A SURVEY OF MANUFACTURING - BASED STRATEGIES FOR SMALL AND MEDIUM SCALE ENTERPRISES IN THE FOOD PROCESSING INDUSTRY IN NAIROBI.

By

EMMANUEL OTIENO AWUOR

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DECLARATION

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

SIGNED---------- DATE---3/12/2006---

EMMANUEL OTIENO AWUOR

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

SIGNED---------- DATE---03/12/06---

JOHN K. KENDUIWO

Senior Lecturer,

School of Business,

University of Nairobi

DEDICATION

I dedicate this project to my parents William and Dorine, wife Rispar and Sons Dickens, Leon and Lloyd for their love, patience and care.

ACKNOWLEDGEMENTS

This research project would not have come this far without the tireless support of my supervisor Mr. John Kenduiwo. I want to thank him for the patience and knowledge in research that I did gain during the entire period of the study. This work would also not have been what it is without the guidance of Mr. Nyamwange of the Management Science department, School of Business, University of Nairobi.

Thanks to friends and colleagues who are numerous to have their names included. Special thanks to my family for their understanding during the many hours I spent on the project work especially to my son Llyod for always seeking attention when I needed most to concentrate on my work. May he grow to understand that Daddy had to do this at some point. Finally I thank the Almighty God for bringing me this far. Without His guidance and support all is void and emptiness.

ABSTRACT

This research focuses on the SME's in the food processing industry in Kenya. Mainly due to the realization that the Agricultural sector especially with regard to food processing is still vastly unexploited and with great potential for contributing in the economic growth of this country. Adoption of Operations based strategies in the processing of food products is key to realizing the contribution anticipated in this sector in terms of creation of employment and contribution to the country's gross domestic product. Becoming more competitive globally, improving customer service and making operations faster and more responsive while dramatically reducing costs are the challenges facing Kenyan SME's today. To meet these challenges, SME's must rethink strategy and rework manufacturing operations.

The research objectives are geared towards determining the extent of adoption of the operations based strategies and also determining the problems that firms face when trying to implement the strategies. The research was conducted by a survey of the SME's in the food processing industry in Nairobi. The instrument used for data collection was a questionnaire that was designed having both open and closed ended questions.

The research findings revealed that most firms are aware and indeed have adopted the use of operations based strategies in food processing as a tool for achieving competitive advantage. The most critical strategies being based on quality, cost and delivery (speed and reliability). The research recommends the replication of this study in other SME sectors such as: textile, wearing apparel and leather industries, manufacture of wood and wood products, manufacture of paper products, printing and publishing among others.

LIST OF ABBREVIATIONS

GOK	-	Government of Kenya
IT	-	Information Technology
JIT	-	Just in Time
KIRDI	-	Kenya Industrial Research Development Institute
KAM	-	Kenya Association of Manufacturers
TQM	-	Total Quality Management
SME	-	Small and Medium Scale Enterprises.

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CHAPTER ONE: INTRODUCTION

1.1 Background

Operations strategy is concerned with setting broad policies and plans for using the resources of a firm to best support its long term competitive strategy (Chase et al, 2003). Operations strategies are increasingly becoming important for competitiveness. This is in the light of emerging issues such as globalization of the economies, liberalization of trade, investment and capital flow, fast development of computer-based technologies and dealing with a more enlightened society.

Five basic operations based strategies includes: cost, quality, speed of delivery, delivery reliability and flexibility are identifiable (Nahmias, 2001). These indeed are the strategies used to direct and measure manufacturing performance. Operations strategy can be viewed as part of a planning process that coordinates operational goals with those of the larger organization. Since the goals of the larger organization change over time, the operations strategy must be designed to anticipate future needs. The operations capabilities of a firm can be viewed as a portfolio best suited to adapt to the changing needs of the firm's customers (Chase et al, 2003).

Adoption of a manufacturing strategy will make Kenya become a direct threat to the Western economies. Emphasis should be on improvement of Kenyan products (GOK, 1999). Africa has only about two per cent share of the world's trade and hence the opportunities for enhancing that are potentially large (Ramsurrun and Dalrymple, 2000). The focus of this research is on the food processing industry because most Agricultural

institutions are still badly managed and poorly focused. Worst of all there is little realization that Kenya's agriculture faces particularly tough challenges as a result of the changes in the global economy (GOK, 1999). Because of the diversity of manufacturing decisions that must be made over time, an organizing framework that groups the manufacturing strategy decisions into categories is useful. Both in identifying and in planning a firm's manufacturing strategy. It is the collective of these decisions that determine the strategic capabilities of a manufacturing organization (Hayes & Wheelwright, 1984).

