

**STRATEGY, TECHNOLOGY AND INNOVATION IN LOW COST HOUSING
BY ELSEK AND ELSEK (KENYA) LIMITED**

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DECLARATION

I declare that this research project is my original work and has not been submitted for a degree in any other University.

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

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DEDICATION

I dedicate this research project to my loving husband Dominic Muoki Muange whose inspiration, moral and financial support enabled me to complete this course. To my cheerful sons Mark Reagan M. Muoki and Jerome Katu Muoki for enduring my long absence from home. To Tenya for taking care of my children as I went through the program. To my dear Mum Teresa Anyango and Dad Alpheous Okumu for instilling in me the virtue of humility, hard work and the value of education. Your love, care, patience, encouragement and support have made my dreams come true. May God bless you all.

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TABLE OF CONTENTS

DECLARATION	ii
DEDICATION	iii
ACKNOWLEDGEMENTS	iv
ABBREVIATIONS.....	vii
ABSTRACT.....	viii
CHAPTER ONE: INTRODUCTION.....	1
1.1 Background of the Study.....	1
1.1.1 Strategy, Technology and Innovation.....	2
1.1.2 Housing Sector in Kenya.....	5
1.1.3 Elsek and Elsek (Kenya) Limited.....	7
1.2 Research Problem.....	8
1.3 Research Objectives	10
1.4 Value of the Study.....	10
CHAPTER TWO: LITERATURE REVIEW.....	11
2.1 Introduction	11
2.2 Theoretical Foundation of the Study.....	11
2.2.1 Knowledge Based View Theory.....	11
2.2.2 Resource Based View Theory	12
2.2.3 Dynamic Capability Theory	12
2.3 Strategy, Technology and Innovation	13
2.4 Empirical Review	17
2.5 Summary of Literature Review	18
CHAPTER THREE: RESEARCH METHODOLOGY	19
3.1 Introduction	19
3.2 Research Design.....	19
3.2 Data collection.....	19
3.3 Data Analysis	20

CHAPTER FOUR: DATA ANALYSIS AND INTERPRETATION OF RESULTS	21
4.1 Introduction	21
4.2 Profile of Elsek & Elsek (K) Ltd.....	21
4.3 Relationship between Strategy, Technology and Innovation in Low Cost Housing by Elsek & Elsek (K) Ltd.....	27
4.3.1 Strategy in Low Cost Housing by Elsek & Elsek (K) Ltd.....	28
4.3.2 Technology in Low Cost Housing by Elsek & Elsek (K) Ltd.....	30
4.3.3 Innovation in Low Cost Housing by Elsek & Elsek (K) Ltd.....	32
4.3.4 Low Cost Housing in Elsek & Elsek (Kenya Ltd.....	33
4.4 Discussion of Findings	36
CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS..	38
5.1 Introduction	38
5.2 Summary of Findings	38
5.3 Conclusion.....	40
5.4 Recommendations	41
5.5 Limitations of the Study.....	43
5.6 Suggestions for Further Research	43
5.7 Implication on Policy and Practice.....	44
REFERENCES.....	45
APPENDICES.....	50
APPENDIX 1: Interview Guide.....	50
APPENDIX 3: List of Tables	55

ABBREVIATIONS

AFD	- Agence Francaise de Development
CNC	- Computer Numeric Control
EPS	- Expanded Polystyrene Styrofoam
GoK	- Government of Kenya
KENSUP	- Kenya Slum Upgrading Programme
KISIP	- Kenya Informal Settlements Improvement program
LTD	- Limited
NHC	- National Housing Corporation
PPR	-Projection Pursuit Regression
SIDA	- Swedish International Development Agency
UPVC	- Unplasticized Polyvinyl Chloride

ABSTRACT

Housing is one of the basic needs of human beings. People's lives are greatly affected by the availability and quality of the type of houses they dwell in. For ages, housing shortage has been one of the major challenges faced by many countries. This has led to players in the housing industry initiating alternative building technologies which they hope can help reduce the wide gap between demand and supply of housing stocks. However, despite these efforts, housing still remains a daily nightmare especially in the developing countries. Kenya is an example of one of the developing countries that has since independence struggled with the acute housing shortage for its growing population. Since today's environment is turbulent, it is important for firms to integrate strategy, technology and innovations so as to survive in the dynamic global environment. This study set out to establish the relationship strategy technology and innovation in low cost housing by Elsek & Elsek (Kenya) Ltd. To achieve this objective, both primary and secondary data were collected and analyzed using content analysis. Primary data was collected through structured interview guides whereby the researcher held a face-to-face interview with the Chief Executive Officer and senior managers of Elsek & Elsek (Kenya) Ltd. Secondary data on the other hand was collected from the company's catalogues, in-house publications, company website and internal reports. The study was necessitated by the increasing housing shortage in most countries hence the need to find out how the relationship between strategy, technology and innovation assists in offering low cost houses. The results indicated that there is a close link between strategy technology and innovation and that Elsek & Elsek (Kenya) Ltd responded to environmental changes by continually changing its technology and innovation so as to meet market demands. The major success of the company was as a result of investing heavily in internal resources which enabled it to efficiently and effectively execute its strategic plans. The study suggested that in order to reduce the gap between housing supply and demand, the investors in the housing sector should employ modern building technologies which are not only cheaper but offer faster delivery of housing stock to the increasing population.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

For a firm to be able to survive and prosper in this intrinsically “unfriendly” dynamic environment, they need to have strategic capabilities. Technology and innovation are for instance, some of the core capabilities of a firm which should be closely linked to strategy so as to survive in this turbulent environment. Ansoff and McDonnel (1990) posit that performance of a firm is optimized when firstly, aggressiveness of its strategic behavior matches the turbulence of the environment, secondly, when the responsiveness of capabilities of a firm matches the aggressiveness of its strategy, and thirdly, when all the components of a firm’s capability supports each other. A capability gap arises when a firm does not match its strategy to the internal capabilities. Similarly, a strategy gap is experienced when a firm does not match its strategy to the environment. Hitt et al, (1997) also further argue that when an organization employs a value creating strategy that is based on their own capabilities, unique resources and core competencies, they achieve a sustainable competitive advantage. These unique resources and capabilities are the vital links to strategic competitiveness.

Resource Based View theory suggests that a firm’s resources can provide a sustainable competitive advantage if those resources are valuable, rare, imperfectly inimitable, and non-substitutable (Barney, 1991). It means therefore that sustainable competitive advantage of a firm will be dependent on the firm’s unique internal resources. Proponents of Knowledge based theory also agree that knowledge based resources are hard to imitate, are socially complex, immovable and heterogeneous hence are major determinants of sustainable competitive advantage. Snyman and Kruger (2004) opine that knowledge-based strategies starts with strategy and not knowledge and that a company needs to have fundamentals in place so as make technology, innovation, corporate learning, and knowledge data base meaningful. Furthermore, firms need to ensure that their business strategies and knowledge programs are consistent with their corporate aspirations and that technologies, innovation, techniques, roles, skills, culture and other resources are aligned to support their business goals. Additionally, in their population

ecology theory, Hannan and Freeman (1977) talk about “survival for the fittest” where they posit that only those firms that are able to adapt to their environment will survive in a particular industry.

Housing, being a basic human need has been one of the major challenges being faced by many countries worldwide. Kenya is an example of one of the developing countries that has for long struggled with the acute housing shortage for its growing population. This is despite having various strategic plans to curb the situation. In the new constitution of Kenya 2010, the Government recognizes housing as a human right. Section 43 (1) (b) of the constitution for instance states that every person has a right to “accessible and adequate housing and reasonable standard of sanitation”. Similarly, according to Housing and Urbanization section of Kenya’s Vision 2030, the goal is to have “an adequately and decently housed nation in sustainable all inclusive environment” and one of the major concerns is to increase production of housing units from the current 35,000 to over 200,000 annually. This is for sure a clear indication that indeed, Kenya is one of the global countries facing a serious housing problem.

1.1.1 Strategy, Technology and Innovation

Formal strategic planning started in the 1950s in the United States of America (USA). Peter Drucker (1954) was mainly concerned about recognizing business of a company hence was the first scholar to address the concept of strategy and strategy formulation as a method to manage organizations. Having been given little interest, Chandler (1962) later on defined this concept of strategy clearly outlining its formulation methods. Ansoff (1965) and Andrew (1971) added more knowledge to Ansoff’s idea. This was a clear indication of the importance of business organizations adopting strategic planning at this time and has since been adopted by firms in the current century.

Strategy has been defined as the direction and scope of an organization over the long-term, which achieves advantage in a changing environment through its configurations of resources and competences with the aim of fulfilling stakeholder expectations (Ansoff and McDonnell, 1990; Johnson, Scholes and Whittington, 2008). It has also been defined by Mintzberg (1994) as a multi faceted element that encompasses 5 P’s namely: plan,

ploy, pattern, position and perspectives that are made in advance of the action to which it will apply. From the above definitions by different scholars, we can summarize by saying that strategy is a link between a firm and the external environment and that it provides coherence and direction to the decisions and actions of a firm. It guides organizations to superior performance through establishment of sustainable competitive advantage.

Ansoff and McDonnell (1990) states that during turbulent times, strategic management is an important tool in organizations. It is a continuous process aimed at keeping an organization as a whole appropriately matched to its environment. According to Palm (2013) strategic business management is traditionally used to depict a clearly defined plan aimed at optimizing its capacity and that a distinct advantage of having a visibly articulated plan with a common direction for the company can only be achieved through a well-defined business strategy. Aosa (2011) for instance observed that both Kenyan and foreign firms in Kenya had adopted strategic management though the latter were on the lead in spreading and adopting this concept. It is therefore worth noting that without capability, strategy has no strength. Similarly, capability without strategy remains worthless. The ways in which companies create opportunities through exploitation of their capabilities can only be articulated through strategy which is an inherent function of the quality and quantity of firms' capability.

