the firm must learn through storing, retrieving, transforming, and applying information as

well as sharing of their knowledge and experiences using different mental models. This will improve the organizations' ability to share knowledge through their collaborations and hence make the knowledge to be available for all the organizations in the network (Robinson, Savage & Campbell, 2013).

### **2.2.3 Michael Porter Theory of Competitive Advantage**

This theory was founded by Michael Porter (1980). The theory indicates that companies can adopt various strategies and plans in promoting their success and their competitive advantage. Some of the theories that determine the competitive advantage of firms include adoption of focus strategies, low-cost pricing and differentiation models. The theory indicates that the firm must use its resources such as skills, technological power and others assets in promoting its success (Reed & Fillippi, 1990).

The theory assumes that companies have different techniques and ways of managing their activities (Porter, 1985). The theory also assumes that firm can adopt cost-leadership, technology and other modern ways of managing their operations (Robinson, Savage & Campbell, 2013). This means that the firms must adopt low costing, focusing plans and differentiation tactics in order to promote their success. This should be done through consideration of the market dynamics and other segmentation systems (Cousins, 2015). However, all these plans should consider the resources available and the skills required (Reed & Fillippi, 1990).

In this study, the use of competitive advantage theory can help firms such as GDC to adopt best strategies that will improve their performance and long-term success (Cousins, 2015). This is important towards long term sustainable development of companies in the country.

The theory will also help guide study variables by determining some of the unique tactics that other companies can adopt in the process of promoting their competitive advantage and success.

### **2.3 Empirical Review**

From the analysis of various studies, it is true that international collaboration is associated with high competitive advantage among firms globally (Doh, 2010). For example, a study done Hamel (2011) in India noted that strategic alliances and international collaborations promote the success of the company. The study also noted that modern technological systems are part of systems that can help guide the success of organizations in collaborative with other firms. However, this study was done in India and it may not apply within the current context (Cousins, 2015).

Moreover, Drucker (1996) also conducted a study in the United States of America to determine some of the key plans that can be used in promoting diversity and success of firms. The study noted that companies that have adopted collaborative plans enjoyed diversity and creativity in their operations (Hamel, 2011). However, the study noted that adoption of international collaboration should consider environmental challenges and how such environmental uncertainties can degrade performance and success of the organizations. However, it should be noted that this study was done in the United States of America. In addition, the study was done in 1996 and its implications cannot apply within the current context and century (Doh, 2010).

Dyer et al., (2011) also conducted a study in UK to how international networks help companies to create value and changes in their operations. From the study findings, it was



evident that international networks are associated with new changes in operations of global firms. The study also found out that customer's values and employee's mental models should be considered in the process of developing international networks. The study also noted that suppliers, management and the public are part of good networks for organizations. However, this study was done in UK and it was based on the banking industry. This means that it cannot apply within the Kenyan context, especially within the energy sector.

In Nigeria, Cousins (2015) also conducted a study to evaluate the international collaboration plans and how they can be used to achieve the goals of the organization. The study adopted cross-sectional study design and analyzed collaborative measures that have been taken by different companies in Nigeria to promote their goals. From the findings, the study noted that majority of Nigerian firms have adopted mergers and acquisition, shared technology and joint ventures in promoting their partnership business models. Despite this, the study was done in Nigeria and it cannot fully apply within the Kenyan market (Cousins, 2015).

Several local studies have also been done related to the relationship between international collaboration strategies and the competitive advantage. For example, Lagat, (2011) conducted a study to evaluate the International collaboration systems and how they can be applied in achieving sustainable competitive advantage among firms dealing with cement production in Kenya. The study noted that collaborative systems associated with knowledge management are important in production and manufacturing industry. However, it should be noted that this study only focused on manufacturing companies in

the country and failed to consider the importance of collaborative strategies in managing organization's success.

Additionally, a study by Nyangweso in (2013) also found out that adopting collaborative and networking systems within the public procurement industries is important in promoting success of organizations. He noted that procurement faces several challenges and organizations must collaborate to manage such problems. The study found out that sharing knowledge, managing different systems and considering common values is important in developing networks within organizations, especially organizations from different sectors. In her study, Kinyua (2010) also conducted a study with the aim of determining the effects of strategic management on the performance of public universities in Kenya. The study found out that managers must adopt effective networking models to improve and promote the performance. This may include inter-university activities and adopting knowledge sharing through the use of modern technologies. The study also found that strategic collaboration with different firms is important in promoting the firm brand image both locally and internationally. However, the study mainly focused on the educational sector and ignored the energy industry.