Thus, typical operations challenges for managers and business owners include aspects of Quality, Innovation, Technology, Globalization and Transfer of best practices. Competitive advantage by means of operations based strategy tends to be less visible to competitors than one based on staking out a differentiating competitive position (Hayes and Upton, 1998). There are five basic steps to be taken in operation strategy formulation which provide an analytical and objective structure in which the corporate debate and consequent actions can be taken: Defining corporate objectives; Determining marketing strategies to meet these objectives; Assessing how different products/ services win orders against competitors; Establishing the most appropriate mode of manufacture for these sets of products or products or provide these sets of service – process choice; Providing the infrastructure required to support production operation process.

The emphasis of the study is on SMEs because of the inherent potential in this sector. The 1999 National SME baseline survey found that there are about 1.3 million SME's country wide, employing some 2.3 million people (GOK, 1999). It is becoming

increasingly imperative to be globally focused even in domestic markets. Thus, competitiveness is the key to success and sustained growth in global operations. Building up the competitive edge of exporting enterprises, particularly SME's, and improving their operational efficiency can pay rich dividends in the long run, both at the national and at enterprise level. It is important for the SMEs to adopt a strategy to fit their resources.

In Mauritius, SME has been redefined, taking into account the volume of investment in equipment which was previously one million up to ten million Mauritian Rupees presently to be classified as small enterprises and with less than 50 and 200 employees for small and medium scale respectively (Ramsurun and Dalrymple, 2000). In the Kenyan situation, a small business is one that has 10-49 employees. These form 80% of businesses in Kenya (GOK, 2004-2005). It is however, important to note that the definition will vary from time to time, place-to-place, purpose-to-purpose and even sector to sector. With reference to time, the current definition is based on the number of employees. Initially, the definition was based on profitability and capital outlay. It is also important to note that what is described as large in Kenya may be small in the USA and large elsewhere, hence, the difference in definition from place to place. The definition also tends to vary depending on the purpose for which it is meant and the enterprise may qualify to be large in one sector and yet be small in another sector.

In general terms and depending on the country, SMEs contribute between 15% and 50% of exports and between 20% and 80% of SMEs are active exporters (Ramsurun and Dalrymple, 2000). Overall it is estimated that SMEs now contribute between 25% and 35% of world-manufactured exports (Cromie, 1997). In Kenya, SMEs employ 5 million

people and account for 20% of Kenya's Gross Domestic Product (GOK, 2004-2005). This is attributable to the fact that the potential for SMEs to create wealth and employment is not fully realized. Enterprise competitiveness is difficult to measure as it is determined by a large number of hard and soft factors. Many of them are quantifiable; others are of a qualitative nature and require special techniques for measurement and analysis. The factors include resources, competence levels, managerial ability, productivity, performance, operational environment, infrastructure and organizational support.

Small and medium scale enterprises (SME's) often do not have timely information on target market quality requirements and applicable technical regulations (Cromie, 1997). Many SME's suffer from the absence of appropriate testing and other quality control or measuring equipment and the corresponding calibration and repair services. On other cases they may lack the appropriate processing equipment and/or raw materials which are needed to achieve the required quality to comply with the stipulated requirements. More often, the SME's lack the necessary knowledge, skills and expertise needed to plan, organize, co-ordinate and execute the quality activities as required to achieve the necessary quality levels.

Because of growing consumers' pressure and of scientific and technological progress more and, more regulations are being enacted by authorities in target markets on poor quality requirements (including packaging and labeling), particularly in the fields of health, safety and environmental protection (Watson and Everett, 1993). Such entails

the list of requirements that SME's have to comply with in order to survive the highly competitive global markets.

In a survey of German purchasing officers it was found that their priorities in appointing and using SME's as suppliers were quality and continuity of supply (including capacity), referrals (meaning they preferred SME's to be on a list of approved suppliers) (Trade Directorate, 1995). The importance of SMEs in industrial development and market penetration has been recognized at the highest level by the European Commission (Trade Directorate ,1995). This policy statement is confirmed by available data: two thirds of all European employment is provided by companies with less than 250 employees. This proportion has grown by more than 10% over the last decade as employment in large firms has declined (Trade Directorate, 1995).

Since the health and vitality of SME's are critical to the Kenyan economy, their development should be a priority of economic policy; hence this research considers operations-based strategies in the context of market globalization. It is becoming increasingly imperative to be internationally competitive in order to function effectively even in domestic markets. In a dynamic environment marked by fast technology changes, achieving and retaining a competitive edge are both a necessity and a challenge. Competitiveness is the key to success and sustained growth in global operations. Building up the competitive edge by exporting enterprises, particularly SME's, and improving their operational efficiency can pay rich dividends in the long run, both at the national and enterprise level (Keng and Jiuan, 1989).

1.2 Statement of the research problem

In 1999, the Kenya government produced a National poverty alleviation plan that runs to the year 2015; the aim of which is to tackle poverty afflicting a large percentage of Kenyans. It is estimated that 57% of Kenyans live below the poverty line (GOK, 2004). SMEs should be made to form the backbone of a market economy and, as in most other countries create a significant number of new jobs (Marek, 1999). Thus, support to SMEs should help in demonopolisation as well as social stability through the development of the middle class.