Different scholars, practitioners and business managers have varied views of how to conceptualize the terms technology and innovation and what dimensions and processes define them. This is because the two concepts are overlapping hence a major practical challenge. However, a number of definitions and conceptualizations are worth noting. Technology has been defined as a theoretical and practical knowledge, skills, and artifacts that can be used to develop products and services as well as their production and delivery system. It can be exemplified in materials, people, plant, equipments, tools, cognitive and physical processes (White and Bruton, 2007; Burgelman et al, 2009).

Technology started to be recognized by strategic management scholars in the 1980s as a very essential part of business definition and competition strategy. Porter, for instance

observed that technology strategy was the driving force behind his generic competitive strategies of cost leadership, differentiation and focus and that each of these generic strategies required a somewhat difficult technology strategy. Firms should understand the dynamics of the life cycle of the various technologies they use since integrating strategy and technology is itself a dynamic procedure. In reality, the technological innovation process will almost always be repetitious and simultaneous rather than unidirectional and sequential (Burgelman et al, 2009).

Innovation on the other hand has been defined by Tidd et al., (2001) as a method of turning opportunity into ideas and putting these into widely used practice. It is the introduction of new and improved products, services or processes into the market. According to White and Bruton (2007, p.21) innovation is the process whereby new and improved materials, processes, products and services are developed and transferred to an appropriate market or plant. Innovation reflect critical ways in which organizations respond to either technological or market challenges.

Innovation strategy is an advantage over competitor's gains by offering superior value either by lowering prices or justifying higher prices through provision of high-valued benefits and services (Thompson et al, 2007). Organizations can be on the competitive edge through adoption of innovation approaching it in its broadest sense, including both new technologies and new ways of doing things (Porter, 1990). Classifications of innovations into incremental and radical innovation are dependent on the level of achieved technological change (Christensen, 1992). Utter back (1994) posits that innovation is a very important factor in survival of organization. Sony Company which is in a high technology industry, for instance, is an example of organizations that survive in the challenging environment through continuous succession of new product innovation. Organization need therefore to continually adapt to environmental challenges through continuous innovation.

Innovation processes are part of technology management but because of having "newness", its management and development within businesses is unique (White and Bruton, 2007). Through innovation, organizations are able to achieve new markets, new

channels, new processes, new technology, new products and new services. Value creation in businesses can therefore best be achieved by integrating strategy, technology and innovation processes and firms that ignore these variables do so at a great potential risk.

1.1.2 Housing Sector in Kenya

The Kenya population growth rate as at 2012 stood at 4.2% per annum. Based on this growth and the rural to urban migration rate, the demand for houses has also increased tremendously. By the end of the year 2011, for instance, Kenya had a housing deficit backlog of 2,156,000 million house units. The Ministry of Housing estimated an additional shortfall of 85,000 units in the year 2012. According to year 2009 population census in Kenya, people who were living in slums were above 30% of the country's 38.6 million total population with an estimate of over 1 million out of a city population of 3.2 million having lived in Nairobi alone. Only 3% of the Nairobi city population lived in houses with permanent walls, water and electricity (Arvanitis, 2013).

Land policies, regulations and property titles have been the basis in Kenyan housing sector. The Kenya National Housing Policy which was formulated in the year 1966/67; for instance still remains as the national housing policy. Similarly, land and property regulations which were inherited from the British colonists involve a complicated tenure system framed in different Kenyan laws. Articles 60 to 68 provisions contained in the Kenya constitution 2010 regarding equal access to land has, however, brought some clarity to these regulations. Improvement in the property market requires a stable and transparent regulatory system. Development of the private sector in housing, especially the low and middle market segments requires a simple and relaxed land regulation (Arvanitis, 2013).

The housing sector in Kenya, despite its recognized significance, is characterized by countrywide worsening house conditions which are due to the acute housing shortage which manifests itself through overcrowding, proliferation of slums and informal settlements in urban areas and poor quality of housing fabric and lack of basic services in rural areas (GoK, 2004). The sector has also been characterized by rogue contractors and malpractices which have led to collapsing of many buildings.

As one of its strategies to reduce housing problems in Kenya, the Government of Kenya signed a Memorandum of Understanding (MoU) with UN-Habitat on 15th January 2003 to upgrade slums in Mavoko, Kisumu, Kibera, Kahawa-Soweto and Mombasa covering a long-term period of 2005-2020. This Kenya Slum Upgrading Programme (KENSUP) is being implemented by the Ministry of Housing and relevant local authorities in Kenya and complemented and supported by the UN-Habitat. KENSUP's aim is to have better livelihoods of at least 5.3 million people living in slums (1.6 million being households) countrywide. The entire program is estimated to require a financing of Kshs.884 billion (UN-HABITAT, 2008).

To complement KENSUP, the Government of Kenya has also partnered with World Bank, Swedish International Development Agency (SIDA) and Agence Francaise de Development (AFD) to develop another slum upgrading program called Kenya Informal Settlements Improvement Program (KISIP). This program covering the period 2011-2016 is aimed at covering 15 municipalities in Kenya namely; Nairobi, Naivasha, Nakuru, Nyeri, Thika, Kisumu, Kitui, Machakos, Malindi, Mombasa, Kakamega, Kericho, Garissa, Embu and Eldoret. It has been funded by World Bank (\$100 million), AFD (\$45 million), SIDA (\$10 million) and Government of Kenya (\$10 Million). Its goal is to "improve living conditions in informal settlements in selected municipalities in Kenya". (GoK, 2011). These are clear indications of Kenya's intentions to improve the housing sector.

The Government of Kenya and some private house developers have also come up with low cost housing initiatives through adoption of alternative building technologies. The NHC for instance has an initiative of constructing a total of 2,000 police units (50 units in each county) costing Ksh.1 billion using the prefabricated material (EPS) panels technology. Currently, it has successfully built 44 housing units at Ruai Police Station in a record of 6 months using the modern building technology (Wairimu, 2014). Additionally, the corporation has planned to construct another 30,000 low cost housing units in the current year 2014 using EPS technology so as to improve housing stocks in Kenya (<http://standardmedia.co.ke>). Elsek & Elsek (Kenya) Ltd, a private house

developer has also built several houses in Mombasa and Nairobi counties using the same EPS panels' technology. According to GoK, 2009, the Government of Kenya, through NHC confirmed that this same technology has already been tested, accepted and implemented in other countries like USA, Britain, Qatar, Mexico, Mozambique, Nigeria, among others.

Other low cost housing initiatives include the recently unveiled factory in Kitengela built using the Chinese Boleyn Magic Wall Panel, and Jamii Bora Makao Kisaju project in Kaputei, Kajiado County (Thuita, 2014; Nduire, 2012) among others. This is a clear indication that the Kenyan housing fraternity is now changing the rules of the game by adopting innovative building technology reducing both construction costs and period by huge margins.

1.1.3 Elsek and Elsek (Kenya) Limited

Elsek & Elsek (K) Ltd which was founded in the year 2001 in Istanbul, Turkey is a member of the Elsek & Elsek Group of companies. It is one of the leading companies in construction business; bringing world tested new idea of prefabricated building techniques using fibre cement and unwelded galvanized steel structure construction technology in East Africa. This company was created by its own capital (not foreign) targeting 100% domestic production through the support of Elsek Group of companies. Its factory is located in Miritini and has its headquarters in links road, Nyali - Mombasa County. The company has employed over 252 Kenyan citizens on permanent basis and another 100 casual Kenyan workers. Their staff is trained by international technicians on new international technologies so as to keep them abreast with new and emerging construction trends.

Some of its low cost houses built using the prefabricated material include the ongoing construction of 2, 3 and 4 bedroom units in Kikambala, Kilifi County, Mamba Village show house, Karen show house in Nairobi, Signon Freight company terminal building in Changamwe, among others. Recently the company signed a contract with The University of Nairobi to construct a number of units at the Kikuyu campus. It also made inroads in

Rwanda and signed a contract to construct Rwanda's premier Tourism University College. Similarly, it won a tender to put up the Spanish consulate in Southern Sudan.

The walls of Elsek & Elsek (K) Ltd house projects are built with Expanded Polystyrene Styrofoam (EPS) panels which are up to 9 mm bullet proof and 800 degrees Celsius fire proof. These panels are covered by special mixture of concrete which gives the construction termite proof and also high insulation against heat. The roofs are made up of a mixture of shingles and tarmac. All constructions are made up of the modulation of cool type walls. Their material is certified by both Turkish Standard Bureau & Kenya Bureau of Standards. The projects are approved by Ministry of Housing, Architectural Association of Kenya, Association of Consulting Engineers of Kenya, Municipal councils and Ministry of Works (<http://elsekconstruction.com>).

The gap between supply and demand of proper houses is one of the major challenges being experienced in many developing countries especially in urban centre. The new technology adopted by Elsek & Elsek (K) Ltd is therefore a very vital concept which can assist Kenya in bridging this gap and ensuring residential and commercial buildings are obtained at affordable prices hence spur economic growth.

1.2 Research Problem

Strategy, technology and innovation are concepts that are very important to all firms hence, must be jointly aligned to the external environment so as to ensure survival in the competitive world. Strategy being a function of a firm's internal capabilities provides coherence and direction to a firm's decisions and actions. On the other hand, technology and innovation are indispensable aspects of a firm's strategy execution. Technology, for instance is a basic business function which has become so dynamic such that organizations cannot afford to ignore it. It is an important moderator of the relationships between revenue and cost. Similarly, firms must learn to innovate and commercialize their innovations so as to succeed. "Innovate or die is one of the mantras of today's economy (Getz and Robinson, 2003). It is therefore worth noting that without capability, strategy has no strength. Similarly capability without strategy remains worthless.

Housing is one of the basic needs of human beings. People's lives are greatly affected by the availability and quality of the type of houses they dwell in. In Kenya, the demand for housing still far outstrips supply; hence to achieve adequate housing, both the Government and private sector must encourage citizens to accept alternative building technologies. Elsek & Elsek (Kenya) Ltd is an example of a private house developer who has introduced the EPS and steel modern building technology so as to offer low cost houses to the East African community. The Government of Kenya through National Housing Corporation also initiated the use of EPS modern building technology in Ruai police station in a bid to reduce the deplorable housing condition among its police workforce. It intends to use the same technology to build more low cost houses in Kenya. This is a clear indication that indeed, there is a housing stock shortage. Despite these efforts, housing problem still remains a daily nightmare to date. The housing sector in Kenya, for instance, are slow in adopting the new building technologies hence have not managed to tap the housing demand opportunities within the Kenyan environment.