While these studies have made substantial contributions to the understanding of the relationship between international collaboration strategies and the competitive advantage of companies, there is an important gap in the empirical literature and no clear studies have been done to determine the relationship between international collaboration strategies and the competitive advantage of Geothermal Development Company, Kenya. Thus, this study seeks to fill the knowledge gap.

## **2. 4 Summary of Literature Review and Knowledge Gaps**

In summary, there are several past studies that have been done on the topic of study and the studies confirmed the view that international collaboration is associated with highly competitive advantage among firms globally. For example, from the analysis of various studies, Drucker (1996) determined the international collaboration and strategic alliances and noted that the adopting collaborative management models are important in managing new changes in organizations (Hamel, 2011). Robinson, Savage and Campbell (2013) also noted that lack of resources and low power pull can be a challenge in managing networks among organizations.

Additionally, Hamel (2011) determined how international collaboration has shaped the performance of global firms such as IBM, Philips, Nokia and Unilever and noted that it has enhanced their capabilities and resources. A study by Wang, Dou, Zhu and Zhou (2015) in China evaluated some of the internal collaborative measures that can help promote firm performance. A study by Bjerke and Johansson (2014) also evaluated the effects of internal networks on the innovation systems among firms. Nyangweso (2013) study the level of collaborative public procurement among the state cooperation while Kinyua (2010) also conducted a multiple case study on strategic alliances between public universities and middle-level colleges in Kenya.

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.1 Introduction**

This section includes the research design that would be used in this study. In addition, the section includes the data collection method that was used in this study. It is also worth noting that this section also includes the data analysis methods that was used to analyze the research data.

### **3.2 Research Design**

In this study, the researcher adopted case study method and the case study was Geothermal Development Company, Kenya. This means that the focus area of the study was Geothermal Development Company, Kenya. The researcher adopted a case study method since it allowed the researcher to retain the holistic and meaningful characteristics of the real-life experiences of the study topic and it was easier to determine the relationship between international collaboration strategies and the competitive advantage of Geothermal Development Company, Kenya.

Moreover, the use of case study design allowed the researcher to get a detailed analysis of a situation or the topic variables. This is because case study method helps to provide an in-depth understanding of phenomena under study and it gave the researcher the opportunity to have deeper understanding on how international collaboration strategies influence the competitive advantage of Geothermal Development Company, Kenya. From the design of the case study design, the research managed to get multiple kinds of information related to the topic of study.

Importantly, case study provided data in a flexible and cost-effective way. This means that with case study method, the researcher was able to gain multiple kinds of information within a short time and in a cost-effective way. Additionally, the use of case study method was important towards provision of a detailed analysis of a situation. It also provided an effective platform for further research since it promotes a close analysis of the study variables leading to detailed information gathering.

### **3.3 Data Collection**

This study adopted the use of primary and secondary data. The primary data were collected from the field while secondary data were obtained from articles, books, newspapers and other online data bases related to the literature on the topic of study, especially on the relationship between international collaboration strategies and the competitive advantage of companies. Additionally, the secondary data included the annual reports and other international collaboration data sets that are published within the Geothermal Development Company websites and other online data bases.

Accordingly, the researcher used face to face interviews to obtain important information about the study and the use of the interview method gave the study participants an opportunity to express their views regarding the topic of the study. Moreover, the use of interview method helped to achieve high response rate during the data collection process. This is because face to face interview method allowed the researcher to interact closely with the participants during the actual data collection process and this was important in identify if the respondents are being honest while providing data from the company on

issues associated with the relationship between international collaboration strategies and the competitive advantage of their company.

However, before the actual data collection, the researcher conducted a pilot study to test the interview questions. This helped to reduce limitations during the actual data collection process as well as assist in revising the interview questions so as to avoid misinterpretation of the research topic. The researcher used 11 respondents which were top management team dealing with promoting competitive advantage through the adoption of effective international collaboration strategies formulation, implementation as well as monitoring, control and evaluation at Geothermal Development Company.

