LOCATION DECISIONS BY FOOD MANUFACTURING FIRMS IN KENYA

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DECLARATION

This is my original work and has not been submitted for an award of a degree or any other award in any other university.

Signed……………………………….. **Date**…………………………

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

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DEDICATION

To my late Dad, Mzee Joseph Amimo-You taught me Patience, hard work, Integrity,

Love, Compassion and the values that are the guiding pillars of my Life.

ABSTRACT

This study sought to investigate location decisions by food manufacturing firms in Kenya. The objectives of the study comprised of: to establish the key location decision models that are used by food manufacturing firms in Kenya; to determine the factors that influence the location decisions by the food manufacturing firms in Kenya; and to establish the location model that is highly recommended by manufacturing firms in Kenya. Descriptive research design was used to achieve study objectives. The population of interest was all the 71 food manufacturing plants in Kenya. It comprised of any two top management employees (operation managers and managing directors) who make key decisions on firm location. The total number of these top employees is equal to 142. A sample of 40 was selected using simple random sampling method. Primary data was used. The data was collected using semi structured questionnaires. Descriptive statistics were used to analyze data. The study revealed that four key location factors namely roads, ease of doing business, stable social and political environment and reliability, quality of infrastructure and utilities are considered the most important in influencing decisions in locating a food manufacturing firm in Kenya. It was established that Cost-Profit-Volume Analysis is the most used model for locating food manufacturing firms in Kenya. The most recommended model was Cost-Profit-Volume Analysis. This study recommends that policy makers in the food manufacturing industry should use strategic factors such as roads, ease of doing business, stable social and political environment and reliability, quality of infrastructure and utilities in determining firm location decisions. In addition, manufacturing firms in Kenya should use Cost-Profit-Volume Analysis model for locating manufacturing plants. These two methods will enable them have an objective way of deciding where to locate their firms.

LIST OF ABBREVIATION

- GIS – Geographical Information System

- CPV-Cost-Profit-Volume Analysis

- FDI- Foreign Direct Investment

- USA – United States of America

- Ltd – Limited

- PWC – Price Waterhouse Coopers

- KRA - Kenya Revenue Authority

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CHAPTER ONE: INTRODUCTION

1.1 Background

Food manufacturing industry in Kenya is a very important sector. A key decision food manufacturing firms must make is the location of their firms. Firm location decisions are determined by both quantitative and qualitative factors. The importance of firm location has increased during the recent decade and has become value adding centers, meeting customer satisfaction and corporate profitability (Nightingale & Rhodes, 2007).

In general, for other industries, several surveys and analyzes have been conducted to determine why firms are located where they are (Bartik, 1985; Austin, 1992). Other studies use optimization models to prescribe plant-level location choices based on transportation costs, plant cost conditions and local prices etc. Such models distinguish essentially between three general types of plant location: a first plant or a relocation by a firm; a branch plant location due to the development of a distant market and a branch plant location selected after several new alternative markets have been considered, where at least one of the alternative markets has grown to significant size (Greenhut, 1960).

Firms make strategic decisions about location factors as well as their ownership advantages (Campa & Guillen, 1999). Where to locate the food processing plant is a critical decision in managerial economics. In general, the first consideration is where the food processing plant should be, in relevance with its agricultural and non-agricultural raw material suppliers and factors that are taken into market, transportation is an essential component of this decision. Other considerations are

labor supply, the availability of infrastructure, environmental regulations and developmental effect. The food processing plant must decide whether to locate close to the agricultural raw material or close to the market for finished goods. Naturally, the decision depends on the characteristics of the agricultural raw material and its transformative process, as well as on the costs and availability of transportation services (Karayalcin, 1972; Cetin, 1999).

Manufacturing plants location concerns the choice of the location of one or multiple plants, in a given geographical space and subject to some constraints, to optimally fulfill predetermined objectives (Simchi et al., 2003).

Research suggests that manufacturing location decisions are increasingly influenced by access to product and input markets, business services, and manufacturing agglomeration. The integration of information technology into all aspects of firm operations, coupled with intensified capitalization, also suggests that firms will continue to become more concentrated in agglomeration economies (Barkley, 1995).

Where to locate the food processing plant is a critical decision in managerial economics. In general, the first consideration is where the food processing plant should be, in relevance with its agricultural and non-agricultural raw material suppliers and factors that are taken into market, transportation is an essential component of this decision. Other considerations are labor supply, the availability of infrastructure, environmental regulations and developmental effect (Karayalcin, 1972; Cetin, 1999).

Food manufacturing location studies frequently find that proximity to markets, infrastructure, and labor characteristics are key location determinants (Vesecky &

Lins, 1995). Henderson and McNamara (2000) examined food processor site selection and concluded that plant investments decisions were influenced by the same factors that affected general manufacturing plant investment decisions; access to product and input markets, agglomeration economies, and infrastructure. But Henderson and McNamara (2000) also found that supply-oriented food manufacturer investment was positively related with access to agricultural inputs.

Food manufacturing plants have been classified as 'demand-oriented', 'supply-oriented', or 'footloose' on the basis of their cost structure (Connor & Schiek, 1997). Demand-oriented firms prefer to locate near product markets to minimize distribution costs. Supply-oriented firms have a total cost structure dominated by the purchase of a single input commodity. These firms tend to locate near inputs to minimize procurement costs. Examples of supply-oriented firms include meat packers, grain milling, ethanol and biodiesel production, and plant oil processing. Footloose firms have a cost structure not dominated by either demand or supply factors. Examples include firms that produce mixed nuts, confectionaries, chocolates, or salsa. These processors prefer to locate in areas with access to transportation, business services, and capital (Henderson & McNamara, 2000).

1.1.1 Location Decisions Models

Various quantitative methods are available to aid location decisions, depending upon the nature of the problem. Some of the techniques are: cost-profit-volume analysis, factor rating methods, multi-attribute methods, and the center-of-gravity method (Reza & Masoud, 2009). These facility location techniques aid in making location decisions by various firms.

Cost-Profit-Volume (CPV) Analysis, also known as break-even analysis, is one of the location decision methods. Here, one evaluates the fixed costs and the variable costs of building and operating a facility in each of the alternative locations. Some of the organizations that use CPV analysis are the Mater Hospital whenever it wants to introduce an onsite facility within the compound (Reza & Masoud, 2009).

Factor Rating Method is another method that is used when site alternative has to be evaluated on attributes (factors) other than costs (money). Such attributes may be measured on a common scale (scoring from 1–100) or by multiple scales some of which are not numeric (acceptable, medium, good, and excellent). Thus, this method for evaluating alternative sites varies with information availability and scoring metric (Reza & Masoud, 2009). Factor rating method has been used by Florida State University when selecting its best football team members (FSU, 2011).

Center-of-Gravity Method is another method that aid in location decision making by firms. This method is useful when the geographic position of a location is important in terms of distribution of the services or materials. For instance, firms may want to locate their supply warehouse in a community or region that will minimize the distribution distance based on the volume of transactions from this warehouse to each factory. Similarly, locating a manufacturing plant may use this method, which is based on minimum distribution costs. The method works with coordinates on a map and shows existing facilities or communities with respect to the proposed new facility (Reza & Masoud, 2009).

Geographic information system is another method that aid in location decision making by firms. It is a valuable tool for storing, integrating, and displaying data for specific geographic areas. Here, color coded map systems are used. GIS are excellent starting points to identify potential markets for new product lines. This method is currently being used by NASA Johnson Space Center in the USA to locate their facilities (NASA, 2012)

1.1.2 Food Manufacturing Firms in Kenya

Kenya's food and beverage manufacturing industry comprises more than 1,232 businesses. Agro processing is the largest manufacturing sub sector accounting for 13 per cent of the total manufacturing output. There are 17 industrial fish processing companies in Kenya mainly for export. The 17 companies have operating capacity of 437 MT per day of which only 213.4 MT per day is utilized. Total in built milk and dairy processing capacity is estimated at 2.5 million litres per day. Milk production achieved 203 million litres in 2003. There are 11 major grain processors in the country. Main products are maize, wheat fortified foods, rice millet and sorghum (Mathara, 2004). In overall, there are 71 food manufacturing firms in Kenya (KRA, 2012).