The area of housing is vast and limited research has been carried out. More research therefore needs to be carried out if any meaningful steps are to be made in improving the housing sector. A study by Arvanitis (2013) observed that some of the major contributors to housing problems in Kenya were lack of adoption of new building technologies, wide gap in demand and supply, lack of access to finance, land property and land offsite trunk infrastructure and inability of real estate developers to deliver adequate housing units. Mayer (2011) undertook a study on Low income housing in Kampala, Uganda, and observed that majority of Kampala residents are dwelling in slum areas because both government and private house developers construct houses affordable only to the wealthy and well connected. Most of the studies done have mostly majored on low cost housing for the low income group, hence are social based. This study, therefore, sets out to look at low cost housing holistically looking at both the residential and commercial housing sectors. Similarly, little research has been done on strategy, technology and innovation in low cost housing. This research proposal therefore aims at filling this knowledge gap and seeks to answer the following question: What is the relationship between strategy, technology and innovation in low cost housing by Elsek and Elsek (Kenya) Limited?

1.3 Research Objectives

The objective of this study is to determine the relationship between strategy, technology and innovation in low cost housing by Elsek and Elsek (Kenya) Limited.

1.4 Value of the Study

The findings of this study will be of importance to other researchers and scholars in that it will be used as a source for further research that will add to the body of knowledge on strategy, technology and innovation in low cost housing.

This study will also be of great interest to the policy makers and regulators in that it will inform them of the importance of integrating strategy, technology and innovation towards their housing objectives. Additionally, the Donor agencies such as UN Habitat, World Bank, International Monetary Fund (IMF), among others can also apply this knowledge to direct funding to both the government and private developers who are embracing the new building technologies.

Currently, most people, especially in East Africa are biased towards the conventional brick and mortar type of houses as opposed to the new building technologies. This study therefore will be of great importance to Elsek and Elsek (Kenya) Limited in that the study findings will provide more information to the management team on how to deal with the challenges they are facing in implementing new housing technologies in its target market. Similarly, this study will be used to change the society's perspective on the modern technologies and educate them on the benefits and importance of embracing new housing technologies for a better world tomorrow.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter involved various theoretical foundations of the study, concepts, empirical evidences and conclusions regarding strategy, technology and innovation on low cost housing.

2.2 Theoretical Foundation of the Study

The theoretical foundation of the study covered theories which are closely related to strategic management namely; Knowledge based view theory, Resource based view theory and the Dynamic capability theory.

2.2.1 Knowledge Based View Theory

Today's business environment is characterized by shifting winds of change whereby the marketplace continues to experience an increased competition, technology and innovation. This has made organizations to realize that knowledge, which is resident in people, is their key asset. In this 21st century, the most important asset of a firm is its knowledge and knowledge workers. It means therefore that a companies' capability of exploiting its intangible assets has become more crucial than its capability of investing and managing its physical assets (Snyman and Kruger, 2004).

Organizations create knowledge through studies, knowledge structures, knowledge management and learning how to learn. Heterogeneous knowledge bases and capabilities among firms are the main determinants of sustainable competitive advantage and superior corporate performance.

A firm must strive to find a suitable "fit" between the firms' mission, goals and its knowledge management strategy so as to successfully exploit its knowledge assets. It means therefore that there should be a close link between strategy and objectives of knowledge management and those of the firm. It is important to note that knowledge drives strategy and strategy drives knowledge management. Furthermore, without a clearly articulated link between knowledge management and business strategy even the

world's best knowledge management system will zilch. It is therefore imperative for managers to align their business strategy to knowledge management strategy so as to ensure that knowledge management system is directed towards a long term sustainable competitive advantage (Snyman and Kruger, 2004).

2.2.2 Resource Based View Theory

Liang et al, (2010) states that one of the major theories in strategic management is Resource Based View theory. This theory is also closely linked with the core competencies concept of an organization (Peteraf, 1993) in that an organization's superior resource bundles in a particular area provide the basis for the improvement of the organization's competencies in that area into "core competencies".

Jugdev and Mathur (2013) avow that in the resource Based View theory, an organizations' intangible knowledge-based assets serve as a source of competitive advantage due to being culturally embedded, difficult to copy and unique to the firm. Hitt, Ireland and Hoskisson (1997) also affirm that strategic competitiveness is attained when an organization implements a value creating strategy that is grounded in their own internal capabilities, unique resources and core competencies.

2.2.3 Dynamic Capability Theory

Resource based view theory was further developed by Teece and Pisano (1994) proposing dynamic capability theory as the sub-set of the competences or capabilities which allow the firm to create new products, processes and respond to the changing market circumstances". Dynamic capability theory puts more highlights on the management capabilities and unique resources from functional areas like Research and development, process development, manufacturing, human resources and organizational learning.

Teece et al, (1997) states that the term "dynamic" means the capacity to renew competencies so as to achieve congruence with the changing environment. On the other hand, the term "capability" refers to the ability of an organization to adapt, integrate and reconfigure both internal and external organizational skills, resources and functional

competencies to match environmental changes requirements. Piccoli and Ives (2005) observe that two essential dynamic processes that lead to resource barriers are organization learning and asset stock accumulation.

Despite the strong application to the concepts of strategy, technology and innovation, Resource based view and dynamic capability theories have some limitations. One of such limitations is that it is not easy to know exactly which of the many resources (individually or collectively) within a company lead to effective performance. It would therefore be difficult to pinpoint a particular resource as being the sole contributor to the firm's effective performance. Leonard-Barton (1995); Teece and Pisano (1994) say that the tracing of the general processes on which capabilities are based is still in formative stages. Furthermore, Peteraf (1993) acknowledges that it is difficult to develop knowledge and replicate a study if one is not able to understand the specific activities that underlie a firm's capability. Lastly, even though firm's resources may have not changed form, the resources value might have changed over time becoming a core rigidity of the firm (Leonard-Barton, 1995).

2.3 Strategy, Technology and Innovation

The concept of strategy has been of great interest from both researchers and practitioners in the past decades. It has been described and defined in various ways. Grant (2000) simply says that "strategy is about winning". Chandler (1962) defines strategy as the determination of the basic goals and objectives of an organization, and the adoption of courses of action and the allocation of firm's resources necessary to carrying out the objectives. Similarly, it has been described as a systematic approach for management to position and relate an organization to its environment in a way that ensures continued success (Palm, 2013). On the other hand, Porter (1996) defines strategy as the creation of a unique and valuable position that involves different sets of activities. It means therefore that firms must make trade-offs in determining what to do and what not to do in performing activities differently from its competitors so as to achieve a unique position. The strategic managers' role therefore, is to scan and understand the environment so as to be able to align a firms' strategy to the environment.

The theoretical standpoint and approach to strategy has been defined as a classical approach. It is observed as a rational process of properly analyzed, deliberate choices aimed at maximizing the firm's benefits and profits over time. From this viewpoint, an organization's inner and outer environments can only be properly administered through efficient planning. The top management should therefore ensure that they formulate, authenticate, and implement these plans. This means therefore that the core of strategy is premeditated, hence for a firm to be able to maximize its profits, the top management should ensure that they analyze, plan, and implement a premeditated process (Palm, 2013).

For ages, the strategic planning process has been viewed as a rigid and bureaucratic activity whereby firms focus mainly on the financial control with no motivation to modify or develop. Partly as a result of this criticism, it has undergone a significant change since the 1980s. However, strategic planning is now less bureaucratic as firms are now emphasizing on implementation, innovation and participation from both employees and managers. Rather than being planned, strategic planning has also been criticized as being something that emerges within firms and also not being organic. To rationalize their choices, organizations need strategic planning since it is highly demanded by dominant professional groups and cultural norms (Palm, 2013).

Strategic management is a method through which an organization manages its relationship with the environment in which it operates. It consists of capability planning, strategic planning, and change management. It can also be said to be a systematic approach to a major and increasingly important responsibility of general management; to position and relate the firm to its environment in a way which will assure its continued success and make it secure from surprises (Ansoff and McDonell, 1990). Snyman and Kruger (2004) further states that strategic management is a process that is evolutionary and will distinctively be the most essential concern for many years to come.

Many firms have put more interest in strategy because they have realized that an organization's environment is characterized by progressive changeability, unpredictability, and discontinuity from the past hence they cannot afford to solely rely

on objectives alone which are not sufficient as decision rules for guiding the organization's strategic re-orientation as it adjusts to the ever-changing environment (Ansoff, 1988).

Technology can simply be defined as the transformation of inputs into outputs. Just like financial and human resources, technology is a resource that is pervasively important in firms (Burgelman et al, 2009). Technology affects competitive advantage of a firm if it has a major role in determining relative cost position or differentiation. This is because it is embodied in every value activity and is involved in achieving linkages among these activities (Porter, 1998). Competitive advantage and enhanced market position can only be achieved through a product that is environmentally improved (Van Hemel, 1998). For a high-tech organization to be successful in this dynamic environment, it needs to change from the past technology-driven product proliferation to strategies that control the rate of technological advances, segment markets according to distinctive customer needs, and design products to respond to those needs (Ansoff, 1987).

We are living in a “fast-changing knowledge-driven economy” hence both businesses and academies agree that innovation is one of the most essential concepts for survival. Innovation, just like technology, is another key driver to a firm's success. It has been defined as “the process of turning opportunity into new ideas and of putting them into widely used practice”. Furthermore, besides idea generation, the term innovation is also linked to the full variety of activities and processes involved in commercially exploiting ideas. It is also conceptualized as a non-linear process carried out in organizational networks (Plewa et al, 2012).

Johnson et al, (2008) further suggest that innovation involves the conversion of new knowledge into new products, processes or services and the putting of these new products, processes or services into use either through the marketplace or by other delivery processes. It consists of certain technical knowledge about how to do things better than the existing state of art.