### **3.4 Data Analysis**

In this study, qualitative data analysis was adopted and this was done after data was collected using interview method. The data collected was then analyzed using descriptive statistics. The qualitative data was analyzed based on the content matter responses to determine the major themes underlying the study. Responses with common themes or patterns were grouped together into coherent categories.

Furthermore, it should be noted that the use of qualitative research method involves exploration of a concept with the intention of providing more understanding of a topic. The use of qualitative data analysis method is important in creating awareness of an existing concept of the study. Since the study adopted and used content analysis method, it was easier to analyze the data based on different thematic concerns. The researcher determined the themes associated with effective international collaboration strategies formulation and

implementation and how this promotes the competitive advantage of the Geothermal Development Company.

Typically, the study involved content analysis and the method allowed the researcher to make valid inferences by interpreting textual materials. The method also allowed the researcher to systematically evaluate texts obtained during the study including oral communication, videos and audio texts. The use of content analysis enabled the researcher to interpret responses from the respondents so as to determine the relationship between international collaboration strategies and the competitive advantage of Geothermal Development Company.

## **CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION**

### **4.1 Introduction**

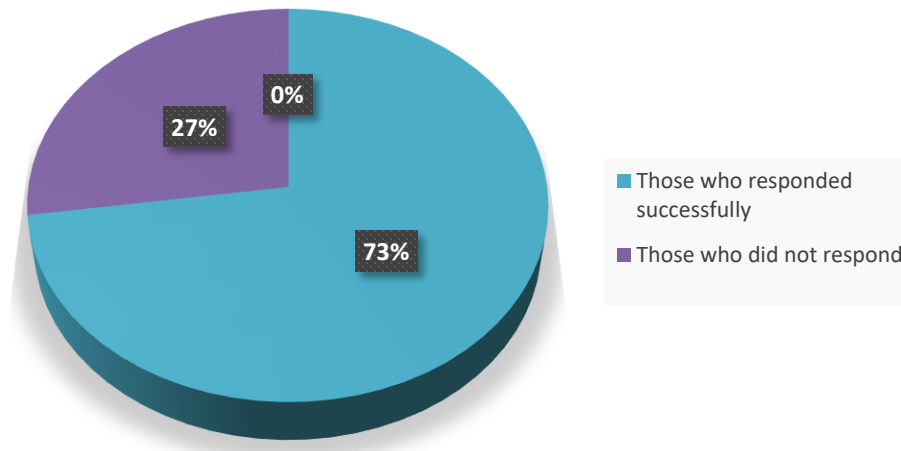
This chapter explores the study findings in relation to the responses given in the interviews with that aim of determining the relationship between international collaboration strategies and the competitive advantage of the Geothermal Development Company, Kenya. The chapter also presents a qualitative analysis of the findings to answer the research questions and thus explore the relationship between the said strategies and competitive advantage in the company. In order to ascertain data qualities such as validity and reliability, the suitability of responses is considered through an analysis of the participant response rate as well as the demographic and educational characteristics of the respondents as well as their work experience. The findings as well as the analysis are presented visually using illustrations that include tables and figures to allow discussions.

### **4.2 The Participants Response**

The study sought the participation of 11 respondents from the middle level management team dealing with promoting competitive advantage in the Geothermal Development Company, Kenya. Since, it was a case study; a large number of participants would create redundancy and increase expenses without enhancing the quality of the findings. Therefore, the 11 respondents were lined for face-to-face interviews using a predetermined interview guide. However, only eight staff were successfully interviewed to completion and data obtained. It was not possible to interview all of the possible respondents due to work and personal commitments. The response rate for the study was therefore 72.7%, which is acceptable for statistical accuracy.



### Response Rate



### 4.3 Demographic Characteristics of the Respondents

The demographic information of the respondents was sought because the information is vital in that it determines the suitability of the respondent while enhancing the quality of response gained.

#### 4.3.1 Age and Gender of the Respondents

This study established the gender, age and level of education and experience of the respondents. Out of the eight respondents, only two were female and six were male, representing 25% and 75% respectively. Also, four of the respondents were aged above 45 while the rest were aged less than 46. The ages of the respondents were in tandem with their experience years in the geothermal industry, or years worked in the company. Table 1 below gives the age of the respondents and their frequencies.