Many food manufacturing firms in Kenya are experiencing growth in several areas of their products and services. The increase in demand for their products and services has required an increase in manufacturing capacity for these products. In many food manufacturing firms, decisions on manufacturing plants location are made with undue emotional investment on the part of individuals with a bias for specific location or strategic direction. It is natural human behavior to have difficulty in looking at one's home location in an objective manner, not to say that it is unachievable, but over the

course of many decisions the probability that bias does not play a role in decision-making certainly cannot be ruled out. Including multiple opinions can help alleviate this problematic situation, but that also creates additional problems of reaching a consensus. With no stable process and criteria to use, the ability of people to agree on the analysis of a location is further hampered by this potential for increasing disagreement on the criteria used to conduct the analysis (Briana, 1998).

Factors that hinder development of food manufacturing industry in Kenya include inadequate supplies of raw materials that are seasonal, high production cost with respect to raw material handling, distribution and marketing, slow development and implementation of policies, use of obsolete technology and skills and location difficulties (Mathara, 2004).

1.2   Research Problem

There are expansion decisions that affect the ultimate success or failure of manufacturing plants as they grow. These decisions can be a determining factor between a venture that is merely successful and one that is highly profitable. They can also provide a competitive advantage in both a strategic and an operational perspective. When making the decision to expand operations, a firm is building a piece of its future growth. As a result, the choices can have a large impact on the views represented in a firm's growth (Nightingale & Rhodes, 2007).

Other researchers have done similar research on firm location. For example, Westcott (1976) carried out a research on industrial location and public policy in Kenya's textile industry. The research found out that there was a relationship between industrial location and public policy in Kenya. Validity of these models was tested

using empirical data and parts of the models were used to improve the government policy on industrial location.

Mugo (2012) also carried out a study on firm location on the part of optimal location of suitable sites for wind farms using a GIS approach in of Garissa and Ijara. The projects was aimed at researching viable areas suitable for wind farms location in Garissa and Ijara districts, as well as assess wind direction variability, wind speed seasonality, comparison of suitable sites at wind speeds of 50 metres HH and 100 metres HH. The project was done by Geographic Information System data integration acquired from different sources and modeling using GIS software to achieve optimal sites for wind farms. The results showed that the areas suitable for wind farms at 50 and 100 m HH were similar because Garissa and Ijara have high wind speeds.

Another study carried out in this area was conducted by Snyder (2006) on Facility Location under Uncertainty. The research aimed to illustrate the rich variety of approaches for optimization under uncertainty by examining their application to facility location problems. The two-stage nature of facility location problems concluded that you choose locations now, before we know what the future holds, and react once the uncertainty has been resolved, say, by assigning customers to facilities.

From the studies already conducted as illustrated above, we find that a key decision food manufacturing firms must make is the location of their manufacturing firms. Key food manufacturing plants require a technique that is simple and that will easily be used to make decisions on where to locate food manufacturing plants. When making decisions about firm expansion not only does the location need consideration but also

the process and methodology used in making decision. The decisions need to be objective, allow for multiple stakeholder perspectives and enable decision makers to see an accurate portrayal of the risk associated with a particular location.

How to integrate these multiple goals into a technique that provides accurate decision information within a process that is repeatable and reliable was the intent of this project research project. This research project also aimed to establish these location decisions for various Kenyan food manufacturing firms. This research also sought to establish the most widely used location decision models by food manufacturing firms in Kenya and establish the factors that influence the location decisions. At the end of the research, the researcher was able to document the most widely used firm location models/techniques by the food manufacturing firms in Kenya.

The study sought to answer the following research questions:

  i.   What are the key location models that are used by food manufacturing firms in Kenya?
  ii.   What factors influence the location decisions by the food manufacturing firms in Kenya?
  iii. Which location model is highly recommended by manufacturing firms in Kenya?

1.3 Research Objectives

  i.   To establish the key location decision models that are used by food manufacturing firms in Kenya.

ii. To determine the factors that influence the location decisions by the food manufacturing firms in Kenya

iii. To establish the location model that is highly recommended by manufacturing firms in Kenya.

1.4 Value of the Study

The study will be of great importance to the policy makers in the food industry and other general manufacturing industry in general as they will use strategic factors in determining facilities location decisions in meeting target customers and corporate profitability. The study will therefore enable manufacturing firms in the food industry choose the right location for their plants to enable them be successful in the current competitive environment.

This study will enable all food manufacturing firms in Kenya have an objective method of deciding where to locate their firms. The use of subjective method of locating manufacturing plants will be a thing of the past.

The study will affirm the relationship between the theoretical facility location analysis techniques and what is found in practice.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

This chapter presents definition of decision, decision making, a review of location decisions determinants, as well as models for firm location. In the first section, firm location decision issues are discussed. Then finally, firm location models are given.

2.1 Decision Making

Decision making is a fundamental part of any management in a firm. Collins (1999) defines decision as the act of making up one's mind by collecting, sharing and gathering significant ideas from different sources. Moreover, Longman (2000) defines that "decision as a choice or judgment that you make after a period of discussion or thought". Longman's definition is very clear but it gives rise to a question on the definition of deciding. In the end decision is to make a choice or judgment about something, especially after a period of not knowing what to do or in way that ends in disagreement (Alam, 2008). Moreover, Fullan (1982) asserts that decision-making is the process of identifying and choosing alternative courses of action in a manner appropriate to the demand of the situation. The act of choosing implies that alternative courses of action must be weighed and weeded by sharing. Fremount, et al. (1970) defined decision-making as the "conscious and human process, involving both individual and social phenomenon based upon factual and value premises, which concludes with a choice of one activity from among one or more alternatives with the intention of moving toward some desired state of affairs". Decision making is the selecting of action from among alternatives to achieve a specific objective or solve specific problem (Donald, 1963).

2.2 Classification of Decisions

Longman (2000) explains that from the descriptive model of the basic features and assumptions of the firm location perspective of business, it is easy to recognize that decision-making is the focal point of firm location. The concept of decision-making is a complex subject with a vast amount of management literature behind it. How businessmen make decisions has been intensively studied. It is useful to classify decisions as strategic & tactical and short-run and long-run.

In firm location, the objective is not necessarily to make the best decision but to make a good decision. Because of complex interacting relationships, it is very difficult, even if possible, to determine the best decision. Decision-making by management on the firm location could be very subjective. Whether a decision is good or acceptable depends on the goals and objectives of management. Consequently, a prerequisite to decision-making is that management has set the organization's goals and objectives. For example, management must decide strategic objectives such as the company's product line, pricing strategy, quality of product, firm location, willingness to assume risk, and profit objective. In setting goals and objectives, it is useful to distinguish between strategic and tactical decisions (Prasad, 1997).

2.2.1 Strategic Decisions and Tactical Decisions

Strategic decisions are broad-based, qualitative type of decisions which include or reflect goals and objectives. Strategic decisions are non-quantitative in nature. Strategic decisions are based on the subjective thinking of management concerning goals and objectives. A strategic decision is one which is made during a current time but whose primary effect will be felt during some future time. Strategic decisions affect organizational structure and objectives. Strategic decision cannot be delegated

lower than a particular level (March, 1988). Tactical decisions are tactical in nature and called routine decision. They are important repetitive need little thoughts with few alternatives. The decision are taken up by middle and first line managers and do not involve any higher risk or uncertainty. Tactical decisions support and compliment organizational strategy. The tactical decision may be delegated to lower levels in the organization. Moreover, what might be strategies decision for one organization may be tactical decision for another (Prasad, 1997).

2.2.2 Short- and Long-Term Decisions

 As stated above, decisions can also be grouped into short- and long-term decisions. It is necessary to consider decisions from both perspectives. Drury (2000) defined the short-term is usually as being one year or even less. In short-term decisions the importance of the time value of money is low. These decisions are mainly based on today's data. Short -term decisions can usually be changed easily as opposed to long term ones. Operating activities encompass what managers must do to run the business on a day-to-day basis. Operating decisions for manufacturing companies include whether to accept special orders, locate to a new place, how many parts or other raw materials to buy (or whether to make the parts internally), whether to sell a product or process it further, whether to schedule overtime, which products to produce, and what price to charge. Other operating decisions affecting all organizations include assigning tasks to individual employees, whether to advertise, and whether to hire full-time employees or to outsource. Long-term decisions have effects on longer periods of time. Consequently, such decisions demand a firm's resources for a longer episode of time. Such decisions can influence future decisions and can have an impact on long-term potentials (Drury, 2000). Firm location fall under this category.