Strategic innovation is the development of growth strategies, new product groups, services or business models that change the game and generate significant new value for customers and the business. Innovation becomes “strategic” when it is an intentional repeatable process that creates a significant difference in the value delivered to consumers, customers, partners and the corporation (Burgelman et al, 2009). Changes in technology, the economy and reactions from customers, suppliers, shareholders and competitors may exert pressure on a firm to innovate. Johnson et al, (2008) say that most companies have to constantly innovate so as to ensure survival and that innovation choices may entail matters such as being a first-mover into a particular industry or simply being a follower, and how much to listen to potential customers when developing new products and services.

Innovation is categorized into incremental (evolutionary) and radical (revolutionary) innovation. Incremental innovation is the alteration, modification, and improvement of already existing products and services, for instance, adding perfume to an already existing soap. Radical innovation on the other hand is revolutionary and entails introduction of a totally new product or service concept (Burgelman et al, 2009). Competitive positions of established companies are reinforced through incremental innovation. This is not true for radical innovation which destroys the usefulness of existing capabilities of an established firm (Burgelman,et al, 2009).

Firms are required to develop and exploit their capacity for innovation. It is important to note that in a high technology world, strategy often revolves around innovation activities of relatively low-level technical and business people (Burgelman, et al, 2009). For a technologically driven industry to remain competitive, it needs to constantly review its production techniques and improve them to become more innovative. Continuous breakthrough in technology-intensive industries has resulted in reduced process life cycles. This indicates that the study of innovation strategy related to technology development is important to support long-term development strategies (Chang, 2010).

2.4 Empirical Review

Several studies on low cost housing have been undertaken globally. Tesfaye (2007) in his study, “Problems and Prospects of Housing development in Ethiopia” concluded that there was a considerable gap between demand and supply of houses in Addis Ababa and that this was due to the escalating house prices which were beyond the reach of the majority residents in the country, including Addis Ababa. A study carried by Al-Homoud et al. (2009) found out that undersupply of housing stock in Jordan in the Middle East was due to lack of human resources and capacity building, lack of sales advertising by real estate owners, inaccessible appropriate building technology, social and cultural challenges, land ownership problems, financial constrains, and rigid Government policies.

In Kenya, Mitulla (1984) observed that the governments 1974/78 development squatter settlement upgrading policy in Migosi area, Kisumu did not solve the low income group housing problems since these upgraded houses ended up being occupied by politicians, civil servants and well off civilians who could afford the new rents. This squatter settlement upgrading policy therefore affected reduction on the housing stock among the targeted low income group who moved out of the outskirts of the town and set up new squatter settlement units.

A study carried out by Sirya (2010) found out that the year 2008 economic meltdown had overwhelming effects on providing affordable and decent housing and general economic performance in Kenya. He further concluded that significant challenges facing the housing sector in Kenya are multidisciplinary and could not be pegged singly on the economic meltdown.

Orege (2007) found out that transformation activities in the housing sector was occasioned by social reasons (expansion of household size), economic and demand driven reasons, physical and design related reasons and institutional causes (by-laws rigidity and corruption at the development control centers).

2.5 Summary of Literature Review

This chapter has presented the theoretical foundation and the concepts of the study. The theories covered better explain how a firm is able to obtain a sustainable competitive advantage through proper execution and utilization of its resources. Strategy provides direction to the firm hence it is very important for companies to allocate adequate resources which ensure successful implementation of its strategic plans. Furthermore, since superiority of a firm's strategy is dependent on the superiority of its internal capabilities, technology and innovation are some of the indispensable internal capabilities that a firm must integrate with strategy so as to succeed in this highly competitive world.

Housing has evidently been a major challenge in developing countries. Kenya is an example of a developing country that has since independence (year 1963) struggled with the wide gap between demand and supply of affordable housing for its ever increasing population. This growing population can be evidenced from the Kenya National Bureau of Statistics census report which indicates that Kenya's population in 1897 was 2.5 million and that a century later (year 2009); this population grew to 38.6 million. This has stagnated the economy for quite a long time and has been due to lack of seeking alternative construction methods which ensure decent house affordability.

The empirical literature regarding low cost housing is still minimal as far as the housing sector which is a key economic contributor is concerned. The fact that most studies done have mainly focused on low cost housing in the social sector and that no study has been done in Kenya regarding strategy, technology and innovation in low cost housing motivates the present research proposal. Hence, the present study seeks to fill this gap by looking at low cost housing from both social and commercial perspectives and also focusing on how organizations can integrate strategy, technology and innovation in low cost housing.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter covered a description of the research design, data collection instruments and data analysis tools.

3.2 Research Design

The research design for this study was a case study. Mugenda and Mugenda (2003) described a case study as an in-depth exploration of an individual, institution or Phenomena. It is a careful and complete examination of an institution social unit, family, cultural groups or the entire community (Kothari, 1990). Sirya (2010) and Kinuu et al., (2012) have for instance successfully adopted this type of research design.

This study was aimed at determining the relationship between strategy, technology and innovation in low cost housing by Elsek & Elsek (Kenya) Ltd hence a case study was deemed more appropriate to achieve this stated objective.

3.2 Data collection

This study involved both primary and secondary data collection methods. Primary data was collected by interviewing the Chief Executive Officer and senior managers of Elsek & Elsek (Kenya) Ltd. This is because they are directly involved in managing the company hence were in a better position to provide relevant information for this study. A structured interview guide which was mostly open-ended and a little bit closed was administered to the respondents personally on a face-to-face basis. It was used to help guide the in-depth interview and also to ensure that important data was not omitted. Open-ended questions allowed the respondents to express their views, thoughts, and emotions freely in their own words. It also allowed the researcher to carry out an in-depth probe.

Secondary data was collected from the company's internal reports, publications, internet and in-house catalogues. The secondary data assisted in looking at the company's sales trend, amount of money invested in technology and innovation, number and types of

houses built using the modern building technology and costs of various houses. Apart from time-saving, this method assisted in obtaining data more quickly and cheaply.

3.3 Data Analysis

Primary data collected which is qualitative in nature was analyzed through content analysis. The information obtained from the respondents was analyzed and evaluated in order to determine its accuracy, consistency, usefulness and credibility. Content analysis was used because it is a technique for making inferences by systematically and objectively identifying particular attributes of data and thereafter using the detailed information to relate trends, patterns and relationships. Nachmias and Nachmias (1996) argue that content analysis method is scientific since collected data can be developed and authenticated through systematic analysis. Additionally, it is mainly used to study existing information so as to determine factors that explain particular phenomena (Mugenda and Mugenda, 2003). This approach has been successfully applied by Kinuu et al, (2012).

Analysis of secondary data involved a summarized report of the sales trend, amount invested in technology and innovation and number and type of houses constructed using the modern building technology.

CHAPTER FOUR: DATA ANALYSIS AND INTERPRETATION OF RESULTS

4.1 Introduction

This chapter represents the analysis of both primary and secondary data collected so as to fulfill the research objective which was to determine the relationship between strategy, technology and innovation in low cost housing by Elsek and Elsek (Kenya) Ltd. The chapter covers the company profile, the relationship between strategy, technology and innovation in low cost housing by Elsek & Elsek (Kenya) Ltd, Strategy in low cost housing by Elsek & Elsek (Kenya) Ltd, Technology in low cost housing by Elsek & Elsek (Kenya) Ltd, Innovation in low cost housing by Elsek & Elsek (Kenya) Ltd, Low cost housing in Elsek & Elsek (Kenya) Ltd and finally, discussion of findings. The respondents in this study were the Chief Executive Officer and senior managers of Elsek & Elsek (Kenya) Ltd. This is because they were directly involved in managing the company hence were in a better position to provide relevant information for this study.

4.2 Profile of Elsek & Elsek (K) Ltd

Elsek & Elsek (K) Ltd was founded in the year 2001 in Istanbul, Turkey. It is a member of the Elsek & Elsek Group of companies which started its business with Artemis petroleum in Turkey in the year 1996. Apart from doing business in the petroleum sector, Elsek & Elsek Group of Companies has also been in the solar and wind energy technology, transportation, and construction sectors. Having faced investment challenges in countries in which it was operating in namely; United States of America, Germany, Angola, Atlantic Coast in Congo, and other parts of Africa, the Chief Executive Officer of Elsek & Elsek Group of Companies thought it necessary to start a low cost construction company focusing on the East African region hence the company named Elsek & Elsek (K) Ltd was established for this particular objective. This goal was driven by the fact that there were many low and medium income East African dwellers who never owned their own homes hence the urgency to provide them with low cost houses through modern building technology and innovation.

Elsek & Elsek (K) Ltd which is one of the leading companies in construction business in East Africa started its low cost construction business in the Coastal region of Kenya. At the beginning of its business, the company faced a major challenge of the African society not accepting its world tested new building prefabricated technology which involves the use of EPS panel and galvanized steel covered with a mixture of cement. In order to solve this problem, they had to build a show houses in Mamba Village located at links road in Nyali, Mombasa and another one in Karen, Nairobi County so that the society could view and approve. They also did intensive marketing for their new product in the market by convincing the society that the new technology was faster and more economical than the conventional building method. The construction of sample houses in Mamba village and Karen led to a gradual positive response from the society. Currently, many East African dwellers are accepting the new building technology and this has led to the growth of the company. Some of its low cost houses built which indicates that the African society is slowly accepting their new building technology and innovation include the 3,467 square meter Presbyterian University of East Africa phase 1 classrooms completed in the year 2011 within a period of 120 days, the ongoing PUEA phase 2 project, Siginon Freight terminal in changamwe completed within 90 days in the year 2011, Mulji Devraj office building completed within 20 days in the year 2011, a 75 square meter 2 bed roomed individual house built in Utange in the year 2011, Spanish Embassy built in Juba, South Sudan, the on-going flagship gated community projects in Kikambala, Kilifi and Aiden, Kisaju, Rwandan Tourism University in Kigali, Pentium petrol pump station in Changamwe, Nyali folding house, Rangi Africa show room in Nyali, Futures Group health kiosks in various counties in Kenya, Runda and Mbaraki police houses, Bakhressa godown, Rabai School and various individual residential houses in the East African region, among others.