Cases of SMEs taking on large established enterprises have been noted to be due to operations based advantage (Hayes and Upton, 1998). Small companies that although lack the advantage of sizes, experience, established position and proprietary technology take on big companies and in a relatively short time pushes their way to industry dominance. Studies elsewhere have focused on Kenyan large manufacturing firms in relation to operations based strategies (Nyamwange, 2001). Studies that have been done on small and medium scale firms include those of Muiruri (1989), Mbuvi (1983), Ncube (2002), and Waweru (2002).

This research is an attempt to investigate if SMEs, particularly in the food processing industry, have adopted operations-based strategies for competitiveness. This is thus an endeavor to find out the extent to which the SMEs view and apply operations based .strategies as a foundation behind successful attack and defenses with the potential to stimulate economic growth. This study therefore attempts to answer the following research questions: To what extent have the small and medium scale firms in Kenya adopted the manufacturing operations-based strategies and what are the problems

associated with the adoption of the operations-based strategies in the food processing industry?

1.3 Research objectives

The following research objectives are prime in conducting the study:

i) To determine the extent to which SMEs in the food processing industry have adopted operations-based strategies for enhanced competitiveness.

ii) To determine the challenges associated with the adoption of operations-based strategies in the food processing industry.

1.4 Importance of the study

This being a pioneering work in studying manufacturing based strategies in relations to SMEs the results will be of importance in the following ways: The study will make a significant contribution to the competitiveness of SMEs in the food processing industries. The findings will encourage and reinforce the interest of managers and business owners in the usefulness of manufacturing based strategies in today's global arena. SMEs play an important role in fostering income stability, growth and employment. It is important to note that SMEs competitiveness affects the competitive position of the economy as a whole (Keng and Jiuan, 1989). The study will also be useful to the academia interested in manufacturing /operations based strategies. It thus forms a basis for further research.

CHAPTER TWO: LITERATURE REVIEW

2.1 Operations based strategies

Operations strategies is concerned with activities that must be performed by a firm in order to ensure that customers feel positively about its goods and services (Schonberger et al, 1991), Hayes et al, 1996), observe that successful competition depends upon cultivation of organizational capabilities that enables a firm to create and deliver a product or service that is regarded as exceptional even unique by its customers. Competition on the business front is won not in the boardroom but in the laboratories, on the factory floors, at service counters and in the computer rooms (Hayes and Upton 1998).

In the formation of any business strategy, three key players must be taken into account, corporation (or company) itself, the customer's and the competitors. These collectively form the strategic triangle (Schonberger et al, 1991). Thus, successful operations evolve from the strategy of the complete business unit. It is important to note that operations-based strategies are increasingly becoming entangled with information technology (IT) such that most operations now are heavily reliant on IT. It is no longer good enough to improve continuously, which has been the buzz phrase for the last few years. But rather it's a matter of improving fast, with the most rapid improvers emerging as winners, Upton (2003).Another change is that the performance expected of operations-based strategies in reliability and delivery times, for example, has dramatically increased. Corporate customers and end users as well as customers have become much more demanding, which is the result of the internet and of competition simply raising the expectation bar (Upton, 2003).

2.2 Developing an operations based strategy

In developing an operations-based strategy, having a clear, focused competitive strategy is the starting point. Second, is developing an operations-based strategy that is consistent with the company's competitive strategy. The third requirement is building the operations strategy such that all of the pieces fit and work together well (Aquilano, 1998). The pieces here include all the essential elements of an operations-based strategy: capacity, facilities, technology, quality, workforce, production planning and control and sourcing. It is much like coordinating the pistons in an engine (Upton, 2003). For example, there has to be a proper fit between the workforce and the technology in place.

Having the best operations-based strategy may, however, not be as important as it's execution. Otherwise the firm rapidly falls behind competitors. Ensuring effective execution may not be quite easy, but there is a general set of principles for creating a learning organization and ensuring that information systems help people do their jobs rather than hamper them. In building operations- based strategies it is useful to break them up into three types (Hayes and Upton, 1998): Process–based capabilities are derived from activities that transform material or information and tend to provide advantages along such standard competitive dimensions as low cost and high quality; Systems (Coordination) based operating capabilities underpin such competitive advantage as short lead times, a broad range of products or services, the ability to customize on demand and fast new product development; Organization–based operating capabilities involves the ability to master new technologies, design and introduce new products and bring new plants on line significantly faster than one's competitors. Such capabilities are usually the most powerful.

2.3 Role of operations strategies in enhancing productivity in SME's

One or more of the performance capabilities outlined in this section are used to describe the critical success factors or things that operations must do well for the company to be at it's competitive best (Schonberger et al, 1991, Chase at al, 1998). Similarly, a firm that emphasizes on quality will consistently strive to provide a level of quality that is significantly superior to that of its competitors, even if it has to pay extra to do so. Every employee needs to understand what quality is and is not.