2.3 Decision Process in Firm Location

Firm location decision has been analyzed as a two-stage decision process (McNamara, & Garrett, 2006a). Firms are hypothesized to evaluate potential sites on the basis of regional, state, local, and site-specific attributes. In the first stage, firms select a region based on broad company objectives such as product market penetration, access to raw materials, increasing market share, or other criteria in the firms' objective function (Schmenner et al., 1987).

In the second stage, firms seek a minimum cost site in the selected region for their investment. In this stage, firms choose a specific location within the general area. McLaughlin and Robock (1987) were among the first to put forth this framework. Schmenner and his co-authors developed a conceptual model of location decisions that derived from the premise that a manufacturing plant's choice is based upon considerations of long-run profitability.

The location factors are assumed to affect the location decision in both stages. Three categories of state-specific characteristics are hypothesized to affect the expected profitability of a plant. The first category is an indicator of the cost and supply of inputs. The second category is fiscal impacts from the government or governmental influence in general. The third category is geographic or demographic features such as amenities, and population density. Plant characteristics were also included in the framework because they are expected to change the relative influence of states' characteristics. This is similar to McLaughlin and Robock's (1949) categorization of plants into those that are oriented towards the market, materials, or labor. Location factors are expected to change in importance depending on the type of manufacturing

plant. Subsequent work by Bartik (1989), Woodward (1992), Henderson and McNamara (1997, 2000), and Lambert, Garret and McNamara (2006a) has framed location of manufacturing investment as a two-stage process as well.

2.4   Location Factors that aid in Decision Making

Location factors are an integral, yet often overlooked, facet of firm strategy (Porter, 2000). Through its impact on operating costs and revenues, location decisions can influence the development of a firm's competitive advantage. Moreover, location can have lasting effects on firm performance.

Although scholars from various disciplines recognize the importance of location factors, research examining its antecedents has focused largely on natural endowments, knowledge spillovers, and competition (Marshall, 1920; Weber, 1929; Hotelling, 1929). We therefore understand less than we should about how location choice varies across institutional contexts. To fill this gap, we examine institutional (cultural, political and economic) determinants such as agglomeration economies, infrastructure, product & input market, labor, technology & fiscal policies. Details of these are discussed below:

2.4.1 Agglomeration Economies

Agglomeration is the accumulation of business activity in and around a specific geographic area. Agglomeration economies are typically characterized by agglomeration due to urbanization or localization economies. Localization economies are associated with geographic specialization in specific activities, and urbanization economies are associated with size (i.e. population) or economic diversity (Ottavanio et al., 1997).

Agglomeration economies also represent the cost savings gained by firms locating in communities with a relatively large concentration of other firms. Agglomeration factors are hypothesized to have a positive influence on the location of all types of food processing plants at state and county levels (Ottavanio et al., 1997)

Because of agglomeration economies factor, we find that many manufacturing plants in Kenya such as Nestle Kenya, Kenya Breweries and Unilever Kenya Ltd are located in Nairobi.

2.4.2 Product and Input Market

Firms enter product markets to distribute final goods with the goal of minimizing distribution costs (Connor & Schiek, 1997). Product markets are also the source of final demand (Henderson & McNamara, 2000). Goetz (1997) found that access to product markets had a positive influence on food manufacturing site location.

Closeness to product markets is more important for demand-oriented food processing firms because most of the total production costs of these firms are associated with distribution of final products (Henderson & McNamara, 2000). Market potential captures effective demand relative to the supply of competing manufactured goods. Larger potential markets can be served by taking advantage of lower transportation costs, thereby increasing competitiveness. It is hypothesized that product markets will be positively related with all types of food manufacturers, but that this relationship will be more important for demand-oriented processors (Henderson & McNamara, 2000).

Food processors enter input markets to minimize input procurement costs, but also prefer locations that reduce transportation costs associated with the production of bulky, watery, perishable, or immovable resources (Henderson & McNamara, 2000). Higher-values crops (i.e. fruits and vegetables) will tend to be produced near urban centers, while lower-valued crops (i.e. grains) will tend to be produced in non-core regions.

The relative importance of access to inputs also differs by food processor type. Access to raw material inputs is more important for supply-oriented plants because their cost structure is dominated by costs associated with input acquisition. Henderson and McNamara (1997, 2000) also found that access to input markets influenced food manufacturing location choice at the county level. Many manufacturing plants in Kenya such as Nestle Kenya, Kenya Breweries and Unilever Kenya Ltd are based in Nairobi because accessed to raw materials inputs.

2.4.3 Labor Quality and Availability

Manufacturing productivity depends on labor availability. A deep labor pool requires less recruiting and provides a more diversified work force. A diversified work force increases the likelihood of acquiring workers with the necessary skill sets to fill positions at all levels of production. Plants in locations with small quantities of labor face more turnover and recruitment problems. It is hypothesized that a positive relationship exists between food processor location decisions and labor availability. This is expected to be true of all types of food manufacturing establishments (Connor & Schiek, 1997).

Many manufacturing plants in Kenya such as Nestle Kenya, Kenya Breweries and Unilever Kenya Ltd always consider labor quality and its availability whenever locating its manufacturing firms.

2.4.4 Infrastructure & Land availability

Infrastructure consists of the physical or natural components of an economy that support the community needs and business activities by creating access to regional, national, and international markets. Infrastructure includes land availability, transportation networks, access to navigable waterways, recreational areas, and learning institutions. These factors are hypothesized to increase the attractiveness of a site and the probability of a food manufacturer locating in a given county. Lambert and McNamara (2006b) looked at infrastructure effects whose findings showed that it was a significant and positive determinant of plant location choice. Lambert and McNamara (2006b) also found infrastructure effects on manufacturing location at the state level to be significant and positive. Henderson and McNamara (2000) found infrastructure to be a positive and significant factor affecting food processor plant location at the county level.

Land availability is also part of infrastructure. Firms locate where there is land available for current projects and possible future expansions but compete for sites where land prices are relatively lower (Henderson & McNamara 1997). The probability of a food processor locating operations in a given area depends on the number of potential sites. The larger the county, the better its chance of having a higher profit site (Woodward, 1992).

2.4.5 Technology and Fiscal Policy

As technology adoption and innovation continue to co-evolve in manufacturing, more educated workers and the capacity to re-equip workers with new skill sets are usually required to remain competitive (Woodward, 1992). Educational institutions and availability of training centers provide workers with opportunities to improve their skill sets and abilities. Plants looking for a better educated workforce favor locations with access to educational institutions or training facilities (Henderson & McNamara, 2000).

Fiscal policy includes the expenditure patterns and tax policies of counties and states. Fiscal policy influences plant site selection by collecting taxes to finance public services (Henderson & McNamara, 2000). Higher state spending can be a benefit, but states with high corporate taxes are less attractive sites for manufacturers. Fiscal policy expenditures directed to worker training, school systems, educational facilities, public services, and infrastructure development can decrease the costs of production and increase the prospect of plant profitability (Bartik, 1989).

Bartik (1985, 1989) measured fiscal policy effects on firm site selection decisions at the state level and found them to be negative and significant. He also found fiscal policy factors to be significant and negative at the county level. Henderson and McNamara (2000) used county per capita taxes divided by total county expenditures per capita to measure the effects of fiscal policy on firm location decisions

Technology and Fiscal policy plays a key role for many manufacturing plants in Kenya such as Nestle Kenya, Kenya Breweries and Unilever Kenya Ltd whenever they design their location.

2.5   Facility Location Models

Various quantitative methods are available to aid location decisions, depending upon the nature of the problem. Some of the techniques are: cost-profit-volume analysis, factor rating methods, multi-attribute methods, and the center-of-gravity method; one or more can be used to make an informed decision. No one method may be right for all facility location problems; however, cost analysis is always part of the solution package (Reza & Masoud, 2009).

2.5.1 Cost-Profit-Volume (CPV) Analysis

In this method, also known as break-even analysis, one evaluates the fixed costs and the variable costs of building and operating a facility in each of the alternative locations. Of course, the revenues and resulting profits expected to be generated by volume (demand) help to justify the selection of a site. In general, the cost structures of each site, especially the fixed cost, will differ from each other, as will volume. The CVP analysis assumes one product line at a time for simplicity (Wiley & Sons, 2011)

2.5.2 Location Factor Rating Method

Factor rating methods are used when site alternatives have to be evaluated on attributes (factors) other than costs (money). Such attributes may be measured on a common scale (scoring from 1–100) or by multiple scales some of which are not numeric (acceptable, medium, good, and excellent). Thus, this method for evaluating alternative site varies with information availability and scoring metric (Wiley & Sons, 2011).