Apart from the company's core business of producing and constructing low cost houses, it also produces its own materials for construction and has set up production lines for galvanized steel, EPS panels, acrylic sheet forming machinery, water based paint production, furniture production and paving stone production. The company has also ventured into other businesses such as handicraft activities, offering security services,

transport, clearing, owning a fast food franchise called Mc King and luxury a la carte restaurants, among others. The company has also imported 3 Dimension scanner and 4 axial router Computer Numeric Control machines and pipe extruders for making its own Projection Pursuit Regression and Unplasticized Polyvinyl Chloride pipes. It has also partnered with Tomorrow Homes Kenya Limited in offering assembly services such as electrical wiring, plumbing pipes, pay-pat and plastering walls, doors and windows, painting, fixing ceramic tiles and electrical and plumbing fittings. The company has 3 expatriates namely the CEO, the sales manager and the Project manager and over 252 local permanent employees and another 100 casuals. Their staff is trained by international technicians on new international technologies so as to keep them abreast with new and emerging construction trends.

Due to financial problems faced by many of its clients, the researcher noted that Elsek & Elsek (K) Ltd have thought it wise to partner with banks that can offer a financial support to its clients so as to enable them own houses at affordable rates. The interest rates charged by the financiers are also lower compared to other financial institutions.

The company which operates mainly in Kenya, Uganda, Sudan and Rwanda complies with all Government rules and regulation pertaining to the housing industry. Its projects are approved by Ministry of Housing, Architectural Association of Kenya, Association of Consulting Engineers of Kenya, Municipal councils and Ministry of Works.

According to the CEO, the mission of the company which is “to deliver exceptional construction services at fair and competitive prices and to establish long term working relations with their clients by exceeding their expatiations”, is guided by the company’s objective of offering affordable houses to the East African community. This is evidenced by the fact that the company has managed to build 309 community houses in Kikambala and another 480 units in Aiden Kisaju estate.

Figure 4.1 to 4.3 shows pictures of the projects built by Elsek & Elsek (K) Ltd using the prefabricated material technology which involves the use of EPS panel and galvanized steel covered with a mixture of cement.

Figure 4.1: A bedsitter located within Elsek & Elsek office compound in Links road, Nyali – Mombasa



Source: Elsek & Elsek (Kenya) Ltd, 2014

Figure 4.1 above shows one of the “**most affordable houses**” projects built by Elsek & Elsek (Kenya) Ltd using the prefabricated material technology. It is an 18 square meter bedsitter which was built within the compound of the company in July 2014 so as to enable customers to view and give their opinion about the house. This house which was built within a period of 3 days costs Ksh.200, 000. It has UPVC windows, foldable dining table, foldable bed, a kitchen counter, toilet, shower, tiled floor and a solar panel. Clients have two options of either requesting the company to supply them with a flat pack of such a house whereby the company only assembles the walls and the roof then the clients does the tiling, wiring, plumbing, painting and plastering by themselves, or to purchase an already fully constructed house. The designs are also customized according to customer taste and preference.

Figure 4.2: Kikambala Housing Estate located in Kilifi County



Source: Elsek & Elsek (Kenya) Ltd, 2014

Figure 4.2 depicts some of 309 low cost houses built in Kikambala, Kilifi County. The project which started in the year 2011 is currently 80% complete and consists of 2, 3 and 4 bed roomed houses. Some customers have started occupying the finished units. The 2 bed roomed house covers 67 square meters while the 3 bed roomed units both cover 134 square meters. These houses are built according to customer taste and preference and that is why a 3 bed roomed house can be converted into a 4 bed roomed house. It is said that the “early bird catches the worm”. This phrase is true for the prices of these housing units in that initially a finished 2 bed roomed house was going for Ksh. 2.5 million while both 3 and 4 bed roomed house were going for Ksh. 5 million. However, due to the escalating costs of steel and other construction related costs, the prices have risen, though with a very minimal margin. The company is striving to maintain its low cost housing concept by engaging in affordable financial agreements which enable it to purchase land cheaply and also investing in technology and innovation that enables it construct low cost houses.

The researcher noted that East African dwellers are able to afford such houses by simply paying a deposit depending on the desired unit and then paying the rest on a monthly basis as they continue staying in their owned houses. The company also has financial plans which are affordable to the common “mwananchi”.

Figure 4.3: Mamba Village show house located at Links road, Nyali in Mombasa



Source: Elsek & Elsek (K) Ltd, 2014

Figure 4.3 above shows Mamba village show house project which was built in the year 2011. It is located along links road in Nyali, Mombasa and was built as a result of many Kenyan community refusals to accept the new modern building technology which was introduced by Elsek & Elsek (K) Ltd. Most Kenyans were used to the traditional building technology of brick and mortar hence were finding it really difficult accepting a building technology that they had never tested before. By allowing the community, especially from the Coastal region to view this show house the society slowly started having faith in the prefabricated technology which involves the use of EPS panels and galvanized steel covered with a special mixture of cement. The company also built another show house in Karen Nairobi for those living in Nairobi and its environs so as to have a positive

perspective about the new modern technology. The show houses are still currently being viewed by the public and this has led to positive results towards the low cost housing concept.

The above figures 4.1 to 4.3 are evidences of how the company under study has achieved its goal of constructing low cost houses for the East African community. This has been due to studying the environment and aligning it to the company objectives.

4.3 Relationship between Strategy, Technology and Innovation in Low Cost Housing by Elsek & Elsek (K) Ltd

Ansoff and McDonnell (1990) posit that when a firm does not match its strategy to the internal capabilities, a capability gap arises. Similarly, a strategy gap is experienced when a firm does not match its strategy to the environment. It is therefore worth noting that without capability, strategy has no strength. Similarly capability without strategy remains worthless.

The study sought to find out the relationship between strategy, technology and innovation in low cost housing by Elsek and Elsek (Kenya) Limited. The respondents unanimously agreed that there is a close link between strategy, technology and innovation and that a firm cannot execute its strategies if it does not have adequate internal resources. For this reason, the company has invested over Ksh.400 million in the factory and machinery so as to be able to execute its strategies. Similarly, the company has invested in a Mercedes Axor 2540 truck, trailers and containers for its transport department. Furthermore, the respondents indicated that the company has managed to enter into desirable financial agreements with Kenya Commercial Bank and this has enabled them to purchase 40 acres of land in Kisumu valued at Ksh.100 million and another 20 acres of land in Kitengela valued at Ksh.84 million. Additionally, it has employed qualified and competent electrical engineers, architects, topographers, civil and mechanical engineers, departmental managers and other staff who perform well so as to meet both the market demands and the company's general objectives.

On the question of how often the company reviews its strategy, technology and innovation, the interviewees indicated that technology and innovation were reviewed whenever they realized that there was change in technology and innovation. This change therefore also affected their strategy hence it had also to be reviewed so to be aligned to the reviewed technology and innovation.

On the question of whether the relationship between strategy, technology and innovation has a positive effect on low cost housing, all the respondents were in accord that a link between strategy, technology and innovation in deed has a positive effect in low cost housing since it minimized challenges to developing the mortgage market whose main obstacles were affordability, funding, risk management and land market.

The researcher also found out that the company encourages staff development through constant trainings. The R &D team, for instance are sometimes flown out of the country to Turkey for special conference trainings by the company's experts on the emerging low cost housing technologies and innovation. This enables the company to stay abreast with the ever changing technology and innovations in the dynamic world. By continually availing adequate internal resources the company's strategies are well executed. Overall, the researcher found out that Elsek & Elsek (K) Ltd had obtained a sustainable competitive advantage by integrating strategy, technology and innovation in achieving their low cost housing objective.

4.3.1 Strategy in Low Cost Housing by Elsek & Elsek (K) Ltd

Strategy not only provides a link between an organization and the external environment but also guides organizations to superior performance through establishment of sustainable competitive advantage. The researcher therefore sought to find out if the company had any strategic plans and if so, the period that the strategic plans covered. The respondents unanimously agreed that in deed the company had strategic plans which covered a period of five years. However, due to the frequent changes in the housing industry market, these documented strategic plans are reviewed regularly so as to keep abreast with the external environment. The respondents further stated that the key highlights of the company's strategic plan were to have a low cost housing footprint in all

East African countries so as to meet their key objective of ensuring that the East African dwellers own their own homes affordably. The interviewees further stated that the strategic plans are aligned appropriately to the dynamic external environment so as to meet the market demands.

On the question of whether the company implemented the strategic plans, the respondents all agreed that the company implemented the laid down strategic plans. Some of the indications that the company was implementing its strategic plans were the fact that the company had already spread its wings in the entire East African region. The interviewees further stated that its strategic plan of constructing 309 housing units in Kikambala, Kilifi County and another 480 units in Aiden, Kisaju had already been successfully implemented by the year 2014 with 80% of the Kikambala houses and 22 houses in Aiden Kisaju housing estate having been successfully sold. The interviewees also indicated that the implementation of the strategic plan improved the company's general performance and enabled it to meet its objectives of constructing low cost houses hence allowing citizens to own their own homes comfortably.

The environment is dynamic; hence firms are required to closely link internal capabilities to its strategies so as to survive in the turbulent environment. The researcher found out that some of the measures taken to successfully implement the strategic plans were hiring of professional staff to undertake the daily activities of the company, training staff on the latest technology and innovation, providing employees with adequate and appropriate resources, regularly reviewing the strategic plans so as to constantly align them to the external environment, learning how to learn, among others. The researcher also noted that the company encourages staff development through constant trainings. The R &D team, for instance are sometimes flown out of the country to Turkey for special conference trainings by the company's experts on the emerging low cost housing technologies and innovation. This enables the company to properly execute its strategy and to be abreast with the ever changing technology and innovations in the dynamic world. The researcher also found out that the measures taken by Elsek & Elsek (K) Ltd in implementing its strategic plans was not only consistent with the objective of the study

which is to determine the relationship between strategy, technology and innovation in low cost housing by Elsek & Elsek (K) Ltd, but also with the strategic management theories applied in the study namely; Knowledge Based View theory, Resource Based View and Dynamic Capability theory.