Firms that stresses on dependability can be relied on to have its goods and services on schedule if it is all possible. A company that develops flexibility can quickly respond to changes in products design, product mix or production volume. Innovation on the other hand translates needs and opportunities in the environment into satisfied needs and fulfilled opportunities.

2.4 Manufacturing operations-based strategies

Manufacturing operations based strategies that have gained popularity includes: Total quality management (TQM), just-in-time (JIT) manufacturing and lean manufacturing (Upton, 1999). JIT reduces holding costs and space requirements so that total costs are lower. Production in small amounts allows the company to detect problems before many items have been made, so quality is improved. Efficient, flexible equipment and cross-trained workers provide flexibility.

According to Chase and Aquilano (1998), operations based strategy factors include: the number, types, size and location of operations facilities; the type of equipments that will

be utilized (focused and specific or general purpose and flexible, automated or principally manual); make or buy decisions; the organizational structures that will be used to accomplish and co-ordinate all the necessary efforts; the work-force selection, employment security, competition method and management style; the information systems that will be used to collect, analyze and distribute information on production, purchasing, inventory, quality, and personnel etc; production planning, schedule and control systems and inventory policy; the quality control and improvement methods that will be used.

Operation strategies concern operating resources (equipment, operating personnel and support staff, tool, information and systems); products, processes, methods and systems and output quality, cost, lead time, and flexibility (Upton, 1998). Business strategies on the other hand deal with issues that affect the whole organization: employee, market, customers, capital and financing, profitability, competition, public image e.t.c. Operations strategies should be consistent with the business strategies, but with a narrower focus. Thus enabling what sets it apart from its competitors (Jiuan and Keng, 1989).

2.5 Need for operations based strategies in food processing industry

2.5.1"Totally unreasonable" customer demands

Customers in the modern economy are quite sophisticated and demanding in terms of the products and services to be provided. Key attributes considered by customers includes: Newer, better, higher value products and services – a continuous stream (flood) of innovation; Tailored responses that serve individual market needs -- mass

customization of products and services; Added value without price increases; Flawless lifecycle support, that provides ongoing value throughout a product's life. The challenge thus is to tune operations planning and execution to provide customized service at profitable cost level (Markham, 2002).

2.5.2 Breakneck pace of technological change

The challenge is to use innovative technologies to enhance existing capabilities; leverage external sources of innovation from traditional and non- traditional supply markets; employ technology road-mapping to plan tomorrow's products, value propositions, investments and operations strategies (Markham, 2002).

2.5.3 Continued industry restructuring

The challenge is to capitalize on industry overcapacity within your own industry and in those of suppliers and customers; take advantage of merger and acquisition opportunities in the industries you sell to, compete in and buy from; Develop new capabilities to succeed in a value network (Upton, 2003).

2.5.4 Operating in a challenging global economy

The challenge is to re-examine decisions made in "simpler" times; Balance global brands and scale economies with products, channels, manufacturing and distribution tailored to different geographic markets; determine the right mix of global coordination versus local focus, in managing operations of global business (Markham, 2002).

2.5.5 New threats to business continuity

The challenge of maintaining supply and ensuring safety and security of people, products, information and assets have never been greater. Implications for operations includes more stringent controls over international container cargo, heightened need to certify and manage business continuity policies and capabilities along the value chain. Important also is greater security for hazardous materials and new factors to be considered in contingency planning. Part solution for these threats is to anticipate and identify business continuity risks for the company, its customers and suppliers on a global basis. Create new operational infrastructure and processes that balance security requirements with speed, flexibility and responsiveness. Anticipate and potentially help shape new legislative requirements and industry standards (Hayes et al, 1996).

Given these changes, merely extending current operations–based strategies will be insufficient for success in the decade ahead. Best practices are for getting by today, while next strategies hold the key to future success. The key is adequate preparation and ensuring that your company continuously defines monitors and refines operations strategies (Markham, 2002). Aligning the operations-based strategy with the business strategy and the pace of change in the industries in which you sell, compete and buy. Keep addressing the challenges posed by customer demands, technology, industry restructuring, globalization and business continuity risks by building agility and resiliency into processes, organization, products and services, infrastructure and relationships.

Firms with superior and novel operations can generate huge competitive advantage because of them. Where operations were once viewed primarily as a manufacturing function, service firms are recognizing what tremendous competitive potential is offered by outstanding operations (Upton 1999). The operations landscape is also being revolutionized by information technology (IT) and the Internet. The potential to improve the processing of agricultural products to meet international standards does exist. It is the strategies adopted for the processing activities that need reviewing to be operations–based (Hayes et al, 1984).