The first step in this methodology is to identify the relevant factors. The next step is to check whether all the factors can be evaluated by the same metric. Third, determine

whether for this particular site decision any of the factors are more important than others; if so, either each factor can be ranked, or weights can be assigned to each factor according to its relative importance. The weighted factors range between 0.00-1.00. Then an analysis of the scores (ranks and weights if applicable) is carried out to identify the best alternative. These analyses may be simple or weighted summations of assigned scores (Reza & Masoud, 2009).

2.5.3 Center-of-Gravity Method

According to Reza and Masoud (2009), this method is useful when the geographic position of a location is important in terms of distribution of the services or materials. For instance, a multihospital system may want to locate their supply warehouse in a community or region that will minimize the distribution distance based on the volume of transactions from this warehouse to each hospital or clinic. Similarly, locating a manufacturing plant may use this method, which is based on minimum distribution costs. The method works with coordinates on a map and shows existing facilities or communities with respect to the proposed new facility.

2.6 Past Studies on Facilities Location

A number of studies have been conducted on facilities location. Some of the key ones are discussed below:

2.6.1 Industrial Location and Public Policy in Kenya's Textile Industry

The purpose of the research was to develop models of the relationship between industrial location and public policy in Kenya, to test the validity of these models using empirical data, and to use those parts of the models which appeared to be valid

to help improve policy outcomes. The approach was contextual, in that government interventions were considered in relation to the wider context of overall industrial, spatial and population policies, and in relation to the political economy of which these policies were a part. Data were collected in interviews with government administrators, and with officials from 17 textile, knitwear and, clothing manufacturing firms. Data analysis was based on procedures taken from the disciplines of political science and regional economics (Wescott, 1976).

2.6.2 Optimal Location of Suitable Sites for Wind Farms Using a GIS Approach (Case Study of Garissa and Ijara)

The project was formulated and executed to illustrate that suitable sites for wind farms can be found in the study area and that the wind energy can be used to complement other forms of energy like hydro power, solar power and geothermal power. The large scale production of wind power is set to be pioneered by the Lake Turkana Wind Power (L TWP) set to produce 300 megawatts. The projects was aimed at researching viable areas suitable for wind farms location in Garissa and Ijara districts, as well as assess wind direction variability, wind speed seasonality, comparison of suitable sites at wind speeds of 50 metres HH and 100 metres HH. The project was be done by Geographic Information System data integration acquired from different sources and modeling using GIS software to achieve optimal sites for wind farms. The data used in the model include, wind speed data, major roads, major rivers, land use cover, digital elevation model, protected or conservation areas as well as populated areas. The results showed that the areas suitable for wind farms at 50 and 100 m HH were similar because Garissa and Ijara have high wind speeds. All the objectives of the study were met (Mugo, 2011).

2.6.3 Retail Location Analysis using Geographical Information System (GIS)

The traditional role of GIS in location analysis has been to analyze market characteristics such as consumer demand, geo-demographics, traffic flow, competitor locations, *etc.* and to search for an optimal location for a new retail outlet or to close retail outlets in overcrowded markets. Knowing the geographical distributions of retail demand and supply is important in conducting marketing analysis using GIS analytical tools. GIS can overlay different data sets onto one another in an integrated environment. GIS analytical tools have been widely applied for exploring the relationships between demand and supply in many types of business practices, including operations of fast food restaurants (Church, 2002).

During the past three decades, several important advancements have taken place in spatial-data analysis, data storage, retrieval and mapping. Geographic Information Systems have been very useful in tackling spatial analytic approaches and in forming an interface with the field of location science (Church, 2002).

Since GIS can be used to assemble large volumes of data from various sources with different map scales and in different coordinate systems, it is considered an important tool in location analysis. GIS can combine and simultaneously use several databases by transforming them into a common set of database (Pettit & Pullar, 1999). However, the use of GIS in location analysis involves the aspect of accuracy of representing real world situations in a GIS database. The notion of accuracy is the representation of geographical objects and representing socio-economic, cultural and

political elements of the as the source of input data for a location model, it has also been used as a means to present model results (Malczewski, 2004).

2.7 Conceptual Framework

This study was based on a model that was developed by Jones and Woods (2002) which describes the manufacturing location factors that aid in decision making. This model is shown below:

Independent Variables   **Dependent Variable**

Figure 2.1: *Conceptual Framework*
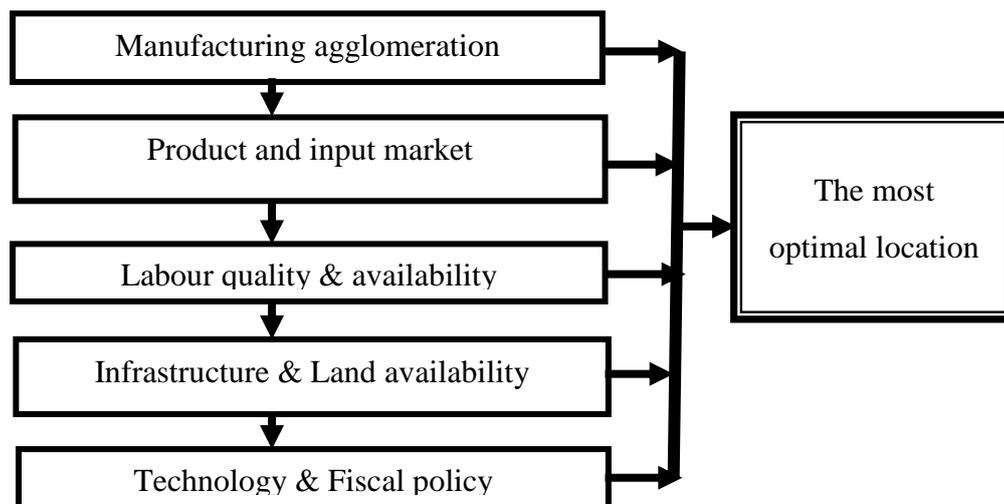
Source: (Jones & Woods, 2002).

The locations decision factors approach were first suggested by Fredrich Hall in the 1900 Census of Manufacturers (Jones & Woods, 2002). In the context of the firm location decisions, the location factors can be formally expressed in a conceptual model as , $X = g \ (A_i \ S_i \ L_i \ I_i \ F_i)$, where X is the location choice of the investment, i indexes each location, and *A, S, L, I,* and *F* are state attributes corresponding to agglomeration forces (*A*), product & input market structure (*S*), labor (*L*), infrastructure& land availability (*I*), and technology &fiscal policy (*F*) factors that

influence a firm's cost structure. No restriction is made on the functional form of *g*, except that the function is assumed to minimize total costs.

Research suggests that manufacturing location choices are increasingly influenced by access to product and input markets, business services, and manufacturing agglomeration. The integration of information technology into all aspects of firm operations, coupled with intensified capitalization, also suggests that firms will continue to become more concentrated in agglomeration economies (Barkley, 1995).

Food manufacturing location studies frequently find that proximity to markets, infrastructure, and labor characteristics are key location determinants (Lopez & Henderson, 1989; Leistritz, 1992; Vesecky & Lins, 1995).

Goetz (1997) and Henderson and McNamara (2000) examined food processor site selection and concluded that plant investments were influenced by the same factors that affected general economies, and infrastructure. But Henderson and McNamara (2000) found that supply-oriented food manufacturer investment was positively related with access to agricultural inputs.

CHAPTER THREE: RESEARCH METHODOLOGY

This chapter covers an overview of methodology that was used in this study. The discussion in the chapter is structured around the research design, population sampling, data collection and data analysis.

3.1 Research Design

In this study, a descriptive research design was used. The researcher used descriptive method to collect accurate data and provide a clear picture of the phenomenon under study. The diversity in location of food manufacturing firms makes this design suitable.

3.2 Population

The population of interest was all the 71 food manufacturing plants in Kenya. These food manufacturing plants are listed in the appendix II. The population in this study comprised of any two top management employees who make key decisions on firm location. These employees comprised of operation managers (or supply chain managers, technical managers, engineering managers, chief engineers, factory managers, production managers and operation managers) and managing directors (or chief executive officers, head of administration or managing directors). The total number of these top employees is equal to 142.