On the question of how the implementation of the strategic plan affected their business, the respondents said that internal resources were required to implement their strategies hence it meant that the company had to invest heavily in acquiring adequate internal resources which would enable it improve its performance and also align its objectives to the external environment. For this reason, the respondents indicated that the company had invested Ksh.400 million in technology and innovation and another undisclosed amount in staff hiring and trainings. In addition, the interviewees said that though the implementation of the strategic plans increased their costs of operations, the results were not only worthwhile in the long run but also appropriately aligned to their objectives.

The researcher also found out that in Elsek & Elsek (Kenya) Ltd, ideas pertaining to strategy, technology and innovation are created solely by the Chief Executive Officer who then discusses such ideas with the Research and Development team. However, during the meetings with the CEO, the team is also allowed to give their personal opinions about the CEO's ideas and also to generate more ideas which can be worthwhile to the company. Similarly, the company practices a top down type of management style where strategies are also initiated by the CEO and implemented by the middle level and lower level managers.

4.3.2 Technology in Low Cost Housing by Elsek & Elsek (K) Ltd

Technology is one of the essential elements of strategy execution. Van Hemel, 1998 for instance observed that competitive advantage and enhanced market position can only be achieved through a product that is environmentally improved. For this reason, the researcher sought to find out the type of technology employed by Elsek & Elsek (K) Ltd toward its low cost housing concept. The respondents indicated that they use prefabricated technology which involved the use of Expanded Polystyrene Styrofoam (EPS) panels and Galvanized steel whereby all the walls of the housing units they

construct are built using the EPS panels and galvanized steel then covered with a special mixture of cement. They further stated that this special mixture of cement that covered the EPS panels and galvanizes steel ensured that the walls are guided against fire, bullet, and termites and are generally environment friendly. The respondents also said that the roofs of the houses they construct are made up of a mixture of shingles and tarmac which were similarly environment friendly.

The researcher also sought to find out how often the company reviewed their technology of which the interviewees said that they regularly review their technology so as to be on top of the game. They gave an example of how the company recently invested in an automated Mc studio technology which enables it to design its houses in the most desirable manner. Similarly, the respondents intimated that due to their technology the company has thought it necessary to produce its own locally made materials for low cost construction by setting up their own production lines for EPS panels, galvanized steel, water based paint, furniture, acrylic sheets and paving stones. The respondents further indicated that the company has imported a 3 Dimension scanner, a 4 axial router CNC machine and pipe extruders for making their own PPR and PVC pipes. They further indicated that their newly acquired technology has enabled the company to meet the current customer tastes and preference hence improved market growth.

On the question of how the company's technology differed from others, the respondents indicated that their technology differed from other construction technologies in that it ensured faster customer delivery since they constructed houses in the shortest period possible hence this translates to affordability. The respondents gave an example of how their prefabricated technology enables them construct a 4 bed roomed house measuring 134 square meters in only 20 days. This faster delivery, they said, is what translates to lower construction costs hence affordability to their customers. The researcher further sought to investigate the benefits accrued from the application of the modern building technology in low cost housing of which the respondents noted that by use of the new modern technology they were able to not only deliver houses to their customers in a

shorter period compared to the conventional building methods but also that the houses were environmental friendly.

The researcher posed a question on the percentage by which the technology used by Elsek & Elsek (K) Ltd reduced construction costs of which the respondents said that their technology reduced construction costs by approximately 30%.

Since most East African dwellers are biased towards the traditional brick and mortar method the researcher was interested in knowing how the company convinced their customers to accept their new modern building technology of which the respondents said that initially when the modern building technology was introduced into the East African market by the company; most people were hesitant to embracing it. However after continued information about the benefits of the technology through marketing and also building of show houses in Mamba Village and Karen which are located in Mombasa and Nairobi respectively most customers have gradually accepted the modern technology. Also information about the benefits of the houses is passed through friends, business owners and family members who have already bought and tested the houses. The respondents also said that the company convinced the East African community into accepting the new building technology by informing them that the same alternative building technology had been successfully tested and applied in countries such as United States of America, Malaysia, Brazil, among others. The researcher also sought to establish how much the company has invested in technology of which it was found out that the company has invested over Kshs.400 million in technology alone. This is a clear indication that, indeed, the company is providing enough resources for its strategy execution.

4.3.3 Innovation in Low Cost Housing by Elsek & Elsek (K) Ltd

Just like technology, innovation is another internal resource that is very important to a firm's success. Since it consists of certain technical knowledge about how to do things better than the existing state of art, it is a vital element that helps organizations in executing their strategies. Firms must learn to innovate and commercialize their innovations. For this reason, the researcher found out that Elsek & elsek (K) Ltd had put

a lot of effort in continually reviewing its innovation by acquiring state of the art machines and software programs for its productions and constructions. The recent purchase of the MC studio machine for instance has enabled the company to commercially exploit its new ideas hence meeting the East African current market demands which has eventually led to proper execution of its strategy and objectives. The researcher also further found out that in order for the company to align its objectives to the external environment, it employed a World class construction arrangement to encourage innovation.

The researcher sought to find out if the employees of Elsek & Elsek (K) Ltd are encouraged to be innovative of which the interviewees said although most of the innovative ideas came from the Chief Executive Officer, employees were also encouraged to be innovative by encouraging them to have conference engagements with their expertise in Turkey on new innovation and technologies and that during such conference meetings the employees are allowed to freely discuss their ideas. Knowledge obtained from trainings, conferences and meetings are then shared with fellow staff. The researcher further noted that the company strives to learn how to learn. The data findings also showed that the company develops a workable implementation plan for staff who is engaged with clients. Furthermore, innovative staff was rewarded handsomely on an annual basis with some cash and the company had plans of rewarding innovative staff with a one bed roomed house in each county in Kenya.

4.3.4 Low Cost Housing in Elsek & Elsek (Kenya Ltd).

Porters 3 generic strategies recognize cost leadership as one of the generic strategies through which a company can obtain a sustainable competitive advantage. The company under study, Elsek & Elsek (Kenya) Ltd thought it necessary to adopt this strategy which has seen it tap many low and middle income opportunities not only in Kenya but also in the East and central Africa region. This has been achieved through adoption of state of the art technology and innovation which are linked to the company's strategy so as to compete in the housing market.

The study sought to investigate how the respondents defined low cost housing. The managers were therefore asked to define low cost housing in their own words. Most of them defined low cost housing as the ability to offer affordable houses to every citizen. The Chief Executive Officer for instance had observed that the middle and lower class income earners was constantly increasing in developing countries hence there was need to offer affordable houses to these groups so that they could have their own permanent homes which would give them the monthly rent nightmare a peace of mind.

On the question of what motivated the company into coming up with low cost housing concept, the respondents said that there was growing gap between supply and demand especially in the developing countries hence they saw this as an opportunity for coming up with a new concept which would reduce construction costs due to its faster delivery hence reduce the housing shortage problem. The company had for instance introduced a new product called “**most affordable houses**” with a bedsitter fully fitted with a foldable bed, kitchen and dining table costing only Ksh.200, 000. These houses are affordable because production of materials is done in Kenya 100%. This means that with such an amount, a person is able to own his own house on permanent basis very peacefully.

On the question of how the company is assisting the government in reducing housing problems, the respondents intimated that they constantly advises the Government agencies on the need to embrace the new modern building technology. Also their two flagship affordable housing projects in Kikambala and Kisaju are clear indications that they are assisting the Government in alleviating the acute housing problem.

On the question of what was the company’s market share in the housing industry, most respondents were not able to give a particular percentage given the fact that their concept was still new in the country and that they had not spotted a particular competitor whom they would compare themselves directly with.

To the question on strategy, innovation and technology employed by the company in low cost housing, the respondents indicated that the company’s strategy employed in low cost construction is to control construction costs and total expenditure within the limited

economic reach of the intended targeted group. On the other hand, technology employed involves production of prefabricated technology involving the use of EPS panels and galvanized steel covered with special mixture of concrete. To enable it execute its technology, it has also invested in special architectural programs which enables it to draw house designs, calculate steel and beautify the finished house units.

On who were the main competitors of the company, the respondents reiterated that they had no known competitors who had similar or close to their building technology and that they believed in doing what they do at its best hence for now, they did not have any close competitor. They indicated that the company did not believe in imitations, but rather in applying the right resources for their strategy execution which they believed was a better way of being on top of the game.

The study proceeded to determine the greatest challenges in the housing business. All the respondents unanimously agreed the company was faced with challenges such as skyrocketing costs of steel which was imported hence high custom duty costs, land constraints, risk management problems, shortages of skilled workers, low standards in the sector and financial constraints. The study also found out that the company had many opportunities globally in the housing business and that it was just a matter of employing the right strategies, technology and innovation.

To the question on whether there were any low cost construction projects underway, the respondents intimated that there were projects such as the on-going Aiden Kisaju Estate which is located 21 km from Athi River junction off Nairobi-Mombasa road and 41 km from the Nairobi town centre. This project will consist of 480 units of two and three bed roomed houses respectively. A three bed roomed house is going for Kshs.4 million with deposits as low as Ksh.300, 000 which is payable in three installments and the rest is payable while living in the house. A two bed roomed house on the other hand is Ksh.2.5 million with a deposit as low as Ksh.250, 000 and the rest is payable in monthly installments just same as you could be paying rent. Facilities in Kisaju gated community estate includes dispensaries, playground for children, shopping mall, restaurants, kindergarten and a commercial complex with a three parking space for every house.

Every house is also surrounded with a beautiful garden. The company's first flagship project is the Kikambala gated community affordable houses which commenced in the year 2011 and will be completed this year. This project consists of 309 housing units with facilities being similar to those of Kisaju Aiden estate. Other ongoing projects included the Nyali cottages, School dormitories in Eldoret, Mariakani Cottage Hospital, a 309 square meters house for one of the senators in Kenya, Kaluworks show house, Junda dispensary house, two and three bedroomed houses in Uganda, among others.