Table 1: Age of respondents

<b>Age (years)</b>	<b>Frequency</b>	<b>Percentage (%)</b>	<b>Cumulative percentage</b>
Below 35 years	0	0.0	0.0
35-39	2	25	25.0
40-45	2	25	50.0
Above 45 years	4	50	100.0
<b>Total</b>	<b>8</b>	<b>100</b>	

#### **4.3.2 Level of Education and Work Experience of the Participants**

Each respondent was asked to state his or her highest level of education attained. This information was sought because the level of education of a respondent affects the quality of responses obtained while also illuminating on the overview of the industry's top management characteristic. The highest level of education was sought together with the respondents' experience in their current work positions of management or in the company because this would help the researcher to underscore the accuracy of the information obtained in the interviews. It was also considered that the number of years a respondent had worked in his or her current position or in the company determined his/her work experience. Only two of the eight respondents had at least a Bachelor's degree; two had a Doctorate degree while the other four had either a MSc or MA degree. From these findings, it can be noted that the level of education is critical in the management of geothermal companies; this is because all the middle level management except two had at least a Bachelors' degree.

It was noted that a higher number of participants had an experience of more than 6 years in the company, having worked in the same position for the years, or in the company for those years. Specifically, five out of the eight participants had at least six-year' experience. Table 2 below give a breakdown of the participant work experience.

Table 2 Participant work experience

<b>Work Experience of Participant</b>	<b>Frequency</b>	<b>Percentage</b>
0-2 years	0	0.0%
3-5 years	3	37.5%
6 and above years	5	62.5%
<b>Total</b>	<b>8</b>	<b>100%</b>

#### **4.4 International Collaboration Strategies at GDC**

The first objective of the study was to underscore the international collaboration strategies used by the Geothermal Development Company of Kenya. The respondents were asked if the company used joint marketing, joint production, joint selling, joint research and development, information networking and mergers and acquisitions strategies in its processes. All the respondents confirmed that the company employed international collaboration strategies. The strategies mentioned include joint marketing, design collaboration, informal networking, joint production and joint research and development. On the other hand, Geothermal Development Company of Kenya did not use technology licensing, joint selling, joint promotional, franchising, and mergers and acquisitions in their processes.

#### **4.4.1 Joint Marketing Strategies**

The respondents agreed that the company used place joint marketing strategies with a number of international companies as a means of enhancing its competitive advantage. Joint marketing strategy is employed by Geothermal Development Company include co-marketing, which is a joint promotional effort resulting from partnering with other companies. Joint marketing works well when two companies with similar products or services, or companies whose products work together. For instance, the computer manufacturers having joint marketing with Intel or Uber and Sportify. The Geothermal Development Company has in more than one occasion partnered with ArGeo and UNU-GRO in marketing their products. According to Deputy Manager of Corporate Communications and Marketing at GDC Mr. Eric Wamanji, joint marketing strategies have helped the company to achieve success, especially by working with different agencies and government bodies. “We believe in joint marketing as a way of reducing our cost of operations and having to work with others in different parts of the country” he said this affirming the importance of joint marketing and selling activities within the company.

#### **4.4.2 Joint Production Strategies**

The respondents noted that in rare occasions do the company engage in joint production strategies but it allows international explorers to bring in their expertise in exploring and drilling of the geothermal resources. A large number of respondents however agreed that the company offers consultancy services within the Eastern Africa region and helps in exploitation of geothermal resources within the broader East Africa region. The areas of

joint production by the company include resource assessment, exploration, appraisal, production and re-injection.

#### **4.5.3 Joint Selling Strategies**

Joint selling is a form of joint marketing agreement that occur between two companies targeting the same consumer base. In joint selling, one company agrees to promote and sell another company's products to its customers. The respondents noted that the Geothermal Development Company sales only its steam to mainly KenGen and other Independent Power Producers. It does not collaborate with other companies in selling its products. "We mostly use joint selling to expand our operations and this is part of our long term goal in promoting performance and competitive advantage of the company", said the Deputy Manager of Corporate Communications and Marketing at GDC Mr. Eric Wamanji

#### **4.5.4 Research and Development Contracts Strategies**

Geothermal Development Company has partnered with ArGeo and UNU-GRO to provide specialized trainings to its employees and employees of other similar companies to help build their capacity in research and development. The company has also in more than one occasion received grants from JICA for research and capacity building. The Geothermal Development Company has also signed a number of agreements, the most recent being the Geothermal Risk Mitigation Fund (GRMF) from the African Union for the drilling and testing program as well as upgrading of the infrastructure at Paka project in Baringo-Silali Geothermal project. According to Deputy Manager of Corporate Communications and Marketing at GDC Mr. Eric Wamanji, "research and development is part of programs that

the company has adopted to promote its global brand and reputations”. He said that the company is currently working in research collaborative efforts with other companies in Japan.