3.3 Sample Design

A sample of 40 was selected using simple random sampling method. Mugenda and Mugenda (2003) argued that for a sample to be representative enough, it should be at least 10% of the target population. In addition, according to Polit and Hungler (1997), who

has done a similar study, the suitable sample size is the larger one, which lowers the likely error in generalizing to the population. They added that the final sample size is almost a matter of judgment rather than the calculation. They further say that a minimum of 30 for statistical analysis provide a useful rule of thumb for the smallest number on each category within overall sample. This explains why the researcher selected a large sample of 40. Table 3.1 below shows this in detail:

Table 3. 1: *Sample Size*

Category Population	Target Population	Total Sample Size
Operation Managers	71	20
Managing Directors	71	20
Total	**142**	**40**

Source: (Author)

3.4   Data Collection

Primary data was used and was collected using semi structured questionnaires. Drop and Pick method was used. To ensure reasonable response, each respondent was given a questionnaire, requested to fill it in and then collect it immediately or after a few hours as agreed upon. In this study, emphasis was given to primary data. The questionnaires were semi-structured with both open as well as closed questions. This facilitated the collection of both qualitative and quantitative data.

3.5   Data Analysis

After data collection, it was organized and analyzed. Data was analyzed using descriptive statistics especially the percentages for quantitative variables. The results were then presented using tables and charts. The open ended questions were analyzed

through content analysis by the researcher with the aim of quantifying facilities location factors.

Descriptive statistics were used to analyze data. This involved use of frequencies tables. Bar graphs and pie charts were used to represent the analyzed data. These statistics were computed and generated using Microsoft Excel computer software. The software generated statistical conclusions, such as the mean, sum and data count. The results then helped to make more informed decisions.

CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter presents data analysis and interpretation of the study. The study sought to establish location factors that influence decision in locating food manufacturing firm in Kenya. The study also sought to determine location decision models used and those that are highly recommended for manufacturing firms in Kenya.

4.2   General Information

Response rate, gender, age, level of education and job title were the key general information captured during the study.

4.2.1 Response Rate

The study had targeted 142 top management employees from 71 food manufacturing firms in Kenya. Table 4.1 and figure 4.1 below summarizes the results:

Table 4.1: *Response Rate*

Category Population	Target Population	Total Sample Size	% Sample size	Total number of questionnaires received	Percent of Questionnaires received
Operation Managers	71	20	50.0%	18	45.0%
Managing Directors	71	20	50.0%	17	42.5.0%
Total	**142**	**40**	**100.0%**	**35**	**87.5%**

.

Figure 4.1: *Response Rate*
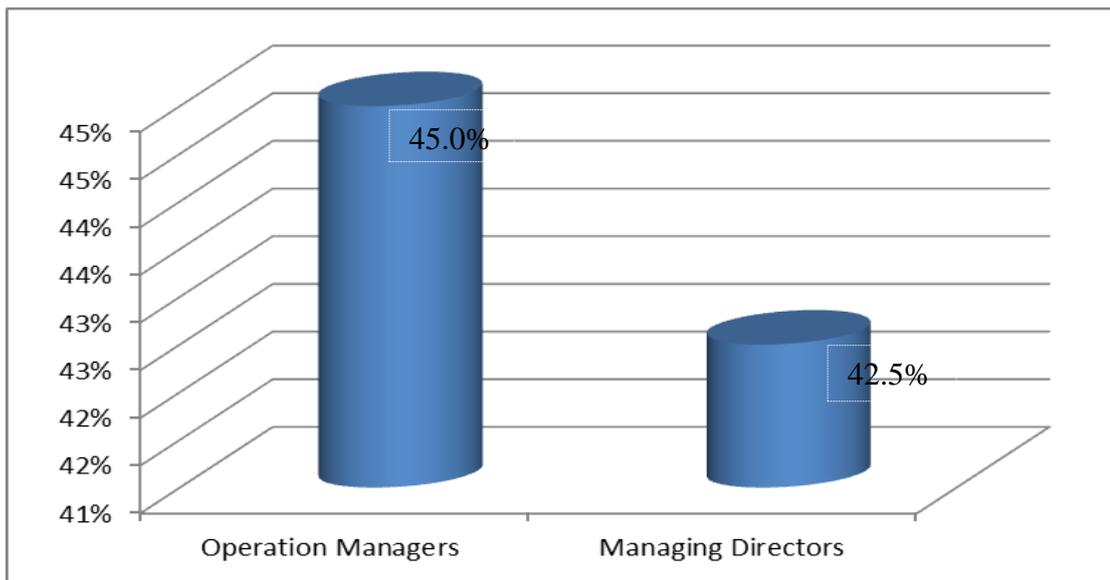
The sample population for the study was 40 respondents. Respondents who successfully filled their questionnaires were 35 out of the 40 sampled. 45.0% of the respondents were Operation Managers (Chief Engineers, Procurement Managers, Engineering Managers, Factory Managers, Supply Chain Managers, Plant Engineers and Production Managers) as compared to 42.5% who were Managing Directors (Chief Executive Officers, Head of Administration, General Managers). This translates to 87.5% response rate which is above the recommended 50% for making conclusions.

4.2.2 Age

The researcher also wanted to know the age brackets of the respondents. Table 4.2 below summarizes the results:

Table 4.2: *Age Bracket*

Age Bracket	Frequency	Percent	Cumulative Percent
35-44 years	18	51.4	51.4
45-54 years	14	40.0	91.4
55 years and above	3	8.6	100.0
Total	**35**	**100.0**	

Majority of the respondents (51.4%) were in the age bracket of 35-44 years while 40% of the respondents were in the age bracket of 45-54 years. Only 8.6% of the respondents were 55 years and above. The results show that decision making in food manufacturing firms is the responsibility of the middle aged employees.

4.2.3 Level of Education

The researcher also wanted to know Level of Education of the respondents. The table 4.3 below summarizes the results:

Table 4.3: *Level of Education*

	Frequency	Percentage (%)
Primary	0	0
Secondary	0	0
Diploma / College	0	0
University	35	100
Total	**35**	**100**

Asked to indicate their highest level of education, all the respondents (100%) indicated they had university level of education. This shows that employees making location decisions are competent and understand what factors they have to consider while making such a decision.

4.2.4 Gender

Both male and female participated in the research. Respondents were asked to indicate their gender. Table 4.4 and figure 4.2 below summarises the details:

Table 4.4: *Gender of Respondents*

Gender	Frequency	Percentage (%)
Male	31	88.6
Female	4	11.4
Total	**35**	**100**

Figure 4.2: *Gender of Respondents*
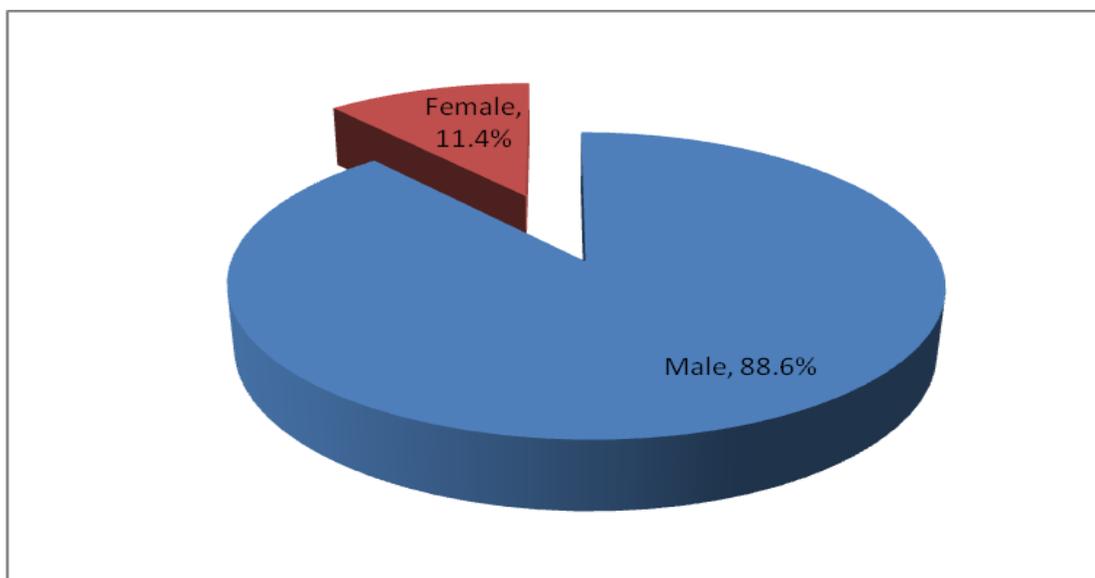
Majority of the respondents (88.6%) were male as compared to 11.4% who were female. This shows that decision making positions in food manufacturing firms are dominated by men.