The researcher found out that Elsek & Elsek (K) Ltd has shown that in deed integration of strategy, technology and innovation has assisted it in meeting its low cost housing objective in that apart from investing in technology, innovation and qualified staff, it regularly reviews its technology and innovation so as to align them to the external environment. This allows them to keep abreast with the ever changing customer demands and preferences. The company also maintains its low cost housing objective by partnering with financiers who enable them acquire land at the most affordable rates possible. They have for instance acquired 40, 20, and 10 acres of land in Kisaju, Kitengela, and Rongai by obtaining affordable rates from financiers. These acres of land will enable them construct 284 low cost houses in Kitengela and another 188 low cost houses in Rongai. The Aiden, Kisaju estate low cost houses were ongoing.

4.4 Discussion of Findings

Housing shortage has been a major challenge especially in many developing countries. Due to this problem, many scholars have carried out studies on this area so as to find out the major reasons for the problem and come up with recommendations. Some of the studies done in low cost housing include that done in Ethiopia by Tesfaye (2007) who concluded that there was a considerable gap between demand and supply of houses in Addis Ababa and that this was due to the escalating house prices which were beyond the reach of the majority residents in the country. A study carried by Al-Homoud et al. (2009) found out that undersupply of housing stock in Jordan in the Middle East was due to lack of human resources and capacity building, lack of sales advertising by real estate owners, inaccessible appropriate building technology, social and cultural challenges, land

ownership problems, financial constraints, and rigid Government policies. In Kenya studies done by Mitulla (1984), Sirya (2010), Arvanitis (2013) and Orege (2007) found out that there was a wide gap between demand and supply of housing stock and that the low and middle income earners were mainly affected by the housing shortage problem.

The researcher found out that the main reason as to why Elsek & Elsek (K) Ltd thought it wise to start up low cost housing projects in the East African region is because they realized that there was a wide gap between housing demand and supply in Africa and that most Africans, especially the low and middle income earners did not own their own homes. This, they say, greatly affected personal lives of the African society. They saw this gap as a market opportunity hence had to explore it by constructing low cost houses for the East African community using the new modern technology. This is evidenced by the various finished projects such as the Kikambala and Aiden gated community low cost flagship projects, building of portable dispensaries and kiosks, schools, among others. The company has put in place low cost housing strategies which are well executed through hiring of professional and innovative staff, investing over Ksh.400 million in technology and innovation, regularly reviewing its technology and innovation so as to align its objectives to the ever changing environment, undertaking intensive research and development, partnering with financiers so as to ensure clients own their own homes in the most affordable means, among others. The company has also thought it necessary to outsource some construction activities from Tomorrow Homes Company so as to assist it in meeting the current escalating demands from the East African society who have now accepted the new building technology. The companies' integration of strategy, technology and innovation in low cost housing is therefore consistent with the main objective of this research which was to determine the relationship between strategy, technology and innovation in low cost housing by Elsek & elsek (K) Ltd.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This is the final chapter for this study which is the summary of the findings, conclusions, limitations and recommendations for further studies which is based on the objectives of the study.

5.2 Summary of Findings

As outlined in chapter one, the main objective of the study was to determine the relationship between strategy, technology and innovation in low cost housing by Elsek and Elsek Kenya Limited. As one of the companies offering low cost houses in the housing industry, it has successfully constructed various types of low cost houses namely; factories, residential houses, kiosks, dispensaries, colleges, schools, go downs, among others.

Even though it was noted that the company have initiated very impressive technologies and innovation strategies in the East African market, the same was not true for the global market. It was also observed that the company is slow in investing in Tanzania. This limited its market expansion opportunities in the global world.

The findings of the study concurred with the general agreement that a company can only be able to execute its strategies if it employs the right internal resources, which in this case is technology and innovation. This can be evidenced from the amount of money they have invested in technology and innovation and also on how they have managed to employ qualified staff to handle the internal operations of the firm.

It was noted that some of the major challenges being faced by the company in its low cost house construction is risk management, high cost of imported steel, land constraints, shortages of skilled labour in the markets they operated in and financial constraints. This means therefore that they are sometimes forced to sell a house at a slightly higher cost than their target price.

Developing countries, especially the East African region are characterized by increased poverty, population, and rapid urbanization. Additionally, there is a wide gap between the rich and the poor which has led to low income earners not being able to live in decent houses. This has led to proliferation of slums in the urban areas hence has led to increased housing shortage. The pathetic living condition of the Kenyan police, for instance, is a clear indication that indeed, housing is one of the major challenges experienced by the Government. It is for this reason that it is necessary for both private firms and the Government to embrace the modern building technologies such as the one used by Elsek & Elsek (Kenya) Ltd so as to alleviate the ever increasing shortage of housing stock not only in Kenya but in developing countries. This will for instance enable a country like Kenya meet its Vision 2030 housing objectives.

The prefabricated technology initiated by Elsek & Elsek (Kenya) Ltd has ensured that the East African community get access to both residential and commercial houses which are not only affordable, but also environment friendly. The beauty about these modern houses is that they can be movable from one place to another. This will reduce the loss incurred by investors who build costly houses only to be mercilessly demolished during road constructions or land disagreements. The respondents also noted that the establishment of the company has led to many local job opportunities hence, helps spur economic growth in the country.

Elsek & Elsek (Kenya) Limited currently has got two major successful flagship projects in Kikambala and Aiden Kisaju. Apart from this, the company has a major goal of having footprints in all the 47 counties in Kenya and other neighboring countries.

The housing sector in Kenya is characterized by slums, poverty, low levels of home ownerships and inadequate decent and affordable houses. Despite the Government's plan to construct 200,000 annually, it is estimated that it can only develop 35,000 housing stocks annually. This is a clear indication that there is still a big opportunity for house developers in Kenya.

Since Kenya's independence, there has been an increasing gap between demand and supply of housing stock. This has led to house developers constructing houses which are only accessible to the elite class living larger low income earners with no opportunity to own decent and less affordable houses. Escalating land prices in the Nyali area, Mombasa for instance, has led to mushrooming of very expensive residential and commercial flats which can only be purchased or rented by the wealthy. The increasing demand for houses has also seen the housing sector to be invaded by rogue contractors who construct substandard houses that collapse even before its completion. This has led to death of many citizens. Corruption in the lands ministry has also led to poor land allocations which has led to demolition of very costly houses. Poor land policies has also led to land being acquired by the rich and mighty under very unclear and unsubstantiated circumstances. Land acquired in Mpeketoni, Lamu in the year 2012 under unclear procedures and the Karen land scandal for instance are examples of how the poor will continue living in poor house conditions as the wealthy and well connected politicians get away with huge chunks of land.

The study found out that in order to remain relevant in the dynamic environment, Elsek and Elsek (Kenya) Ltd continually review its technologies and innovations. They for instance recently purchased an Mc studio machine which is better than the initial machine they had previously. This has enabled them to meet the ever changing customer demands since they are now able to provide improved type of houses to its clientele.

5.3 Conclusion

From the research findings and answers to the questions, the following conclusions can be drawn about the study.

The housing shortage in Developing countries can be alleviated through adoption of the new modern building technologies such as that initiated by Elsek & Elsek (Kenya) Limited. Additionally, Governments need to partner with private house developers so as to assist them in meeting their annual housing stock objectives. Furthermore, it is also important for firms to invest in adequate internal resources such as technology and innovations so as to be able to successfully execute their strategies.

The housing industry is characterized by the ever changing technologies and innovation. This calls for companies in the housing sector to continually scan the environment so as to align its strategies to the external environment.

The study found out that the major challenge faced by the company under study was financial constraint, land constraints, shortages of skilled workers and high costs of imported steel. The findings also indicated that due to the increased demand for the low cost houses, Elsek & Elsek (Kenya) Ltd has found it necessary to outsource some activities to other firms so as to meet the housing demand.

The study also revealed that most customers are positively responding to the modern houses because of faster delivery and the major fact that they are environment friendly. It was also noted that the company obtained most of its clients through recommendations from clients who have already tested and accepted the low cost housing concept. The study also concluded that the relationship between strategy, technology and innovation is vital in obtaining a sustainable competitive advantage.

5.4 Recommendations

The study established that Elsek and Elsek (Kenya) Ltd practices a top down approach in its strategy, technology and innovations. This limited the lower level and middle level managers from initiating ideas. The researcher therefore recommends for a bottom up all inclusive approach so that the company can obtain more ideas, especially from the younger and innovative generation. This will also make staff have a sense of belonging to the company hence better implementation process will be envisioned.

The study also found out that the company under study concentrates only in the East African region, ignoring the other countries. The researchers therefore recommends that the company spreads its wings especially to the developing countries where housing is one of the major challenges. This will increase the company's market share in the global market.

Elsek & Elsek (Kenya) Ltd should also form partnership with various Governments in countries where they are operating so that they can assist the Government in alleviating

the housing problem hence spur economic growth. This will create more market opportunities for the company.

The researcher also recommends that the Government of Kenya should improve on its land tenure policy which despite improvements still seems to raise eyebrows about land ownership, Mpeketoni, Lamu case and the current Karen land scandal being a good examples.

In order to reduce housing shortage, the Government of Kenya through partnership with private house developers should continually carry out research on the best building technologies which can help solve the increasing housing problems. Innovative citizens in the housing sector should also be given some incentives which can motivate them. Recommendations by Non Governmental organizations like the UN HABITAT should be also taken seriously if we need to move forward.

With the current devolution in place, Kenyans should be encouraged to drift away from rural to urban migration but instead develop their rural areas with the assistance of the county Government funds. This will see many Kenyans gain access to decent houses not only in Cities, but also in rural areas hence will reduce the mushrooming urbanization. The study also recommends that with increased technology the housing developers should embrace new modern build technologies so as to improve economic growth.

Competition today is not only local but global. This is due to the dynamic environment. The study therefore recommends that Elsek & Elsek (Kenya) Ltd should desist from its comfort zone and market itself in the global market, especially in developing countries so as to tap other housing opportunities. This would, in deed increase its market share and help in reducing housing problems experienced mostly in the developing countries. They should also undertake public awareness campaigns probably through road shows in partnership with radio stations such as Royal media so as to create public awareness to the modern building technology.