The manufacturing firms in the food processing industry have to choose which priorities to compete on and strive to reach Hayes and Wheelwright's stage four of manufacturing. This is the level of world class manufacturing (Hayes et al, 1984). At this level of manufacturing: Firms make effort to anticipate the potential of new manufacturing practices and technologies; Manufacturing is centrally involved in major marketing and Engineering decisions; Long range programs are pursued in order to acquire capabilities in advance of needs.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Research design

The research was carried out by a cross–sectional survey of the small and medium scale firms in the food processing industry in Nairobi.

3.2 Research population

The research population consisted of all the small and medium scale firms in the food processing industry currently operational in Nairobi. SMEs hereby refers to firms that employ between 10 and 99 people and are categorized as B and C in the Kenya Directory of manufacturing industries (KIRDI, 1997). The food processing industry refers to firms that are involved in processing food products as listed in 3.3 below (KAM, 2005/2006).

3.3 Sample

The sample was selected at random based on stratified sampling technique. The categories of industries in the food and beverage sector is as listed below (KAM, 2005/ 2006). A total of 80 firms are found in this sector operating in Nairobi as illustrated in the table below. The largest numbers were from Bakers and Millers and from cocoa, chocolate and sugar confectionery categories.

The survey sample respondents were assumed to meet the objectives of the study. The sample could not be any larger due to the limited number of SMEs in the food processing industry in Nairobi.

Table 3.1 Sample of selected sectors.

Sector	Number
1. Meat products	4
2. Vegetable / Vegetable oils / animal oils and fats	15
3. Dairy products	10
4. Alcoholic Beverage and Spirits	4
5. Juices / Waters / Carbonated soft drinks	7
6. Bakers and Millers	20
7. Cocoa, Chocolate and Sugar Confectionery	20
Total	80

Source: Survey Data

Table 3.1 shows the sample of selected sectors in the food processing industry, it was meant ensure that a representative number of the SMEs in the food processing industry in Nairobi were used.

3.4 Data collection

This was done by administration of a questionnaire on a drop and pick later basis. The questionnaire provided for both open and close-ended questions and it was adequately prepared to be able to capture the objectives of the study. The respondents were the business owners and managers of the firms.

The questionnaire was structured into Parts I and II. Part I generally dealt with establishing the company profile while Part II tried to establish the following: The adoption of operations based strategies by the SME's in the food processing industry in

Kenya; How SME's in Kenya rank the manufacturing operations based strategies; Problems experienced in the implementation of the operations based strategies by the SME's.

The 5-point linkert type scale in the questionnaire has a maximum score for level of adoption of operations based strategies at 75 points (Deming, 1990). The level of usage of strategies will be categorized as follows:

Low: 0 to 25 points, Moderate: 26 to 50 points, high: 51 to 75 points.

The mean obtained from these tabulations was used in analysis of the extent of adoption of the manufacturing-based strategies with respect to; corporate objectives, product marketing, contribution to sales and production. Information from open-ended questions will be used in explaining responses from closed-ended questions especially with regard to problems facing the adoption of manufacturing based strategies.

3.5 Data analysis

The data was first checked for completeness and accuracy. The primary data was organized into a descriptive statistical summary for ease in interpretation and analysis. The summaries were in graphical and cross – tabulation forms. That can effectively be achieved by running the data through the Statistical Package for Social Sciences (SPSS). The mean, the range, and the standard deviation and the variance in the data will gave a good idea of how the respondents had reacted to the items in questionnaire and how good the items and measures are. A frequency distribution of the nominal variables of interest

was obtained. Visual displays through histograms/ bar charts etc were also provided this gave a good idea on how well the questions were framed for tapping the concept.

CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND DISCUSSIONS

4.1 Introduction

The purpose of this chapter was to highlight the data analysis methodology using findings from the survey data and secondary data and information. A total of 80 questionnaires were sent to various enterprises in the food processing industry in Nairobi. The number of respondents from which the analysis was done amounted to 26.

4.1.1 The general characteristics of the firms surveyed.

The following is a general discussion on the general characteristics of the firms surveyed. It is based on the data from the 26 respondents.

Respondents position in the company

Table 4.1 Respondents position in the firm

	Frequency	Percentage
Asst. Brand Manager	1	3.8
Brand Manager	1	3.8
Manager	2	7.7
Operations Manager	10	38.5
Owner	1	3.8
Supervisor	2	7.7
Foreman	9	34.6
Total	26	100

Source: Survey Data

The information provided by the above table was based on a question that sought to identify the respondents' position in the company. The table shows that most of the respondents to the questionnaires were generally the managers of the firms concerned

comprising 38.5% of the total respondents. The supervisors were next at 34.6% of the total respondents.

Types of products

Table 4.2 – Types of products produced

	Frequency	Percentage
Juice/water/carbonated soft drinks	1	3.8
Meat & meat products	2	7.7
Milk & milk products	6	23.1
Fruits and vegetables	1	3.8
Bakery products	6	23.1
Grain milling products	3	11.5
Sugar, jaggery, cocoa, chocolate	4	15.4
Alcoholic beverages and spirits	1	3.8
Other	2	7.6
Total	26	100

Source: Survey Data

The information provided in the above table was based on a question that the products produced by the companies' surveyed. The table shows that firms processing milk and milk products together with those producing bakery products formed greatest percentage of the firms surveyed, 23.1%. Sugar, Jaggery, cocoa, chocolate and grain milling products followed at 15.4% and 11.5% respectively.