4.3 Role in Firm Location Decision

The researcher wanted to know whether respondents play a role in firm location decision. Table 4.5 and figure 4.3 below summarize the results:

Table 4.5: *Role in firm location decision*

Plays role in firm location decision	Frequency	Percentage (%)
Yes	33	97.1
No	2	2.9
Total	**35**	**100**

Figure 4.3: *Play a role in firm location decision*
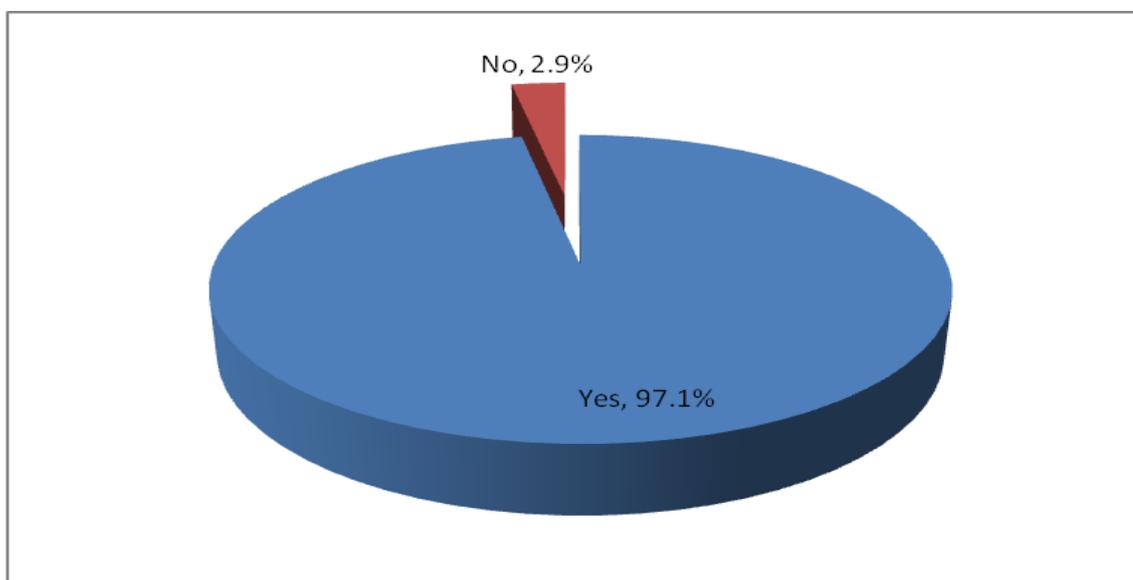
Majority of the respondents (97.1%) indicated yes as opposed to 2.9% of the respondents who said no. These findings suggest that the targeted respondents were well placed to participate in the study as they play a role in firm location decision making.

Asked to indicate the specific role that they play in food manufacturing firm location, most respondents indicated that they sit on a committee that decide on location while others cited the advice they give to their respective board of direcors. Some of the respndents indicated that they are the final decision makers in regard to locating a firm.

4.4 Location Factors That Aid in Decision Making

The respondents were asked whether the following location factors would influence their decision in locating food manufacturing firm in Kenya: access to customers, stable social and political environment, ease of doing business, reliability ang quality of infrastructure and utilities,   ability to hire technical professionals, ability to hire management staff, level of corruption, cost of labor and wage rates, crime and safety, ability to hire skilled laborers, national taxes, cost of utilities, roads, access to raw materials, available land with all services in place, local taxes, access to suppliers, labor relations and unionization, air service, labor pool and climate, proximity to suppliers, community environment, proximity to customers and shipping modes. A summary of these results are presented in figure 4.4 below:

Figure 4.4: *Factors that aid in decision in locating manufacturing firms*
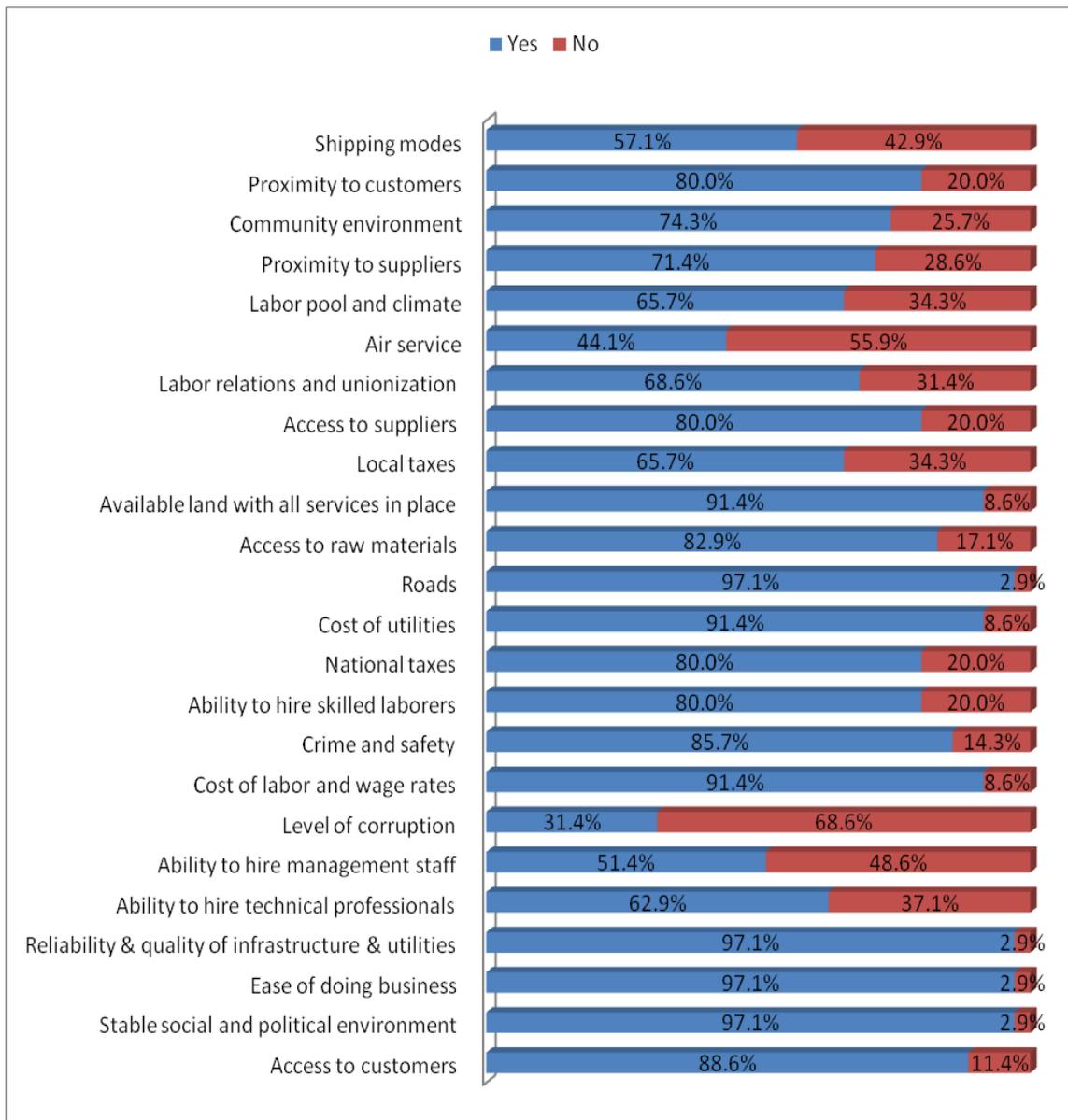
From figure 4.4 above, the top most important key location factors considered in influencing decision for locating a food manufacturing firm in Kenya include roads, ease of doing business, stable social and political environment and reliability, quality of infrastructure and utilities, cost of utilities, available land with all services in place and cost of labor and wage rates. The least important factors considered in locating a food manufacturing firm in Kenya were found to be air service and level of corruption.

The above results have a strong relationship with the theoretical location factors that determine manufacturing firm location as found by Marshall (1920) which include infrastructure, product and input market, labor, technology and fiscal policies and agglomeration economies. The results also confirm that the concentration of activity in a particular area typically leads to a larger labor pool with skills needed by that industry as already discovered by McNamara et al. (1995).