#### **4.5.5 Informal Networking Strategies**

It was noted from the responses that the company does not have in place obvious networking systems with other international companies. However, the Geothermal Development Company Kenya has established the Geothermal Centre of Excellence (GCE) which is the company’s in-house training facility that was initiated to train employees from the region with the aim of filling the existing skill gap in the geothermal energy sector. GCE offers comprehensive, peer-reviewed programs to clients all across the region in all areas of geothermal energy development. These programs help create informal networks between the company and other international companies whose employees get training from GCE.

#### **4.5.6 Mergers and Acquisition Strategies**

All the respondents noted that the Geothermal Development Company of Kenya had not utilized the strategy of mergers and acquisitions as a means of fostering international collaboration. A merger refers to the process of two or more companies combining such that the resulting company retaining the identity of the acquiring company. It implies that two or more companies’ businesses becoming consolidated to create a new entity. The respondents noted that the GDC had not merged with or acquired any other company in the recent past.

#### **4.7 Relationship between International Collaboration Strategies and Competitive Advantage**

The respondents were asked to state whether they thought the named international collaboration strategies improved the company's competitive advantage. On each element of international collaboration, the respondent was to agree or disagree with the assertion that its utilization in the company had improved the company's competitive advantage. Measures of competitive advantage were hinged on the company's low-cost leadership strategies, broad differentiation, best cost provision, cost focusing, differentiation focus, brand image and positioning, continuous innovation, dynamic capabilities, delivery of rare, unique and high-quality products and increased market share and value.

Moreover, the majority of the respondents noted that there is a good relationship between international collaboration strategies and competitive advantage since the adoption of international collaboration strategies improved the low- cost leadership in the company. The participants also agreed that the adoption of International Collaboration Strategies improved broad differentiation strategy led to the company enjoying best-cost provider plans as well as improved the cost focus strategy and brand image of the company. The respondents argued that with international collaboration strategies, the company was able to position itself well and it experienced continual innovation, flexible operations and delivery of unique, rare and high-quality services and products. This led to attraction of more number of customers, increased market share and value of the organization.

#### **4.8 Discussions**

From the findings, it is evident that the Geothermal Development Company of Kenya utilized the following main international collaboration strategies that include joint marketing, design collaboration, informal networking, joint production and joint research and development in one way or another through its numerous contacts with other international companies. It seemed difficult for some respondents to clearly point out the specific strategies used but the use of some of the strategies such as joint marketing, joint research and development and informal networking came out from the explanations of the activities that that the company had.

The findings show that the presence of the named international collaboration strategies have specifically helped to improve the company's market share and value and has enable the company to explore numerous avenues for production of more geothermal energy within the country. This has been witnessed by the company's continual increase in its sales to KenGen and the development of power plants by Independent Power Producers in Menengai. Six of the eight respondents agreed that the international collaboration strategies have increased the company's market share. Additionally, seven of the eight respondents indicated that the company has undergone continuous innovation due to the international collaboration strategies. Also, the findings show that the international collaboration strategies used in the company contributed in the improvement of the company's brand image as well as the positioning strategy; this was pointed out by six out of the eight respondents. This finding concurs with Kinyua's (2010) study which established that strategic collaboration with different firms is critical in promoting the firm brand image both locally and internationally. Finally, the international collaboration strategies made the geothermal development company to improve its cost of production thus became a low-



cost leadership company. The strategies also helped the company to improve its dynamic capabilities. The findings are in tandem with Drucker (1996), Doh (2010) and Hamel (2011) who established that international collaboration is associated with high competitive advantage among firms. Dyer et al., (2011) and Nyangweso (2013) established that international networks are associated with new changes in operations of global firms which in turn impacting customer service.