Market Segmentation

Table 4.3 Market Segmentation

	Frequency	Percent
Local Market	17	65.38
Export Market	9	34.62
Total	26	100

The data provided in the table 4.3 was based on a question that was intended to identify the percentage of products produced by the firms both for local and export market. Table 4.3 shows that most of the products produced by the firms were for the local market this formed 65.38%. Only a small percentage (4%) was meant for export.

Importance of growth

Table 4.4 Company's regard for growth

	Frequency	Percent
Very important	17	65.4
Important	7	26.9
Not important	2	7.7
Total	26	100

Source: Survey Data

The above information was derived from a question that sought to determine the companies' regard for growth in terms of capacity and production. The table shows that most of the firms surveyed regarded growth as an important corporate objective, which accounted for 65.4% of the firms surveyed. 26.9% considered growth as important and only 7.7% considered growth not to be important.

Importance of survival

Table 4.5 Company's regard for survival

	Frequency	Percent
Very important	19	73.1
Important	3	11.5
Not important	4	15.4
Total	26	100

Source: Survey Data

The data represents the response on a question that was determined to identify the firms regard for economic survival. The table shows that the firms surveyed considered survival as a very important corporate strategy with 73.1% of the firms surveyed considering it to be very important only 15.4% felt it was not important.

Importance of Profit

Table 4.6 Company's regard for profit

	Frequency	Percent
Very important	24	92.3
Important	2	7.7
Total	26	100

Source: Survey Data

Return on Investment

Table 4.7 Company's regard for return on investments

	Frequency	Percent
Very important	24	92.3
Important	2	7.7
Total	26	100

Source: Survey Data

Other financial performance measures

Table 4.8 Company's regard for other financial measures

	Frequency	Percent
Very important	23	88.5
Important	3	11.5
Total	26	100

Source: Survey Data

The data for table 4.6 was based on a question that was meant to determine the firms regard for profits, the results for table 4.7 was based on a question on the firms regard on return on investments and table 4.8 was based on a question determined to identify the firms regard for other financial measures of performance. The tables show that the companies considered profit, return on investments and other financial measures as being very important at 96%, 96% and 92% respectively.

Product market segmentation

Table 4.9 Product market segmentation

	Frequency	Percent
Very important	24	92.3
Important	2	7.7
Total	26	100

Source: Survey Data

Product range

Table 4.10 Product range

	Frequency	Percent
Very important	14	53.8
Important	9	34.6
Not important	3	11.6
Total	26	100

Source: Survey Data

Table 4.9 was based on a question meant to determine how the individual firms' rate product market segmentation and product range for table 4.10.The tables show that product range and product market segmentation are also attributes considered to be very

important to the firms surveyed both considered to be very important by 53.8% of the firms surveyed.

Importance of product mix

Table 4.11 Product mix

	Frequency	Percent
Very important	15	57.7
Important	7	26.9
Not important	4	15.4
Total	26	100

Source: Survey Data

The information provided in table 4.11 was meant to determine the importance of product mix as an operations based strategy by the firms surveyed. It emerged that 57.7% of the firms consider it very important, 26.9% consider it important and only 15.4% consider it not important.

Importance of product volume

Table 4.12 Product volume

	Frequency	Percent
Very important	16	61.5
Important	8	30.8
Not important	2	7.7
Total	26	100

Source: Survey Data

Table 4.12 provided information from the survey data that was meant to identify how the firms surveyed regarded product volume as an operations based strategy. From the

analysis, 61.5% of the firms considered it very important, 30.8% considered it important and only 7.7% of the respondents considered it not important.

Importance of product standardization vs. customization

Table 4.13 Product standardization vs. customization

	Frequency	Percent
Very important	17	65.4
Important	9	34.6
Total	26	100

Source: Survey Data

Table 4.13 was meant to show the findings on the respondents' reaction to the survey question that meant to determine the importance of product standardization versus customization as an operations based strategy. From the results, 65.4% of the respondents felt that it is very important and 34.6% felt that it is important.

Product innovation

Table 4.14 Level of product innovation

	Frequency	Percent
Very important	14	53.8
Important	8	30.8
Not important	4	15.4
Total	26	100

Source: Survey Data

Table 4.14 shows the respondents reaction to a question that was meant to determine the importance of product innovation as an operations strategy. The findings revealed that 53.8% of the firms considered it very important, 30.8% considered it important and only 15.5 % of the firms considered it not important. Hence, most firms are keen on product innovation as a competitive strategy in industry.