The results (80% of respondents) also confirm that closeness to product markets is more important for demand-oriented food processing firms because most of the total production costs of these firms are associated with distribution of final products. The results also confirm that manufacturing productivity depends on labor availability as per Connor and Schiek (1997). A deep labor pool requires less recruiting and provides a more diversified work force. A diversified work force increases the likelihood of acquiring workers with the necessary skill sets to fill positions at all levels of production.

97.1% of the respondents confirmed that infrastructure which includes transportation networks, access to navigable waterways, recreational areas, and learning institutions increase the attractiveness of a site and the probability of a food manufacturer firm locating in a given county as per the research already conducted by Lambert and McNamara (2006b).

91.4% of the respondents confirmed that land availability determines food manufacturing firm location in Kenya. Theoretically, firms locate where there is land available for current projects and possible future expansions as per research already

conducted by Henderson and McNamara (1997), but compete for sites where land prices are relatively lower according to Bartik (1985).

Finally, the results confirmed that fiscal policy that includes national taxes (80% of respondents) influences manufacturing firms' site selection according to research already conducted by Henderson and McNamara (1997). The results also confirm that higher state spending can be a benefit, but states with high corporate taxes are less attractive sites for manufacturers according to Goetz (1997).

4.5 Models Used for Locating Food Manufacturing Firms

Respondents were asked to indicate models for locating food manufacturing firms they have used in their organization. The results are summarized in figure 4.5 below:

Figure 4.5: *Models Used for locating food manufacturing firms*
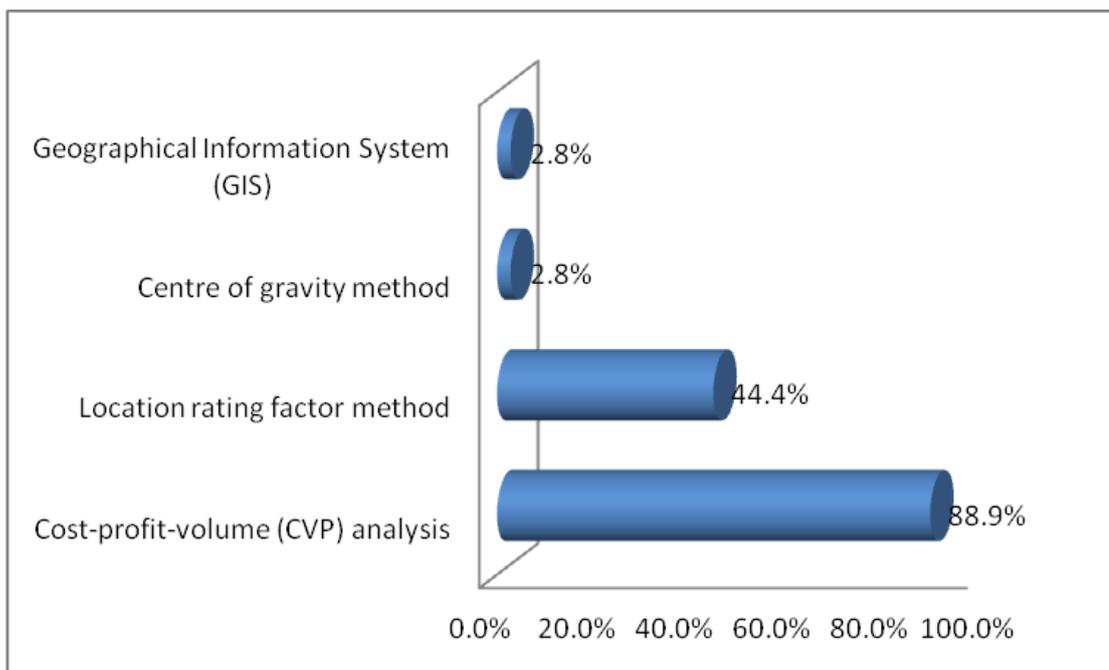
The most used model is cost-profit-volume analysis model (88.9%) and to some extent location rating factor method (44.4%). The least used models included geographical information system (2.8%) and centre of gravity method (2.8%).

According to Wiley and Sons (2011), the most used model for manufacturing firm location is related to the cost analysis which is cost profit volume analysis. This has been confirmed in this research study by 88.9% of the respondents.

4.6 Models Recommended for Locating Food Manufacturing Firms

Finally, respondents were asked to indicate the model that they would recommend to locate food manufacturing firm in kenya. Figure 4.6 below presents these findings:

Figure 4.6: *Models Recommended for Locating Food Manufacturing Firms*
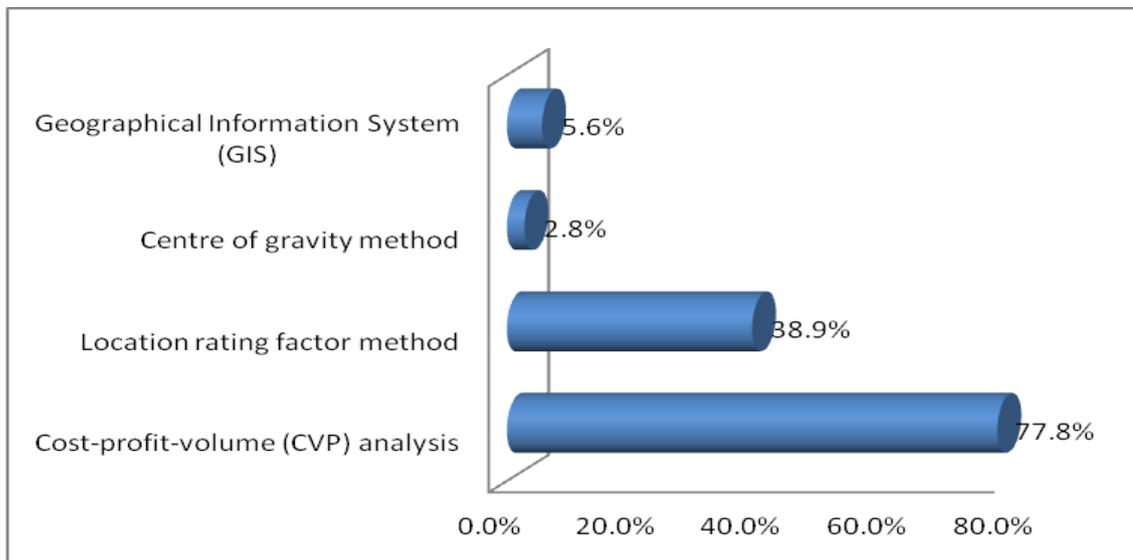
According to this study, the most recommended model is cost-profit-volume analysis (77.8%) and to some extent location rating factor method (38.9%). The least recommended models included centre of gravity (2.8%) and geographical information system (5.6%).

According to Wiley and Sons (2011), there is no known recommended model for locating food manufacturing firms. The literature studied leave it open to the user to choose the desired model depending on the circumstances in place.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter covers summary of the study, conclusions and recommendations. The chapter presents how the study answered the following research questions: What are the key location models that are used by food manufacturing firms in Kenya? What factors influence the location decisions by the food manufacturing firms in Kenya? Which location model is highly recommended by manufacturing firms in Kenya?

5.2 Summary of the Study

Key food manufacturing plants require a technique that is simple and that can easily be used to make decisions on where to locate food manufacturing plants. When making decisions about firm expansion not only does the location need consideration but also the process and methodology used in making decision. This study sought to investigate location decisions by food manufacturing firms in Kenya. The objectives of the study comprised of: To establish the key location decision models that are used by food manufacturing firms in Kenya; to determine the factors that influence the location decisions by the food manufacturing firms in Kenya; and to establish the location model that is highly recommended by manufacturing firms in Kenya.

A descriptive research design was used in this study. The population of interest was all the 71 food manufacturing plants in Kenya. It comprised of any two top management employees who make key decisions on firm location. These employees comprised of operation managers (or supply chain managers, technical managers, engineering

managers) and managing directors. The total number of these top employees is equal to 142. A sample of 40 was selected using simple random sampling method. Primary data was used. The data was collected using semi structured questionnaires. Descriptive statistics were used to analyze data.

The study revealed that four location factors namely roads, ease of doing business, stable social and political environment and reliability, quality of infrastructure and utilities are considered the most important in influencing decision in locating a food manufacturing firm in Kenya. Other important factors include cost of utilities and available land with all services in place. The least important factors considered in locating a food manufacturing firm in Kenya were found to be air service and level of corruption. It was established that cost-profit-volume analysis is the most used model for locating food manufacturing firms in Kenya. Location rating factor method is also used to some extent. The least used models included geographical information system and centre of gravity method. The most recommended model was cost-profit-volume analysis. Location rating factor method was recommended to some extent. The least recommended models were centre of gravity and geographical information system.