The study fully supported the theoretical foundations associated with business network theory as well as learning organization theory and the Michael Porter theory of competitive advantage. This is because the study confirmed that business networks is one of the major ways that companies use to promote collaborative relationships and this is important in promoting sustainable competitive advantage among companies ((Robinson, Savage & Campbell, 2013). The respondents also noted that the forming new network and international collaboration allowed the company to gain new knowledge and improve its competitive advantage. This led to creation of new services and the development of e unique, rare and high-quality services and products. This is in support of the Learning organization theory and the Michael Porter theory of competitive advantage. From the analysis, it can be argued that the adoption of continuous training and learning organization view allowed the company to create team work, new ways of solving problems and increase creativity and this made it possible and easier to manage various changes in the organization. Using low cost leadership strategies, focus plans and differentiation models as indicated by Michael Porter theory of competitive advantage, the company was able to increase its performance and competitive edge over its rivals (Porter, 1985). This was done

based on resource availability and in collaboration with other organizations and it can be concluded that the study findings supported the theoretical foundations in the study.

## **CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS**

### **5.1 Introduction**

This chapter contains the summary and conclusion of the present study. It further provides recommendations for the bank, future studies, policy makers, and theory. The chapter then shifts to the limitations of the study and future research efforts that will focus on the subject of the present study.

### **5.2 Summary of the Study Findings**

The present study sought to investigate the relationship between international collaboration strategies and competitive advantage of Geothermal Development Company, Kenya. The study was motivated by the lack of previous research efforts to explore the relationship between international collaboration efforts and competitive advantage in companies operating in the local energy industry. While the value of international collaboration in advancing the competitive advantage of various companies has been widely explored, few research efforts on the subject have targeted the local energy sector. This is the gap that the present study sought to fill. Case study design approach was employed to conduct the study. Geothermal Development Company formed the case of the study. In this case, data was gathered about the company's international collaborative activities and the impact that such activities have had on the company's competitive advantage.

The study relied on both primary and secondary data. The secondary data were obtained from articles, books, newspapers, and online journals. On the other hand, primary data were obtained from respondents who worked as managers in Geothermal Development

Company at the time of the study. Face-to-face interview method was used to collect data from the respondents. The method was deemed effective because it allows the interviewer to gather both verbal and non-verbal cues. Qualitative data analysis method was employed. In this case, content matter analysis formed the basis of the qualitative data analysis with intention of determining the major themes that emerged from the data collection exercise. Responses with common themes were grouped together. The study found that the following international collaboration strategies are used by Geothermal Development Company, Kenya: joint marketing, informal networking, joint production, and joint research and development. The study also established that collaboration strategies such as technology licensing, joint promotion, mergers and acquisitions, joint selling, and franchising are not employed by the company.

The study found that the various international collaboration strategies used by the company have resulted in improvement in the competitive advantage of the company in various ways. First, the collaboration strategies employed have significantly improved the company's market share and value. The study further finds that the international collaboration strategies employed by the company have resulted in continuous innovations. The company's brand image has also improved following the employment of various international collaboration strategies. The positioning strategy of the company was also improved following its employment of various international collaboration strategies. The company also realized improvement in cost of production following employment of international collaboration strategies. This has made the company become a low-cost leadership company in the local energy industry. One the downside, the international collaboration strategies employed by the company has not impacted its product and service

differentiation efforts. Besides, the quality of products and services of the company have not been impacted by the international collaboration strategies it has adopted.

### **5.3 Conclusion**

In conclusion, this study finds that Geothermal Development Company, Kenya, employs various international collaboration strategies to wade through the competitive global energy industry. In particular, the company used joint marketing, informal networking, joint production, and joint research and development as the main collaboration strategies for enhancing its competitive advantage. The study also established those various aspects of the company's competitive advantage have improved since the adoption of these international collaboration strategies. However, some aspects of the company's competitive advantage have not been impacted by these collaboration strategies.

### **5.4 Recommendations for the Study**

The findings of the present study show that international collaboration strategies bear a positive impact on various aspects of competitive advantage. In particular, such strategies improve a company's market share and brand image. These findings are consistent with the findings of some previous research efforts. For instance, the study by Vanath and Swamynathan (2014) on the impact of supply chain collaboration on competitive advantage of partners in the Indian textile industry shows that companies that collaborate on supply chain activities stand high chances of realizing improved competitive advantage. However, the present study relies on the perception of employees of the case company to explore the impact of international collaboration strategies on competitive advantage of the company. This fact undermines the objectivity of the study since it does not deal with the

possible bias of the respondents. Future studies should employ better data collection strategies.