Leadership in industry

Table 4.15 Leader vs. follower alternatives

	Frequency	Percent
Very important	14	53.8
Important	5	19.2
Not important	2	7.7
Not clear	5	9.3
Total	26	100

Source: Survey Data

The information on the table 4.17 were derived from a question that was meant to determine the firms regard on leader versus follower alternatives as being useful in establishing operations based strategies. The table shows that the firms considered being a leader in the industry to be very important by 53.8%, important by 19.2% not important by 7.7% and generally 9.3% felt that the question was not clear

4.2 Operations strategy

Operations strategies of importance to most firms included cost, quality and delivery (speed and reliability). Their proper implementation is responsible for the competitiveness of most firms. Operations strategies can be viewed as part of a planning process that coordinates operational goals with those of the larger organization. The operations capabilities of a firm can be viewed as a portfolio best suited to adapt to the changing product and/or service needs of the firm's customers.

Importance of price

Table 4.16 Importance of price

	Frequency	Percent
Very important	23	88.5
Important	3	11.5
Total	26	100

Source: Survey Data

Importance of quality

Table 4.17 Importance of quality

	Frequency	Percent
Very important	25	96.2
Important	1	3.8
Total	26	100

Source: Survey Data

The information on the above tables were based on questions the were to determine the importance of price, Table 4.1.16, and the importance of quality as operations based strategies., Table 4.1.17.The tables show that most firms are of the opinion that price and quality are very important operations based strategy both at 96.2%.

Speed and reliability of delivery

Table 4.18 Importance of Speed and reliability of delivery

	Frequency	Percent
Very important	23	88.5
Important	3	11.5
Total	26	100

Source: Survey Data

The above information was obtained from a question that was meant to identify the importance of speed and reliability of delivery as operations based strategies. The table shows that speed and reliability of delivery is considered a very important operations strategy by most of the firms, 88.5%, only 11.5% of the firms surveyed considered it just important.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

It is apparent from the research findings that most of the firms surveyed had good knowledge of the various operations strategy and that a good number were already being used. Most considered liberalization of the domestic markets and the impact of globalization as having had the greatest contribution to the tastes and preferences of the local consumers. Most of the products were however for the local market with only a small margin being meant for export. This goes along way to show the sophistication of the local consumers in terms of their demand characteristics. For effective competition the local products should be able to compare favorably with those from different parts of the world.

However, most firms were faced with the problems of frequent changes in tax regimes and the volatile nature of the economic environment in which they are operating. This is due to factors like frequent changes in fuel and energy costs.

Table 4.19 shows that ranking highest in priority are quality, delivery and price as important operations strategies considered by most firms. These are the strategies that firms can take advantage of to create differentiation as a competitive strategy.

Ranking of operations based strategies

Table 4.19 Ranking of the operations based strategies

Strategy	Percent
Quality	96.2
Delivery	88.5
Price	88.5
Demand flexibility	84.6
Choice of production control	61.5
Product range	57.7
Design leadership	53.8
Technical support	50.0

Source: Survey Data

5.2 Conclusion

It is evident that many firms in the SME sector in the food processing industry have already adopted operations based strategies as a tool for competitiveness. Ranked highest by most firms are quality, delivery (speed and reliability) and price. Firms need to invest more on supplier relationship management to ensure that quality standards of the materials procured meet the right standards. The advent of liberalization and globalization has made contributed a great deal to customers change in taste and preferences. Especially when exposed to world-class products from different parts of the world. Competition to remain a float in business has thus become stiffer. Companies within the SME sector that are to survive are those that have made adequate preparation especially in relation to operations based strategies.

Customers want quality products yet at an affordable cost. Hence firms that are to survive must be able to create a balance between costs and quality. The potential for the SME's

in the food processing industry to compete globally is enormous. Hence its ability to create employment and contribute to the country's gross domestic product.

The major limitation in the adoption and implementation of the operations based strategies is centered on frequent changes in tax regimes, changes in fuel and energy rate. The operations managers should be charged with the responsibility of communicating operations strategies and having it fully implemented. The operations/ production managers need to be well trained and versed in the technical details of strategy formulation and implementation.

5.3 Recommendatio

Firms should make adoption of operations based strategies a priority this is in light of the competitive advantage such strategies bring. Firms need to put greater emphasis on:

i) Quality, ii) Costs and iii) Delivery speed and reliability.

Quality has got to be properly managed right from the procurement process. Hence, there is a need for firms to establish proactive relationships with there suppliers to ensure that high quality standards are sustained throughout the production process. Firms should give more prominence to the operations manager's role especially on formulation and implementation of operation strategies.

5.4 Limitations of the study

The small number of respondents was a great limitation to the study. Only 26 out of the total number of 80 firms identified were able to respond. This means that the data obtained could not adequately give authentic results. The questionnaire subjected was also limiting in the sense that some respondents found the questions rather technical and could not adequately answer them. It is apparent from the survey that most of the operations / production managers in most of the firms are no quite technical hence had to be lead through the questionnaire to provide the answers.