5.3 Conclusions

This study concluded that there are four most important location factors that need to be considered by decision makers. These factors include roads, ease of doing business, stable social and political environment and reliability, quality of infrastructure and utilities. These are important when considering a food manufacturing firm location.

The study concluded that cost-profit-volume analysis model is the best for locating food manufacturing firms in Kenya. Location rating factor method is also useful to some extent. This conclusion was underscored by the fact that the most recommended model was cost-profit-volume analysis and location rating factor method was recommended to some extent.

5.4 Recommendations

The policy makers in the food industry and other general manufacturing industry in general as should use strategic factors such as roads, ease of doing business, stable social and political environment and reliability, quality of infrastructure and utilities in determining facilities location decisions in meeting target customers and corporate profitability. This will enable manufacturing firms in the food industry to choose the right location for their plants for success in the current competitive environment.

The manufacturing firms in Kenya should use cost-profit-volume analysis model for locating manufacturing plants. They can also employ location rating factor method to some extent. These two methods will enable them have an objective way of deciding where to locate their firms. The use of subjective method of locating manufacturing plants is not feasible for a competitive business environment.

Further studies should look into the extent that each location decision model influence decision making across a number of manufacturing sectors. This will generate more knowledge on this issue. Further research should look into other factors that affect location of firms.

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APPENDIX I: INTRODUCTION LETTER

UNIVERSITY OF NAIROBI
SCHOOL OF BUSINESS
MBA PROGRAMME

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

DATE 29-07-2013

TO WHOM IT MAY CONCERN

The bearer of this letter ..... ENOS O. Amimo

Registration No. 1961/62983/2010

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

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

The results of the report will be used solely for academic purposes and a co will be availed to the interviewed organizations on request.

Thank you.

PATRICK NYABUTO
FOR: MBA CO-ORDINATOR
SCHOOL OF BUSINESS

APPENDIX II: STUDY QUESTIONNAIRE

Location Decisions by Food Manufacturing Firms in Kenya

Section 1: General information

1. What's your gender?   Male [   ]   Female [   ]

2. Respondent's Name……………………………………………………….(Optional)

3. Indicate your age bracket:

    Less than 25 years   [   ]   26-34 years [   ]   45-54 years   [   ]

    35-44 years   [   ]   55 years and above [   ]

4. What is your highest level of education?

    Informal [   ]   Diploma / College   [   ] Primary [   ] Secondary [   ] University [   ]

5. What's the name of your manufacturing firm / company?...

6. Job Title……………………………………………………………………….(Optional)

Section II:

7. Do you play a role in determining food manufacturing firm location in your company?

Yes [ ]

No [ ]

If yes, please explain the specific role you play in food manufacturing firm location…………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………

8. Would any of the following location factors influence your decision in locating food manufacturing firm in Kenya? Please tick where appropriate.

Location Factors	Yes	No
1. Access to customers		
2. Stable social and political environment		
3. Ease of doing business		
4. Reliability and quality of infrastructure and utilities		
5. Ability to hire technical professionals		
6. Ability to hire management staff		
7. Level of corruption		
8. Cost of labor and wage rates		
9. Crime and safety		
10. Ability to hire skilled laborers		
11. National taxes		

12. Cost of utilities		
13. Roads		
14. Access to raw materials		
15. Available land with all services in place		
16. Local taxes		
17. Access to suppliers		
18. Labor relations and unionization		
19. Air service		
20. Labor pool and climate		
21. Proximity to suppliers		
22. Community environment		
23. Proximity to customers		
24. Shipping modes		

Any other factor /s?..

25. Which of the following models for locating food manufacturing firms have you ever used in your organization? Please tick the appropriate one:

- Cost-Profit- Volume (CVP) Analysis   [   ]

- Location Rating Factor Method   [   ]

- Centre of Gravity Method   [   ]

- Geographical Information System (GIS)   [   ]

Any other model?………………………………………………………….

26. Which model would you recommend to locate food manufacturing firm in Kenya? Please tick the appropriate one:

- Cost-Profit- Volume (CVP) Analysis [   ]

- Location Rating Factor Method [   ]

- Centre of Gravity Method [   ]

- Geographical Information System (GIS) [   ]

Any other model?………………………………………………………

Thank you for your cooperation

APPENDIX III: LIST OF FOOD MANUFACTURING FIRMS IN KENYA

CODE	ID NO.	KRA REG. NO.	MANUFACTURING FIRM
444	1	P051093777J	Atta (Kenya) Limited
445	2	P000623891C	Bakex Millers Ltd
446	3	P000594448A	Bestfoods Kenya Limited
447	4	P000600826J	Bidco Oil Refineries Ltd
448	5	P000623664X	Broadway Bakers Ltd
449	6	P000591415F	Cadbury Kenya Ltd
450	7	P051114790Z	Capwell Industries Ltd
451	8	P000592722P	Farmers Choice Ltd
452	9	P000615426S	Giloil Company Limited
453	10	P051104559X	Kabansora Millers Limited
454	11	P000609324W	Kapa Oil Refineries Ltd
455	12	P000599737M	Kenafric Industriess Limited
456	13	P000623766A	Kenblest Limited
457	14	P000602486X	Kitui Flour Mills Ltd
458	15	P000624054R	Mumias Sugar Company
459	16	P000633138P	Mcneel Millers Ltd
460	17	P000634500H	Menengai Oil Refineries Limited
461	18	P000604356U	Mibisco Ltd
462	19	P000599905G	Mini Bakeries (Nbi) Limited
463	20	P000619265H	Mombasa Maize Millers Limited
464	21	P051122045I	Mombasa Maize Millers Nrb Ltd

465	22	P051124295A	Mzuri Sweet Limited
466	23	P000595050W	Nestle Foods (K) Limited
467	24	P000601680O	Pembe Flour Mills Ltd
468	25	P000599804E	Premier Flour Mills Ltd
	26		Premier Food Industries Ltd
	27		Premier Dairy Ltd
469	28	P051092185B	Pwani Oil Products Ltd
470	29	P000594205N	Rafiki Millers Ltd
471	30	P051109917Y	Supaflo Flour Mills Limited
472	31	P000627005O	Swan Industries Ltd
473	32	P000626936C	Swan Millers Ltd (Mmm Ksm)
474	33	P000595604U	The Wrigley Co (E A) Ltd
475	34	P000591123F	Unga Group Ltd
476	35	P000592659D	Unga Ltd
477	36	P000626492H	United Millers Ltd
478	37	P000601675R	Uzuri Foods Ltd
	38		Uzuri Manufacturers Ltd
484	39	P000595018R	Procter & Gamble (Ea) Ltd
492	40	P000631382Q	Spin Knit Limited
	41		New Kenya Cooperative Creameries Ltd (KCC)
	42		Brookside Dairies Ltd
502	43	P000607987P	Corn Products (Kenya) Limited
504	44	P051172807P	Gold Crown Beverages (K) Ltd

505	45	P051147158E	Harmony Foods (K) Limited
	46		Kenya Nut Company Ltd
508	47	P051115895J	Kenafric Bakery Limited
509	48	P051092115I	Krystalline Salt Limited
510	49	P000625267C	Mafuko Industries Ltd
511	50	P051132364R	Maize Milling Company Limited
512	51	P051147260Z	Manji Food Industries Limited
513	52	P051134160P	Milly Grain Millers Limited
	53		Milly Fruit Processors Limited
515	54	P051096700U	Mombasa Salt Works Ltd
516	55	P000594871F	Nairobi Flour Mills Ltd
525	56	P051119362D	Nzoia Sugar Co. Ltd
	57		Miwani Sugar Co. Ltd
	58		Chemelil Sugar Co. Ltd
	59		West Kenya Sugar Co. Ltd
	60		Sony Sugar Co. Ltd
	61		Butali Sugar Co. Ltd
	62	P000619743E	Grain Bulk Handlers Limited
	63	P000607725X	Unga Farm Care (EA) Limited
	64	P000626954G	Kitale Industries Limited
	65		Kenya Breweries Ltd
	66		Unilever Kenya Ltd

	67	56	Mcneel Millers Ltd
526	68		Mombasa Maize Millers
527	69		Pfizer Ltd
	70		Kenafric Bakery Ltd
528	71		Muhoroni Sugar Company

Source: Kenya Revenue Authority