#### **5.4.2 Recommendations to Policy Makers**

The findings of the present study should be used by policy makers as the basis for exploring the impact that international collaboration can have on the local industries. In particular, policy makers should make efforts to provide environment that encourages local companies to collaborate with international partners to gain competitive advantage and expand their productivity. This approach can have a significant impact on the local economy.

#### **5.4.3 Recommendations for Theory**

This study shows that international collaboration only impacts some aspects of competitive advantage in the energy sector. However, other aspects are not impacted by these strategies. Future research efforts should investigate the possible mediating factors in the relationship between various collaboration strategies and specific aspects of competitive advantage. There is also a need to conduct similar research in industries other than the energy industry to explore the possible differences that may exist in various industries.

#### **5.5 Limitations of the Study**

While many efforts were made to improve the validity and reliability of the present study, the study exhibits various limitations. First, the use of case study design makes it difficult to apply the findings of the study to the general population of companies in the energy sector. However, case study was deemed appropriate for the study since the methodology was established to be effective as a means of gathering detailed and comprehensive data

on the subject. The study was also prone to bias since it involved participants who happened to be managers in the case company, Geothermal Development Company.

### **5.6 Suggestions for Further Research**

Future studies should also employ designs that can result in findings that are more representative of organizations in the energy industry since case study designs do not adequately represent the companies working in the energy sector. Future studies should also employ designs that allow the involvement of larger population target and sample size.

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## **APPENDICES**

### **Appendix I: Interview Guide**

The topic of this study is on International Collaboration Strategies and the Competitive Advantage of Geothermal Development Company, Kenya.

Kindly provide answers on the above questions from the best of your understanding.

#### **SECTION A: Background Information**

1. How long have you worked with your company?
2. Which department are you currently working in?
3. What is your role in the Company?
4. Are you involved in the International Collaboration Strategy activities in the organization?

#### **SECTION B: International Collaboration Strategies**

5. Is your company engaged in International Collaboration Strategies?
6. What International Collaboration Strategies has your company adopted?
7. Has your company adopted joint marketing strategies to promote their competitive advantage?
8. Has your company adopted joint selling/distribution strategies to promote their competitive advantage?
9. Has your company adopted joint production strategies to promote their competitive advantage?

10. Has your company adopted design collaboration strategies to promote their competitive advantage?
11. Has your company adopted technology licensing strategies to promote their competitive advantage?
12. Has your company adopted sharing and promotion strategies to promote their competitive advantage?
13. Has your company adopted research and development contracts strategies to promote their competitive advantage?
14. Has your company adopted informal networking strategies to promote their competitive advantage?
15. Has your company adopted franchising contracts strategies to promote their competitive advantage?
16. Has your company adopted mergers and acquisition strategies to promote their competitive advantage?

**SECTION C: Competitive Advantage the Company**

17. How has the adoption of International Collaboration Strategies improved the competitive advantage of your company?
18. Has the adoption of International Collaboration Strategies improved the low- cost leadership in your firm?
19. Has the adoption of International Collaboration Strategies improved broad differentiation strategy in your firm?

20. Has the adoption of International Collaboration Strategies improved the low- cost leadership in your firm?
21. Has the adoption of International Collaboration Strategies led to the company enjoying best-cost provider plans in your firm?
22. Has the adoption of International Collaboration Strategies improved the cost focus strategy in your firm?
23. Has the adoption of International Collaboration Strategies improved the differentiation focus in your firm?
24. Has the adoption of International Collaboration Strategies improved the brand image and positioning strategy in your firm?
25. Has the adoption of International Collaboration Strategies improved the continual innovation strategy in your firm?
26. Has the adoption of International Collaboration Strategies improved the dynamic capabilities strategy in your firm?
27. Has the adoption of International Collaboration Strategies improved the delivery of unique, rare and high quality services and products to customers in your firm?
28. Has the adoption of International Collaboration Strategies attracted more number of customers, market share and value of your firm?
29. Suggest various International Collaboration Strategies that can be adopted to promote the competitive advantage of your firm

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