5.5 Recommendations for further study

Further detailed analysis of each of the operations based strategies as applied by successful SME's in the food processing industry is recommended. Also recommended is the replication of this study in other SME sectors such as: Textile, wearing apparel and leather industries, Manufacture of wood and wood products, manufacture of paper products printing and publishing, Manufacture of fabricated metal products, machinery and equipment.

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APPENDIX A

RESPONDENTS

EAST AFRICA MEAT PRODUCTS (1965) LTD.
NAS FOOD PROCESSING LTD.
VEGETABLE OIL INDUSTRIES
AFYA ENTERPRISES LTD
GOLDEN GRAINS LTD.
ITAAGA MILLERS.
JAMBO FLOUR MILLERS LTD
KEN WHEAT INDUSTRIES LTD.
KENYA FLOUR MILLERS LTD
KIRINYAGA FLOUR MILLS.
MUHARATE FOOD COMPANY LTD
NAIROBI FLOUR MILLS LTD.
NICE MAIZE MILLERS
SAVE FLOUR MILLS
SHAH FOOD GRINDING MILL
AMBAE LTD.
AURORA BAKING CO LTD.
CALIFONIAN COOKIES.
KENCAKE BAKERY.
KENWEFERS LTD.
WAMAE'S BAKERY
KEN WHEAT INDUSTRIES LTD.
KIRINYAGA FLOUR MILLERS
MUHARATE FOOD COMPANY LTD.
VITAMINS (E.A) LTD.
MODERN BREWERIES

APPENDIX B

QUESTIONNAIRE
PART A

COMPANY PROFILE

1. What is the respondent's position in the company?

_____

2. How long have you been an employee/ owner of the company?

_____

3. What is the number of employees in the company? Tick the most appropriate box.

0 – 09 ☐

10 – 49 ☐

50 – 99 ☐

Above 100 ☐

4. What food products does your company process? Tick the most appropriate box.

Meat and meat products ☐

Milk and Milk products ☐

Fruits and Vegetables ☐

Bakery products ☐

Sugar, Jaggery, cocoa, chocolate ☐

Grain mill products ☐

Alcoholic Beverages and Juices / Water / Carbonated ☐

Others (Specify) _____

5. What is your company's monthly output in terms of volume?

_____

6. What market segment does your company process the products for?

Local ☐

Export ☐

Both Local and Export ☐

7. If your company's products are for both local and export, state the percentage in each category:

Local _____ %

Export _____ %

PART B

8.On a scale of 1 – 5, state how your companies regard the following corporate objectives. Please tick the most appropriate option.

Key: (1) Very Important (2) Important (3) Not important (4) Not Clear (5) Irrelevant

	1	2	3	4	5
Growth					
Survival					
Profit					
Return on investment					
Other financial measures					

9. On a scale of 1-5, state how the following product marketing strategies apply to your company. Please, tick the most appropriate option.

Key: (1) Very Important (2) Important (3) Not important (4) Not Clear (5) Irrelevant

	1	2	3	4	5
Product market segmentation					
Product range					
Product mix					
Product volumes					
Product standardization versus customization.					
Level of product innovation					
Leader versus follower alternatives					

10. On a scale of 1-5, indicate the importance of the following factors in contribution to sales of your products, please tick the most appropriate option.

Key: (1) Very important (2) Important (3) Not important (4) Not Clear
(5) Irrelevant

	1	2	3	4	5
Price					
Quality					
Delivery (speed & Reliability)					
Demand increases					
Color range					
Product range					
Design leadership					
Technical support supplied					

11. To what extent do the following affect production in your company? Please, tick the most appropriate option using the provided scale of 1-5

Key: 1. Not clear at all 2. To a less extent 3. To a moderate extent
4. To a great extent 5. To a very great extent

	1	2	3	4	5
Quality assurance and control					
Clerical procedures					
Payment systems					
Work structuring					
Organization structure					
Operations planning and control systems					
Choice of production process					
Process positioning capacity's size, Timing, location.					
Role of inventory in process configuration					
Trade offs embodied in the process choice.					

12. Explain the problems encountered, if any, in the implementation of the following manufacturing operations based strategies: -

Cost Efficiency (Optimizing production costs)

_____

_____

Quality

_____

_____

_____

Dependability (Delivery speed and reliability)

_____

_____

_____

Flexibility (changes in production outputs)

_____

_____

_____

13. Who in your company is/ are involved in the formation of operations based strategies?

_____

14. Does globalization and transfer of best practices pose a challenge to your company with regard to application of operations based strategies?

Yes ☐

No ☐

15. If the answer to 13 above is YES, explain how each poses the challenge:

Globalization _____

_____

Transfer of best practice _____

_____

16. Explain the problems faced by your company in the development of the appropriate operations based strategies.

_____

_____

_____

END