5.5 Limitations of the Study

The researcher encountered some challenges, especially during data collection. Most respondents feared that the questions the researcher was asking during the interview guide were so confidential hence were at times a little bit reluctant hesitating to provide such vital information. This is because of fear that the secrets can be leaked to their upcoming competitors who want to imitate the companies' technology. The researcher handled this problem by showing them the introductory letter from the University and assuring them that the information they were providing will be handled with utmost confidentiality and that it was purely for academic purposes.

Also being an office that operates during official hours, the researcher would at times be kept waiting for long hours due to busy schedules of the respondents which was equally important for their performance achievements.

Also the study did not cover other companies that are also offering low cost houses, though applying different methods/technologies. This therefore limited the research to only one case study.

Since the researcher holds a full time paying job, time was a constraint during data collection which was to be carried out during official office hours. The researcher would at times wait for long to get a chance to interview the busy top level managers. However, the researcher tried to carry out the research within the required time frame.

5.6 Suggestions for Further Research

The researcher recommends further research to be carried out on the relationship between strategy, technology and innovation in low cost road construction in Kenya. This research would be beneficial to the Kenyan community since so many roads in Kenya are in poor state hence inability to gain access to important facilities like hospitals, dispensaries, schools, among others. Also since this study confined itself to only on one company, the researcher recommends that a further research be done on low cost housing incorporating all firms that are integrating strategy, technology and innovation in constructing low cost houses. This would provide broader research findings about the study.

5.7 Implication on Policy and Practice

The increasing population in the developing countries is an indication of housing opportunities for the housing sector. This therefore gives a challenge to policy makers to undertake Research and Development which will lead to improved housing conditions in such countries. Housing demand in Kenya, for instance is still very high and not fully tapped by the house investors

Land regulations and policies should also be eased to as to encourage investments. Kenya for instance should emulate the Rwandan market where the faster company registration process has enabled it to attract foreign investors especially in the housing business.

The policy makers should also come up with modern technologies which are environment friendly and which lead to conservation of the natural resources. The EPS and steel technology applied by Elsek & Elsek (Kenya) Ltd for instance does not use timber; hence, this leads to conservation of the forest.

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APPENDICES

APPENDIX 1: Interview Guide

1. Please indicate your functional designation and department.

(a) Designation _____ (b) Department _____

2. For how many years have you served in the company? _____

3 What is the core business of the company? _____

4. Which activities does the company outsource, if any? _____

5. What are the main objectives of the company? _____

6. How many employees does the company have currently?

(a) Local. _____

(b) Expatriates' _____

7. Does the company have any strategic plan? Yes/No. _____

If yes, please indicate the key highlights of the strategic plan and the period that the

Strategic plan covers. _____

8. Has your company implemented the strategic plan? _____

9. How has the implementation of the strategic plan affected your business?

10. How does your company define low cost housing concept? _____

11. How often do you change or review your strategy, technologies and innovation?

12. What motivated you into coming up with the low cost housing concept using the EPS technology? _____

13. How does your EPS low cost housing technology differ from others? _____

14. What would you say are the benefits derived from the use of the EPS building technology? _____

15. Please indicate the percentage (%) by which your modern technology reduces construction costs. _____

16. Most East African dwellers are biased towards the traditional brick and mortar method. How do you convince them to switch to the new modern technologies?

17. How has your East African clients responded to your modern technology housing concept since its commencement? _____

18. In which developing and developed countries have the EPS technology been successfully applied most? _____

19. What would you say is your current market share in the housing industry in Kenya?

20. Which type of clients are you targeting in East Africa? _____

21. Kenya has experienced acute housing shortage for quite a long time now, how do you intend to assist the government in alleviating this problem? _____

22. What type of buildings do you construct using the EPS technology? _____

23. Which type of strategy, technology and innovation do you employ in low cost constructions?

(a) Strategy employed. _____

(b) Technology employed. _____

(c) Innovation employed. _____

24. Do you believe that the relationship between strategy, technology and innovation has a positive effect on low cost housing? Yes/No. _____

If yes, please briefly state the effect _____

25. Who are your main competitors in low cost construction and what type of technologies do they employ? _____

26. What are your defense strategies against your competitors? _____

27. What would consider the greatest challenges in the housing business?

28. Would you say that there are opportunities available for your company in the housing industry globally? Yes/No _____

Please state such opportunities or non-opportunities _____

29. Are there any low cost construction projects underway? Kindly indicate. _____

30. Are employees in your company encouraged to be innovative? Yes/No _____

If your answer is yes, briefly indicate how you encourage employees to be innovative.

31. How do you deal with innovative staff? _____

Any other comment/remarks? _____

Thank you for your participation. God bless you.

APPENDIX 2: Letter of Introduction

25th July, 2014.

Elsek & Elsek (Kenya) Ltd
P.O Box
Mombasa

To Whom It May Concern,

Dear Sir/Madam,

RE: REQUEST FOR RESEARCH PROPOSAL DATA

I am a postgraduate student at The University of Nairobi, School of Business. I am conducting a research project in partial fulfillment of the degree of Master of Business Administration (MBA).

I kindly request for your assistance in completion of the attached interview guide whose main aim is to assist me in collecting data in relation to my topic of study, "Strategy, Technology and Innovation in Low Cost Housing by Elsek & Elsek (Kenya) Ltd". To achieve this, I hope to conduct face to face interviews with the top mgt and senior managers in your company so as to obtain the required data. The data and information provided by you will be used solely for this study and will be treated with utmost confidentiality. A copy of the research will be availed upon request.

Thank you.

Yours faithfully,

Eunice Adhiambo Okumu
MBA Student
University of Nairobi.

Dr.Jackson Maalu
Supervisor
University of Nairobi.

APPENDIX 3: List of Tables

The below is a list of projects undertaken by Elsek & Elsek (Kenya) Limited.

1	Signon Freight Forwarders terminal buildings in Changamwe
2	Presbyterian University of East Africa project in Kikuyu, Phase I & II
3	Spanish Embassy in Juba, Southern Sudan
4	Mulji Devraj office buildings
5	Police house at Mbaraki-Mombasa
6	Rabai School
7	22 Individual houses
8	23 Rwanda Tourism University in Kigali-Rwanda
9	75 sqm 2 bed roomed house inUtange
10	Pentium Gas Station petrol pump station
11	Mtwapa House
12	Bakhresa go down offices
13	Karen show house in Nairobi
14	Mamba Village show house in Nyali-Mombasa
15	Fast food kiosk in Nyali-Mombasa
16	Nyali Folding show house
17	Rangi Africa show room in Nyali-Mombasa
18	Jibe Moyo Schools in Bamburi-Mombasa
19	Godowns for Aima Enterprises in Kisaju
20	Mineco House for Mr. Mate
21	Bahari Beach Conference Hall
22	Aiden Kisaju Project (on-going)
23	Multi Shades offices in Nyali-Mombasa
24	Nyali Cottages (on-going)
25	Bamburi Mall (on-going)
26	309 Kikambala houses (on-going)
27	Eldoret Dormitories (on-going)

28	Futures Group Health Kiosk in Kapseret Eldoret
29	Futures Group Health Kiosk in Kibwareng Eldoret
30	Futures Group Health Kiosk in Sokoke Kilifi
31	Futures Group Health Kiosk in Chasimba Kilifi
32	Futures Group Health Kiosk in Aram Siaya
33	Futures Group Health Kiosk in Luanda Kotieno Siaya
34	Futures Group Health Kiosk in Chapalungu Narok
35	Futures Group Health Kiosk in Riosir Rongo
36	Futures Group Health Kiosk in Kachileba West Pokot
37	Futures Group Health Kiosk in Chepukorio Elgeyo Marakwet
38	Futures Group Health Kiosk in Tuwan Trans Nzoia (on-going)
39	Futures Group Health Kiosk in Mwitha Trans Nzoia (on-going)
40	Futures Group Health Kiosk in Ortum West Pokot (on-going)
41	Futures Group Health Kiosk in Tambuch Elgeyo Marakwet (on-going)
42	Futures Group Health Kiosk in Kamkunji Uasin Ngishu (on-going)
43	Futures Group Health Kiosk in Sogomo Uasin Ngishu (on-going)
44	Futures Group Health Kiosk in Marikebuni Kilifi (on-going)
45	Futures Group Health Kiosk in Ngatu Kajiado (on-going)
46	Futures Group Health Kiosk in Pala Homa Bay (on-going)
47	Futures Group Health Kiosk in Chamgiwadu Migori (on-going)
48	Futures Group Health Kiosk in Chepararia West Pokot (on-going)
49	Futures Group Health Kiosk in Kabichbich West Pokot (on-going)
50	Futures Group Health Kiosk in Tenges Baringo (on-going)
51	Futures Group Health Kiosk in Moi University Uasin Ngishu (on-going)
52	Futures Group Health Kiosk in Flax Elgeyo Marakwet (on-going)
53	Futures Group Health Kiosk in Shompole Kajiado (on-going)
54	Mariakani Cottage Hospital for Dr. Were at Kikambala (on-going)

55	Senator Mike Mbuvi Sonko 309sqm house (on-going)
56	Mr. Daniel Muigai 47sqm bungalow (on-going)
57	Mr. Martin Mutwiri Kirimi 47sqm bungalow (on-going)
58	Kaluworks Show House (under negotiations)
59	6nos police houses at Runda Police Station (on-going)
60	Ms. Florance Millicah Wambui Thairu 196sqm bungalow (on-going)
61	Ms. Truphena Kwayi Masitza 63sqm bungalow (on-going)
62	Mr. Benny 123.8sqm bungalow (on-going)
63	Mrs. Mary Rita 63sqm 3 bedroom bungalow (on-going)
64	Mr. Emaanuel Kisiangani 32sqm bungalow (on-going)
65	Ms. Lucy Ndambuki 60sqm bungalow (on-going)
66	Willpower Investments, Junda Dispensary House (on-going)
67	Ms. Fidilia Mutsoli (on-going)
68	126sqm Mtwapa House for Ms. Waingi (on-going)
69	123.8sqm Runda Police Houses 2 nos (on-going)
70	Uganda Houses 2 and 3 bedroom 2 nos each (on-going)
71	126sqm house for Ms. Agina in Kisumu 4 bedrooms (on-going)

Source: Elsek & Elsek (Kenya) Limited internal reports.